

Black Sea Shore to PODIŞOR Natural Gas pipeline (BSPP)

Prepared for EBRD

Scoping Report

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Executive Summary

Transgaz is currently seeking international financing support for construction and operation of the Tuzla-Podișor (Black Sea Shore-Podișor) Pipeline Project (the Project). The Project will connect the future Black Sea offshore gas field exploitation/s with the BRUA (Bulgaria-Romania-Hungary-Austria) Natural Gas Transmission Corridor via a new pipeline that will run for 308 km from Tuzla in the southeast to Podișor in the southwest. This will enable the connection of offshore gas sources in the Black Sea with the Romanian National transmission corridor and further to the European Southern Gas Corridor.

The project is considered a category A and as such requires a comprehensive international standard Environmental and Social Impact Assessment (ESIA) as well as a public disclosure and consultation process for a period of a minimum of 60 days. This supplementary Scoping Report is intended to both complement the national EIA, meet EBRD additional requirements and form part of the Supplementary Lenders Information Package (SLIP).

The Scoping process has involved developing a detailed understanding of the project and identifying:

- The people and environmental resources (collectively known as 'receptors') that could be significantly affected by (or could affect) the Project; and
- The work required to take forward the assessment of those potentially significant effects.

A gap analysis identified a number of differences in the local EIA's compliance with EBRD's Performance Requirements (PR's) s including specific requirements for further information on:

- The Project's Area of Influence
- Associated facilities (notably the offshore gas exploitation facilities)
- Contaminated sites situated along the pipeline route
- Transportation routes for workers, plant and materials
- Supporting Infrastructure (e.g., access roads for construction working areas, pipeline laydown areas)
- The socio-economic baseline and socio-economic impacts
- Stakeholder identification and engagement
- Affected landowners/users and the land acquisition process
- Potential economic displacement/Possible situations of physical resettlement
- Priority Biodiversity Features and Critical Habitats, approach to 'no net loss/net gain' of biodiversity; and
- Potential cumulative impacts.

Detailed analysis is presented in Section 2.4, **Table 5**.

A process of scoping identified project aspects and impacts was also undertaken to determine the areas where information was already available in the data and reports already produced or where further information will be required as part of the ESIA process. This is presented in Section 6, **Table 11** and the additional work required to fill the gaps and bring the ESIA into compliance is summarised in **Table 13**.

1 Introduction

1.1 Overview of the Project

SNTGN Transgaz SA Medias (Transgaz) is the licensed operator of the Romanian National Gas Transmission System. As part of a planned network expansion, they are currently seeking international financing support for construction and operation of the Tuzla-Podișor (Black Sea Shore-Podișor) Pipeline Project (the Project). The Project will connect the future Black Sea offshore gas field exploitation/s with the BRUA (Bulgaria-Romania-Hungary-Austria) Natural Gas Transmission Corridor via a new pipeline that will run for 308 km from Tuzla in the southeast to Podișor in the southwest. This will enable the connection of offshore gas sources in the Black Sea with the Romanian National transmission corridor and further to the European Southern Gas Corridor. Any relevant details identified within public domain for the associated Black Sea offshore developments will be presented within the ESIA.

The proposed pipeline will be buried and for most of its route will be outside existing pipeline corridors. It will cross 42 administrative units (municipalities) within 3 counties (Constanta, Calarasi and Giurgiu) and will affect 6400 land plots, although most will only be temporary, during construction. Permanent land take will be 1.25 ha for cut-off valve stations and cathodic protection stations platforms. No other above ground installations are going to be constructed as part of the project.

The proposed pipeline route has been selected to avoid and minimise impacts on existing settlements and areas of ecological interest. It does however transect 8 Natura 2000 Sites, 4 of which have been designated for Habitats and 4 for Birds. The route overlaps with the perimeter of some Natura 2000 sites on a length of 14.24 km, thus representing 4.6% of the total length of the project.

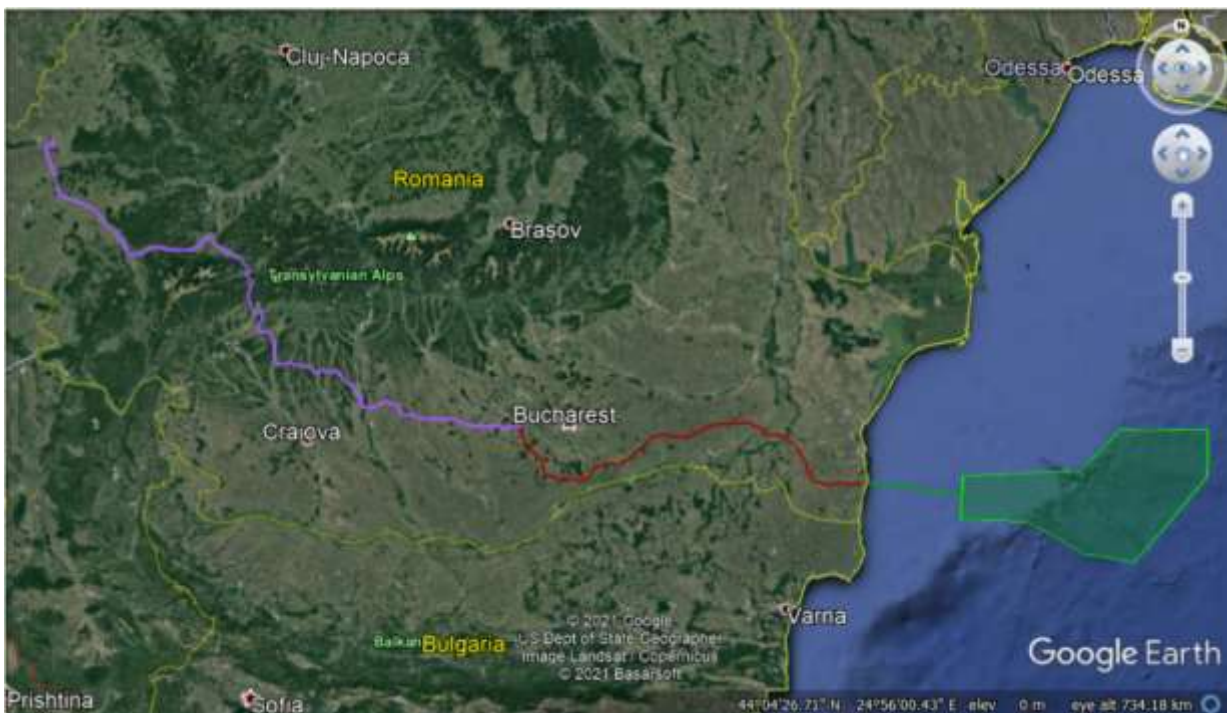


Figure 1. Romanian Pipeline Corridor East-West: BRUA (purple) / BSPP (red)/Offshore & Neptune Block Exxon&OMV (green)

Additionally, the route passes through the 3 Ramsar sites, all having at least a second designation as a Birds protection area. The route will also cross 3 rivers using horizontal directional drilling and the rest of the water bodies will be crossed by open-cut excavations.

1.2 The project is considered a Category A project in accordance with EBRD ESP 2019

The European Bank of Reconstruction and Development (EBRD) are considering providing finance to Transgaz to construct and operate the Project. Given the scale and nature of the project and new policies towards decarbonisation, EBRD has designated the Project as a Category A under their Environmental and Social Policy 2019. As such, the Project requires a comprehensive Environmental and Social Impact Assessment (ESIA) as well as a public disclosure and consultation process for a period of a minimum of 60 days and up to 120 days.

The Project's existing Environmental Impact Assessment (EIA) has been undertaken to meet the requirements of the Romanian regulatory process and was produced in accordance with guidelines developed by the Romanian National Environmental Protection Agency (NEPA) during their screening and scoping stages¹. Whilst this was undertaken in accordance with Romanian national EIA requirements and incorporated consultation with the relevant competent authorities, no separate Scoping Report was produced and no information on the scoping process or outcomes (including any stakeholder consultation) is described in the EIA Report.

1.3 Purpose of this Scoping Report

The Report describes the Scoping Process used to address the gaps identified between the regulatory EIA process and the expectations of the EBRD's Performance Requirements (see Section 2).

1.4 Approach to Scoping

The Scoping process involved developing a detailed understanding of the project and identified:

- The people and environmental resources (collectively known as 'receptors') that could be significantly affected by (or could affect) the Project; and
- The work required to take forward the assessment of those potentially significant effects.

Conclusions made at the scoping stage about potential significance are based upon professional judgement, with reference to the project description, and available information about the magnitude and other characteristics of the potential changes that are expected to be caused by the Project, the sensitivity of receptors to those changes and the effects of those changes on relevant receptors (and where relevant, the value of the receptors). Potential effects on receptors have been considered in relation to both the Project Construction and Operational Stages. At this stage, decommissioning has been excluded from the detailed scoping because impacts are expected to be similar to those of construction and with a long lifespan, approaches to decommissioning in the future are hard to predict. Decommissioning will, however, be done in accordance with Good Industry Practice (GIP) prevalent at the time.

An Online Scoping Workshop was conducted on 20th May 2021 to identify key potential environmental impacts during both the construction and operational phases of the Project. The workshop was attended by the members of the Project working group established by Transgaz and the Project Consultants. **Table 1** includes all the attendees at the scoping workshop. The site visit report is in Annex I and the minutes of the meeting can be found in Annex II.

¹ This regulatory EIA is referred to as the "Black Sea Shore-Podișor Pipeline EIA Report by SC Support Unit for Integration SRL, March 2018" the "Regulatory EIA" or the "EIA").

Table 1. Scoping Workshop Attendees

Name	Role	Organisation
Grigore Tarsac	Director General adjunct	Transgaz
Lucia Popovici	Environmental expert	Transgaz
Viorel Sandu	counselor	Transgaz
Iovu Biris	Environmental expert	Transgaz
Dan Niculaie	Project manager	Transgaz
Ghidiu Elisabeta	Director Departament Strategie si Management Corporativ	Transgaz
Lupean Marius	Director Financiar	Transgaz
Virgil Aldea	Land Acquisition expert	Transgaz
Bratulescu Simona	Expert	Transgaz
Sorin Keszeg	PM	Transgaz
Lascu Nicusor	Legal expert	Transgaz
Sabina Sotropa	Legal expert	Transgaz
Ioana Popovici	IT Department	Transgaz
Ciprian Oniga	Technical expert	Transgaz
Alexandru Brasoveanu	Technical expert	Transgaz
Ionut Pop	Technical expert	Transgaz
Vasile Proștean	SSMM Manager	Transgaz
Viorica Cerga	Environmental expert	Transgaz
Gheorghe Bogdan Constantin	Archaeology expert	Transgaz
Jeff Jeter	Environmental and Social Coordinator	EBRD
Rob Evans	Project Director	Earth Active
Pallu Modi	Project Manager	Earth Active
Florin Tudor	Ecology & GIS Specialist	Earth Active
Miles Hitchcock	Environment and Health and Safety Expert	Earth Active
Adam Sneath	Biodiversity Expert	Earth Active
Nisha Desai	Consultant	Earth Active

Ciprian Popovici	ESIA Expert	Green Partners
Vlad Muresan	Social Expert	Green Partners
Razvan Popescu Mirceani	Biodiversity Expert	Green Partners
Cristina Rus	ESIA Expert	Green Partners
Andrei Pinteaa	Junior Environmental Expert	Green Partners

To facilitate the discussion and to capture the outcome of the Workshop, a Scoping Matrix was developed which aimed to identify all relevant environmental topics for consideration. This also included sources of potential impacts, the receptors that would be impacted, whether or not an impact should be scoped in or out due to the likelihood of it being 'significant' (and the justification for why), and any outstanding actions/information required in relation to the assessment.

The Scoping Workshop covered a minimum content for the study. Following the workshop, and as more information became available, additional consideration was also given to a number of other of potential issues. The impacts presented in this Scoping Report therefore reflect a combination of the outcomes of the Workshop and additional work undertaken to identify the likely significant environmental and social impacts of the Project.

1.5 Structure of this Scoping Report

The remainder of this report is structured as follows:

- **Section 2:** provides a high-level overview of the Project Standards, including EBRD's environmental and social performance requirements and the Romanian national planning policy context and regulatory framework for EIA and permitting requirements. A gap analysis between the two is also presented.
- **Section 3:** gives an overview of the project selection process, including the background to and need for the project as well as alternative approaches that were considered.
- **Section 4:** describes the Project and proposed construction methodology.
- **Section 5:** presents the existing conditions present in the Project AOI and that has been used to inform the scoping matrix.
- **Section 6:** presents the scoping matrix and outlines those elements of work to be undertaken during the detailed ESIA.
- **Section 7:** identifies key gaps in the work undertaken to date and outlines the work to be undertaken as part of the main ESIA.

1.6 Consultation Process

The stakeholder engagement for the Scoping Report disclosure:

1. Transgaz (TG) to inform the relevant authorities about the state of the project – all the authorities / key stakeholders which issued a permit should receive a letter from TG informing about the status of the project, the publishing of the Scoping Report and SLIP preparation. Also, an information letter should be sent to each administrative unit crossed by the pipeline corridor.

2. Transgaz to engage with stakeholders responsible for the associated facilities linked to the project and inform them about the status of the project, the publishing of the Scoping Report and the SLIP.
3. Publicly disclose the Scoping Report on Transgaz and EBRD website. The public disclosure should be at least for 14 days.

By the end of the public disclosure period for the Scoping report a Stakeholder Engagement Plan will be provided and will include:

- Identification of stakeholders and the impacts;
- A consultation plan which will include:
 - Conducting interviews with key stakeholders – e.g., farms operating in the area of influence;
 - Public debates – this is a topic to be discussed with Transgaz to understand the timing and locations for this. Our recommendation is to conduct such meetings in sensitive areas and close to start of construction activities.
- Socio-economic survey – for the local communities and impacted persons from land acquisition perspective;
- A Grievance Mechanism;
- Roles and responsibilities for SEP implementation;
- Monitoring and Reporting.

2 Project Standards

This Section provides a brief overview of the key Health and Safety, Social and Environmental (HSSE) Standards that the project will be expected to meet. These include both Romanian Regulatory Requirements, Specific EBRD Performance Requirements and relevant EU Directives. It also provides a gap analysis between the EBRD and national requirements.

2.1 National Regulatory Requirements

2.1.1 Romanian planning policy context

The Project is part of the National Gas Transmission System Development Plan, for the period 2020-2029 (which in turn is an update to the National Gas Transmission System Development Plan for the period 2019-2028). The Plan comprises additional major investment projects by Transgaz to ensure the strategic and sustainable development of the natural gas transmission infrastructure in Romania and its compliance with applicable European regulations. The Plan was approved by the Romanian Regulatory Authority for Energy (ANRE) through the Decision no. 2210 / 25.11.2020.

2.1.2 The Romanian Pipeline Law

The 'Romanian Pipeline Law' relates to certain measures necessary for the implementation of projects of national importance in the natural gas sector, as defined in art. 2 point) of Law nr. 185/2016 for setting the specific measures that need to be implemented for projects of national importance in the natural gas sector.

The Law was adopted by the Chamber of Deputies (the decisional chamber of the Romanian Parliament) on 20th September 2016 and was signed by the Romanian President on 19th October 2016. The Law (185/2016) was published in the National Gazette and came into force on 28th October 2016.

Within the law², 'pipeline' is defined as, "upstream supply pipeline, natural gas transmission pipeline located on the territory of Romania, which forms the object of the project of national importance, including installations above the ground and all the related facilities consisting of supplies with electricity with above-and/or under-ground installation, access roads, water supplies, sewerage and fibre optic". The General Provisions of the law include the following:

- Article 3 derogates a number of existing laws to address the temporary occupation of forest land.
- Any forest land that is the public property of the state and of territorial administrative units can be occupied to enable construction works, free of charge, and no compensation will be paid for the loss of revenue from any wood that would have been grown.
- Consent for any forest that is under private ownership will be obtained via signature of a document to certify that temporary occupation for construction is agreed. Compensation will be paid in 30 days after the agreement and after the land will be handed over to the beneficiary, equivalent to "rent and counter value of the growth loss determined by the exploitation of the wood mass".
- Where no owners consent is obtained because the owner is unknown or there are no valid land titles the land can be occupied without consent, the compensation will be deposit for a 5 year period in an escrow account and will be accessible for land owner/users.

² This Chapter contains translated text from Romanian to English and phrasing has been kept as close to the original Romanian as possible

- Within 50m of the edge of the wood, it is not necessary to obtain permission of the territorial structure of the central public authority for forestry.
- Article 4 derogates a number of existing laws to address the temporary occupation of agricultural land.
- The temporary removal of agricultural lands from the agricultural circuit based on the resolution of the Government approving the list of relevant agricultural lands, without being conditional upon obtaining consent of the landowner.
- The Project promoter (Transgaz) has a duty to submit the list of relevant agricultural lands along with the request for the building permit.
- The competent authority will have a duty to reinstate the agricultural lands for their former use within 1 year of the expiration of the building permit.

Chapter 5 deals with procedures that are applicable to works issuance of other endorsements, permits and authorisations.

Article 22 (h) covers cultural heritage, specifically, endorsements need to be issued by the county directorates for culture:

In principle – further to a request from the project promoter, accompanied a theoretical archaeological assessment, environmental consent and building permit (amongst other things) provided that, before the initiation of works, the promoter conducts intrusive archaeological diagnostics and preventive archaeological investigations and;

Actual – further to a request from the project promoter, accompanied by the results of the intrusive archaeological diagnostics, ordered by the theoretical assessment report and the archaeological investigation for the sites identified by the intrusive diagnostic.

Article 23 states that: “(1) By derogation from the provisions of Art. 22 para. (5) and (71) and of Art. 27 para.

(1) of the Government Emergency Ordinance no. 57/2007 on the regime of protected natural areas, preservation of natural habitats, wild flora and fauna, approved as amended and supplemented by Law no. 49/2011, as subsequently amended and supplemented, the development of the projects of national importance in the natural gas sector is allowed in the areas of full protection and in the buffer areas in the national and natural parks, respectively for the projects of national importance in the natural gas sector, the final or temporary removal from the agricultural circuit and temporary occupation from the forestry land within the protected natural areas of national/international interest shall be performed.

(2) The provisions of this article shall apply and shall be taken into account by the competent authorities for environmental protection in respect of any procedures for assessment of environmental impact and procedures of adequate assessment, if applicable, for the projects of national importance in the natural gas sector in progress as of the date of coming into force of this law.”

2.1.3 Summary of other National Environmental Procedures

As with most new projects in Romania, an Urban Certificate (UC) is required to initiate the environmental permitting procedures. This UC defines the required technical parameters to be considered within an EIA and lists the approvals that are required for the project.

Transgaz has obtained the required **3 UCs** for the Project, one issued by each of the Administrative Counties through which the pipeline will pass. Each UC specifies the types of the approvals to be obtained from

various authorities, utilities providers etc. in order to obtain the Construction Permit (CP). Transgaz must then also obtain all the required approvals and agreements, (including local permits) prior to obtaining its Environmental Agreement and Construction Permit (see below).

In Romania, environmental permitting of a project involves up to three stages: the first two of which are pre- or during construction stage (the first one being applicable only for plans and programs), whilst the last relates to the operational stage.

Table 2. Environmental Permit Stages

Stage	Permit Type	Description
1	Environmental Approvals/SEAs <i>(avis de mediu pentru planuri si programme)</i>	Intended for plans and programs , in line with Governmental Decision (GD) no. 1076/2004, which transposes the Strategic Environmental Assessment (SEA) Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. The SEA Directive in Romania applies to both public and private plans, programs and policies. The approval process for BSPP project started with the second Environmental Agreement stage outlined below, it is understood this is because of the national significance of the project and is authorised as a result of the Pipeline Law (as outlined above).
2	Environmental Agreement <i>(Acord de mediu),</i>	In line with the GD no. 445/2009, which transposes the EIA Directive no. 85/337/EEC with subsequent amendments and Ministry Order No. 135/2010, which describes the EIA permitting procedure . In accordance with the EIA Directive, the BSPP Project falls under Annex 1 - Pipelines for the transport of natural gas, oil or chemicals with a diameter of more than 800 mm and a length of more than 40 km, for which EIA is mandatory. The Guidelines for preparation of the EIA are detailed in Ministry Order No. 863/2002. Whenever projects have a potential impact on a Natura 2000 site, an Appropriate Assessment must also be undertaken in line with the EU Habitats Directive. The Environmental Agreement (in addition to permits issued by other authorities) is a pre-condition for obtaining the Construction Permit. The Environmental Permit (Agreement) was issued on 10.05.2018. The permit (Section III) contains a set of measures for the prevention, reduction and, whenever possible, compensation of the negative significant effects on the environment during construction, operation and decommissioning. The Permit obliges the constructor to draft the following plans: <ul style="list-style-type: none"> • Environmental Management Plan which will include detailing the means to accomplish and comply with the conditions laid down by the Permit and measures proposed in the impact assessment report, reporting intervals, with responsibilities and terms; • Intervention Plan in case of accidental pollution or other special situations which will include measures to be taken in these cases, the flow of reporting, responsibilities.

3	Environmental Permit for Operation <i>Autorizatie de mediu)</i>	In line with national requirements (Ministry Order no. 1798/2007 on approval of the environmental permitting procedure), NACE code revision 2 – 4950- transport of gas through the pipelines. This permit will be issued prior to operations commencing. Therefore, it is expected to be obtained in 2022, as per the project activities' calendar.
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2.1.4 Additional National Permit Requirements

Table 3. below outlines the additional permit requirements that are considered relevant:

Table 3. Additional Permit Requirements

No.	Topic	Regulator	Details
1	Construction Permit	Ministry of Energy	The Construction Permit no. 5/17.05.2018 has been already obtained by Transgaz. The permit approves the construction works foreseen in the Administrative Territorial Units crossed by the pipeline. The Construction Permit was issued with a set of requirements. These are as follows: the Beneficiary has to notify the Ministry of Energy and the Territorial Construction Inspectorate the start/end of works by filing certain forms, the Beneficiary has to make available on site, across all of the construction phase, the Construction permit and all technical documents in case of inspections from local authorities; the Beneficiary has to take the legal measures in case of identification of cultural heritage items. The permit availability has been extended until 16.05.2022, as per the request submitted by Transgaz to the Ministry of Energy.
2	Natura 2000 sites	Approvals from Custodians /administrators of the Natura2000 sites crossed by the Project	Permits obtained from the custodians of the following Natura 2000 sites: <ul style="list-style-type: none"> • ROSC10353 Pesteră - Deleni and ROSC10343 Padurile din Silvestea Mostistei – Permit no. 288/09.11.2017 issued by ANAP. • ROSC1131 Oltenita-Mostitea - Chicu, ROSPA21 Ciocanesti- Dunara, ROSPA55 Lacul Galatu, ROSPA 105 Valea Mostitea and ROSPA136 Oltenita- Ulmeni – Permit no. 206/04.10.2017 issued by Asociatia Echilibru. • ROSPA0012 Bratul Borcea and ROSC10319 Mlastina de la Fetesti - Permit no. 595/27.03.2017 issued by Asociatia Centrul Ecologic Green Area. • ROSC10043 Comana and ROSPA0022 Comana – Permit no. 11894/12.09.2017 issued by Romsilva, Comana National Park Administration – with no further conditions. • ROSC10138 Padurea Bolintin – Permit no. 10365/23.02.2017 issued by Romsilva Giurgiu. • ROSC10022 Canalele Dunarii and ROSPA0039 Dunare – Ostroave – Permit no. 3350/28.11.2017 issued by

			<p>Romsilva Constanta – in addition to the mandatory list of measures, 3 Monitoring Reports are foreseen before, during and one year after completion of construction works.</p> <p>The above listed permits present the list of measures that need to be undertaken to reduce the environmental impacts in the Natura 2000 sites – most of the measures are making reference to the national requirements. In addition, Monitoring plans for qualifying species will need to be carried at each site before, during and after completion of construction works.</p>
3	Water Management (water crossings)	Romanian Water Authority	<p>Water Permit no. 59/13.07.2017 was obtained by Transgaz for crossing the following rivers: Amzacea Valley, Urluia, Peștera, Danube, Borcea, Berza, Argova, Mostiștea, Mitreni, Zboiu, Argeș, Cămpului Ascuns Valley, Iordana, Ricu, Cilniste, Neajlov.</p> <p>The water permit presents the list of measures to be undertaken by Transgaz, who will have to notify the Romanian Water Authority with at least 10 days prior to the start of the construction works.</p>
4	Cultural Heritage	Permits from national cultural heritage authority, based on county approvals.	<p>All necessary permits have been obtained by Transgaz. Intrusive surveys were performed and for one location the decision was to use HDD crossing so that the archaeological site is not affected.</p> <p>3 intrusive approvals have been obtained by Transgaz for each of the three counties crossed by the pipeline:</p> <ul style="list-style-type: none"> • Approval no. 3164/24.09.2019 issued by the Constanța County Cultural Heritage Authority. • Approval no. 535/04.12/2019 issued by the Călărași County Cultural Heritage Authority. • Approval no. 910/22.08.2019 issued by the Giurgiu County Cultural Heritage Authority. <p>The approvals recommend the development of archaeological surveys. These have been already conducted and 7 Archaeological Discharge (Intrusive works) Certificates have been issued:</p> <ul style="list-style-type: none"> • From Constanța County Cultural Heritage Authority: Certificate no. 43/2020 and Certificate no. 44/2020. • From Călărași County Cultural Heritage Authority: Certificate no. 1/29.06.2020, Certificate no. 2/07.07.2020, Certificate no. 3/07.07.2020 and Certificate no. 4/07.07.2020. • From Giurgiu County Cultural Heritage Authority: Certificate no. 1/11.06.2020.

5	Ministry of Defence	N/A	<p>Transgaz has obtained the permit nr. DT/4789 from the Ministry of Defence with the following requirements:</p> <ul style="list-style-type: none"> • The project boundaries will be strictly adhered. • Transgaz will have to make sure that the military activity, the land and military facilities or installations will not be impacted by the project. • In case the construction works will last more than 1 year, the permit will have to be reconfirmed.
6	Oil and Gas Operations	OMV Petrom SA as owner	<p>OMV Petrom SA has issued the Permit no. 5722/22.06.2017 for crossing the oil and gas field located between km 280 and km 308 on the pipeline route. OMV Petrom has presented the list of general and technical conditions for pipeline crossing.</p> <p>No mention about any contaminated area is made within the permit and incidents will be covered by Transgaz.</p> <p>In case of changes of the project particularities (route, technical aspects), Transgaz will have to notify OMV Petrom SA with at least 7 days prior to the start of the construction works.</p>

2.2 Relevant EU Directives

In addition to the EBRD Performance Requirements (see below), the Project is also subject to relevant EU Directives as part of EBRD financing. Key relevant legislation is shown in **Table 4**.

Table 4. Legislation relevant to the Project.

Directive nr.	Name
2000/60/EC	Establishing a framework for Community action in the field of water policy
79/409/EEC	Conservation of wild birds
92/43/EEC	Conservation of natural habitats and of wild fauna and flora
85/337/EEC	Assessment of the effects of certain public and private projects on the environment
2008/98/CE	Waste management
75/442/EEC	Waste Framework
94/62/CE	Packaging and packaging waste
67/548/EEC	Classification, packaging and labelling of dangerous substances
CE 2007/60	Assessment and management of flood risks
75/436/Euratom, ECSC, EEC	Cost allocation and action by public authorities on environmental matters

90/313/EEC	Access to environmental information
EEC/880/92	Eco-label award scheme
EEC/1836/93	Eco-management and audit scheme
70/220/EEC	Emission from motor vehicles
98/83/EC	Quality of water intended for human consumption
2002/49/EC	The assessment and management of environmental noise
89/391/EEC	Introduction of measures to encourage improvements in the safety and health of workers at work
92/58/EEC	The minimum requirements for the provision of safety and/or health signs at work
2003/10/CE	The minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise)
89/656/EEC	The minimum health and safety requirements for the use by workers of personal protective equipment at the workplace
92/57/EEC	The implementation of minimum safety and health requirements at temporary or mobile construction sites

2.3 EBRD Performance Requirements

2.3.1 Overview

EBRD-financed projects are expected to be designed, implemented and operated in line with its Environmental and Social Policy (2019) and to meet the Bank's relevant Performance Requirements (PR's) covering key areas of environmental and social impacts. Direct investment projects must meet PR's 1 to 8 and 10. Compliance with relevant national law is an integral part of all the 10 PRs, listed below.

- PR 1: Assessment and Management of Environmental and Social Impacts and Issues
- PR 2: Labour and Working Conditions
- PR 3: Resource Efficiency and Pollution Prevention and Control
- PR 4: Health Safety and Security
- PR 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- PR 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- PR 7: Indigenous Peoples
- PR 8: Cultural Heritage
- PR 9: Financial Intermediaries
- PR 10: Information Disclosure and Stakeholder Engagement

For the BSPP Project, PR 7 and PR 9 are not considered relevant. There are no people who are considered indigenous in Romania (according to the definition in PR7), whilst PR 9 refers to Financial Intermediaries and does not apply to this Project.

2.4 GAP analysis

The table below provides a comparison of the requirements of the national regulatory process and the expectations of the EBRD PRs.

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Table 5. National EIA to EBRD Standards gaps

Analyzed aspect	Romanian Law (aligned with EU Environmental framework)	EBRD Provisions	Gap	Solution
General				
Necessity of ESIA	Project requires an Environmental Impact Assessment in line with national legislation and EU Environmental framework.	Project requires a comprehensive environmental and social assessment (as a category A project such as pipelines, terminals, and associated facilities for the large-scale transport of gas, oil and chemicals).	EBRD requirements are stricter than national.	Develop an ESIA study for the project.
Environmental and Social Management Plan (ESMP) / Environmental and Social Action Plan (ESAP)	Development of an ESMP /ESAP is not explicitly required.	<p>The client will be required to adopt an environmental and social action plan (ESAP), which will include a series of technically and financially feasible and cost- effective measures to achieve compliance of these facilities or activities with the EBRD PRs.</p> <p>The client will develop and implement a programme of actions to address the identified project’s environmental and social risks and impacts and other performance improvement measures to meet the PRs. Depending on the project, the programme may consist of a combination of documented operational policies, management systems, procedures, plans, practices and capital investments, collectively known as environmental and social management plans (ESMP).</p>	<p>EBRD requirement for management plans for construction and operational phases.</p> <p>EBRD requirement to demonstrate how compliance will be achieved through ESAP</p>	<p>Develop environmental and social management plans for the project construction and operational phases. These will be further developed with site specific details by both Transgaz and their contractor.</p> <p>Where gaps exist and compliance cannot currently be demonstrated but can be achieved over the lifetime of the project an Environmental and Social Action Plan will be developed detailing the action required and setting out the timing for this action to be completed.</p>

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Analyzed aspect	Romanian Law (aligned with EU Environmental framework)	EBRD Provisions	Gap	Solution
Environment				
Critical Habitat and priority Biodiversity features	An Environmental Impact Assessment and Appropriate (Natura 2000) Assessment Report is required according to national legislation.	A comprehensive biodiversity assessment is carried out for category A projects such as pipelines, terminals, and associated facilities for the large-scale transport of gas, oil and chemicals.	EBRD requirements are detailed and stricter.	Assessment of Critical Habitat and priority Biodiversity features needed.
Species listed to be reviewed to ensure it meets the No net loss requirement.	No net loss not defined in Romanian legislation, thus not required.	No net loss/Net gain approach should be used as per EBRD requirements.	EBRD requirements are beyond national requirements.	No net loss/net gain assessment and conclusions.
Social				
Development and implementation of a Land Acquisition Framework/Plan and/or Livelihood Resettlement Framework/Plan	The legislation regulating investments in the natural gas sector does not require the development of a Land Acquisition Plan. The legal framework, together with internal procedures of the project promoter define the principles and actions that need to be followed in order to obtain the land use rights and implement the compensation measures.	Develop framework/plan for Land Acquisition Framework/Plan and/or Livelihood Resettlement Framework/Plan	No explicit national legal requirement to elaborate a Framework/Plan and/or Livelihood Resettlement Framework/Plan EBRD requirement.	A Framework/Plan and/or Livelihood Resettlement Framework/Plan should be developed for the Project.
Eligibility for compensations	Only owners that can make proof of their property rights are compensated with indemnities. land users will be compensated with compensations, for the damages incurred during construction. Interpretation of law 185, transposed into internal procedure, regulates the payment of	Consideration for compensation of formal and informal owners and users of land.	Although legitimate owners (whose tenure can be formalized), tenants and users are all identified as rightful beneficiaries for compensations, the legislation states that the process of informing and compensating users for losses during construction stays with the landowner.	Develop a LAP/LAF and/or a LRF/LRP and provide compensations for the losses incurred during construction.

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Analyzed aspect	Romanian Law (aligned with EU Environmental framework)	EBRD Provisions	Gap	Solution
	indemnity to owners and the payment of compensation directly to the user.			
Support to vulnerable people	No provisions under Romanian Law.	Take into account any individuals or groups that may be disadvantaged or vulnerable and take necessary actions to ensure that vulnerable groups are not disadvantaged in the process, are fully informed and aware of their rights, and are able to benefit equally from the compensation as well as any opportunities and benefits.	No national requirement to mitigate impacts specific to vulnerable people. Required under EBRD ESP and PR's.	Make special provisions to identify and assist disadvantaged or vulnerable individuals or groups that may be more adversely affected by displacement than others and who may be limited in their ability to claim or take advantage of livelihood assistance and related development benefits.
Valuation of properties	Valuation process is market based and provides generic values at the level of each Administrative Unit, based on ANEVAR reports. The values provided by ANEVAR are average values for each category of land use from the TAU.	Offer fair compensation for loss of assets and livelihood at replacement rates.	Loss of value due to land use limitations during operation, in the form of restrictions imposed to the planting of trees or to any construction within the pipeline's safety strip.	Compensate for the decrease in future value of the land affected. Compensation for losses caused by restrictions imposed during operation is made by paying an annual indemnity.
Communication and Consultation	Notifications, consultation and negotiations between landowners and authorities are the basis of the land rights acquisition process. Consultation process is also included in the EIA procedure. This is only limited to a number of public debates.	Appropriate disclosure of information and consultation about project impacts and displacement with all affected persons.	Under national requirements the communication process is mainly targeted at landowners. Methods used for public information (displaying info at the headquarters of public authorities) may have not reached all affected persons.	Develop and implement Stakeholder Engagement Plan (SEP).
Grievance mechanism	The law confers rights to citizens displeased with the amount of the compensation, to claim in amount to	The grievance mechanism to be established by the Client will be set up as early as possible in the process, to receive and address in a timely fashion	There is no dedicated complaints resolution mechanism for these projects.	A project specific Grievance Mechanism shall be developed

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Analyzed aspect	Romanian Law (aligned with EU Environmental framework)	EBRD Provisions	Gap	Solution
	<p>relevant courts, in a special regulated by Law. No 185/2016.</p> <p>National legislation provides for a specific measure in the content of GO 27/2002 but not specific to this project.</p>	<p>specific concerns about compensation and relocation that are raised by displaced persons, including a recourse mechanism designed to resolve disputes in an impartial manner. A summary of complaints and the measures taken to resolve them shall be made public on a regular basis.</p> <p>In the context of previous projects implemented by Transgaz, there is already precedent for establishing a dedicated complaint resolution system for a project.</p>		<p>within the SEP, in accordance with EBRD requirements.</p>
<p>Monitoring and evaluation of Livelihood Resettlement Framework/Plan implementation</p>	<p>Monitoring procedures are prescribed only for expropriation processes.</p>	<p>Resettlement plans and policies shall establish procedures to monitor and evaluate the implementation of resettlement plans and take corrective actions as necessary.</p>	<p>There are no requirements for monitoring land acquisition/ livelihoods restoration process, under Romanian legislation.</p>	<p>Monitoring arrangements shall be developed and incorporated in detail in the Livelihood Resettlement Framework/Plan</p>

3 Project Description

This Section summarises the Project, including its background and the need for the Project. It also addresses the route alternatives that were considered by Transgaz and proposes the 'base case' or preferred route. Details of proposed construction techniques and special crossing areas are also provided.

4 Need for the Project

The project is considered vital infrastructure for natural gas transmission from the Black Sea shore to Romanian territory. The development on Romanian territory of a natural gas transmission infrastructure from the Black Sea shore up to Romania-Hungary border is a major priority of TRANSGAZ and is included in the 10-year development plan of TRANSGAZ. Given expected onshore production decreases, the Romanian Energy Strategy for 2016-2030 seeks to maintain the existing low degree of dependence on imports through the development of the recently discovered reserves in the Black Sea and the creation of the necessary infrastructure for connecting them to the national transmission system. The project is also included in the updated list of Projects of Common Interest adopted by the European Commission in October 2019 by the Commission Delegated Regulation (EU) 2020/389 of 31st October 2019, amending the Regulation (EU) no. 347/2013 of the European Parliament and of the Council as regards the Union list of projects of common interest, under heading 6.24.4 "Black Sea Shore – Podișor Pipeline (RO) for taking over Black Sea gas."

The project will help to ensure:

- facilitate the transition from coal to gas and further to non-fossil fuels;
- diversification of natural gas supply sources for Romanian consumers;
- reduced dependence on gas imports from Russia;
- transport to the Central European markets of natural gas from the Black Sea; and
- development of a transport capacity that will allow future the interconnection with the pipelines that will have as potential sources to supply liquefied gases from the Black Sea shore (AGRI Project).

The regional interconnectivity of the natural gas transmission systems will help reduce risk to the national gas supply (used for domestic heating as well as industrial activity) helping to ensure continued national economic growth and security.

4.1 Project Details

The entire pipeline will be located in Romania and will run between Tuzla on the Black Sea Shore and the Podișor Gas Compression Station located 22km to the west of Bucharest. It will pass through the counties of Constanța (74.95 km), Călărași (139.5 km) and Giurgiu (93.71 km), all areas where agricultural land use dominates. The pipeline will be connected to the BRUA pipeline at Podișor, linking into the natural gas transmission regional (transnational) networks in Romania and consolidating the country's strategic position in the European energy network. The steel pipeline will have a total length of 308 km and will be made up of two separate segments namely:

1. Black Sea to Amzacea, with a length of 32.4km and diameter of Ø 48" (Dn1200)
2. Amzacea to Podișor, with a length of 275.7 km and diameter of Ø 40" (Dn1000)

A map of the pipeline route, including key constraints, is shown in **Figure 2**. Below:

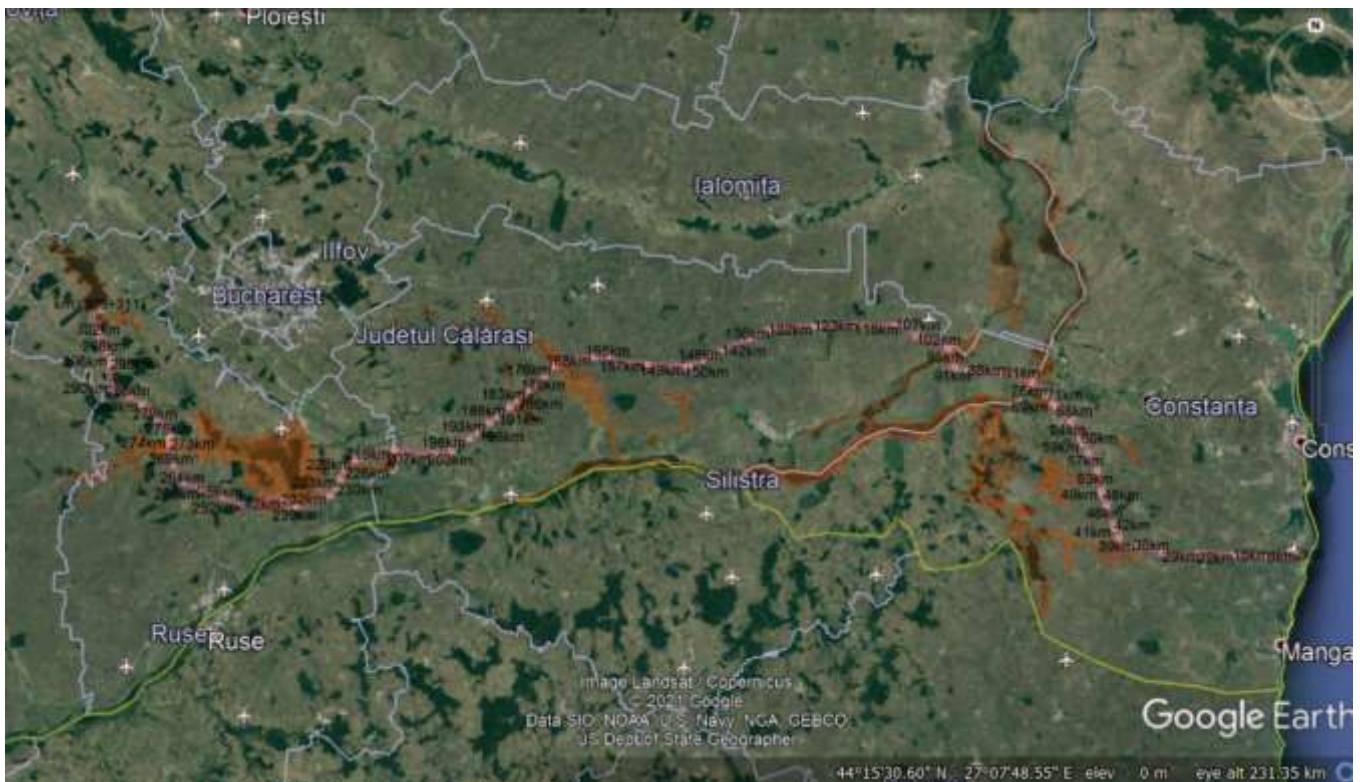


Figure 2. Proposed Pipeline Route and Natura 2000 sites (brown-orange fill)

In line with the “Technical norms for the design and execution of natural gas transport pipelines” (118/2013), the working corridor for the pipeline will be as follows:

- Dn 1200: 24 m in plough land, grass land, hayfield and unproductive land, 16m in vineyards, orchards and forests
- Dn 1000: 22 m in plough land, grass land, hayfield and unproductive land, 15m in vineyards, orchards and forests

The total land area to be occupied by the works is approximately 690.7 ha, out of which temporarily occupied land area is approx. 689.4 ha, and the land area permanently occupied is of approx. 1.25 ha. All lands for the project construction and operation will be outside the boundaries of residential areas.

The top of the Pipeline will be buried below frost depth i.e., 1 m below ground level (bgl). Under cadastral waters, national and county roads, railways greater depth is used in accordance with Romanian national standards. There will be 20 cut-off valve stations (VS) and 10 cathodic protection stations (CPS) along the route. A pipeline monitoring system will also be built with optical fibre tubes that will run parallel to the pipeline.

4.2 Construction Sites and Laydown Areas

At half distance of each sector, a construction site will be placed (possible locations: Cobadin (Constanța County), Alexandru Odobescu (Călărași County), Băneasa (Giurgiu County)). Corresponding to each construction site, the works will be initiated on 5 distinct work fronts, each bearing the responsibility of carrying out a sector of pipeline comprised between 10 and 40 km, depending on the complexity of the route, the structure of the terrain etc. Five locations were identified for the pipe storage facilities, as follows: Peștera (Constanța County), Dragalina and Frăsinet (Călărași County), Isoarele and Stoenеști (Giurgiu County). The layout of the site management and pipe storage facilities has been established outside the biodiversity/nature protected areas and the points with sensitive receptors.

4.3 Project Construction

The construction works themselves will involve a sequential process of operations undertaken along manageable lengths ("spreads") by specialized work teams. Whilst final construction techniques will be determined during the detailed design stage, operations typically involve the following (each of which may be delivered by a separate team):

- Route surveying, preparation of the working strip, topsoil stripping and grading
- Pipe stringing, bending and welding
- Trench digging
- Horizontal drilling (localised to other linear structure crossings)
- Horizontal Directional Drilling (localised to major river crossings and an area of cultural significance)
- Pipe laying, installation and backfilling
- Site clean-up and restoration.

At each spread, the work teams will typically operate along a rolling work front of approximately 25km in length, with several teams operating at the same time along the route. Estimated laying rates are expected to be up to 600m per day in flat terrain and the overall construction period is estimated as 24 months.

Given the extension of the project (over 300 kms), construction work will be broken down into manageable lengths called "spreads" and will utilise highly specialised and qualified teams of contractors. In this regard, 3 work sectors were defined, covering a length of approximately 100 km each.

Pipe laying will be undertaken up to a depth of 2 m, using a series of processes that are outlined in the Technical norms for the design and execution of natural gas transmission pipelines, as approved by A.N.R.E Order no. 118/2013. The pipeline will be designed to allow the cleaning and inspection with intelligent PIG. Permits have been obtained for all works within the working strip (the widths for working strips are given above) including for crossing both natural and public obstacles.

4.3.1 Clearance of the Right of Way (RoW)

The pipe centreline (typically offset to one side of the Working Strip) and boundary will be cleared and levelled. This will involve removal of structures and vegetation from the Right of Way (RoW) and then stripping of topsoil (and associated plant life and seed stock) from the Working Strip by suitable earth moving equipment. The topsoil will be stockpiled on one side of the working corridor where it will be stored in such a way that it is not mixed with other trenched materials or subject to erosion. If the topsoil requires long-term storage, then aeration and raking will be carried out regularly to avoid compaction. Topsoil bunds should be constructed in such a way that no part of the topsoil is >1m away from soil/air interface, if to be left in place for more than six months, then seeding of the topsoil should be considered to prevent erosion. The Working Strip will then be levelled, using typical construction site machinery, to eliminate irregularities, large stones, tree stumps and other features.

4.3.2 Excavation of the Trench

The method of excavation of the trench will be determined by a combination of factors as follows:

- **Manually:** in areas where the pipeline is to be laid a small distance away from other gas or sewerage pipelines, underground facilities or telecommunications or electricity networks, and where there is no access for excavation plant; and
- **Mechanically:** by rotary excavators and Castor type excavators, in areas where access is possible, as well as where the movement of large volumes of soil is required.

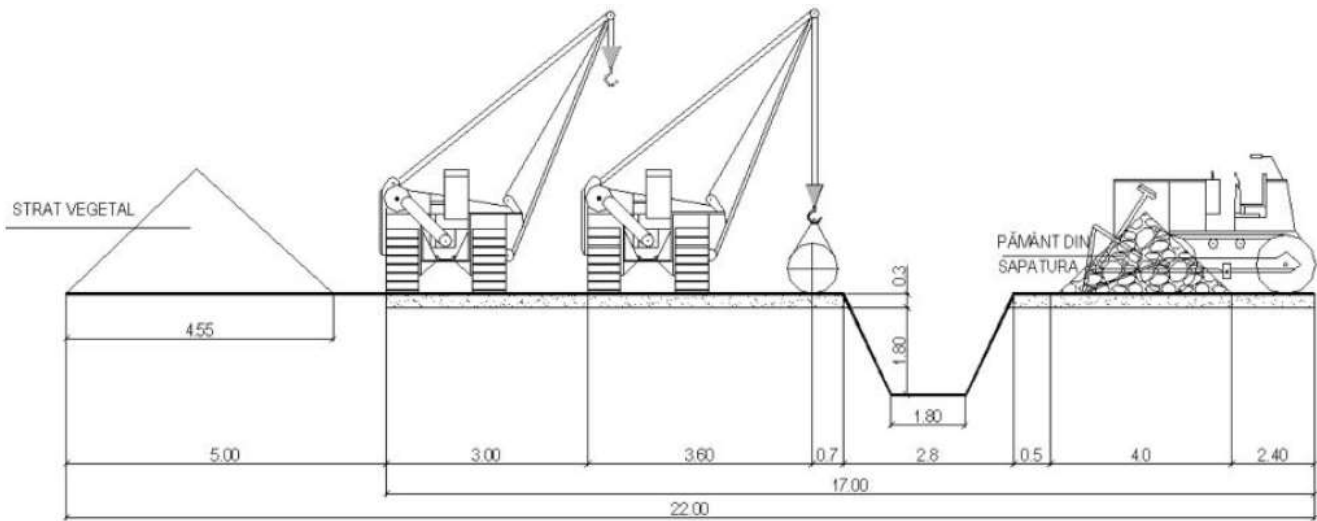


Figure 3.a Working Strip (22m) Arrangements

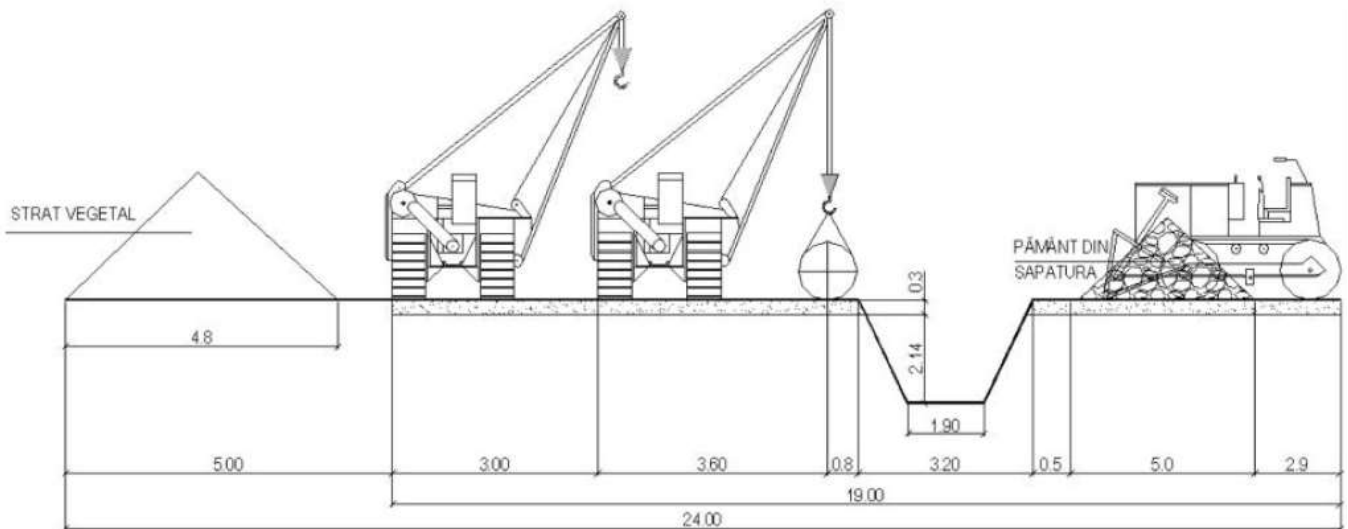


Figure 3.b Working Strip (24m) Arrangements

The pipeline will be installed to a depth of 1.0m below surface level (assumed to be frost depth), except where the route intersects communication channels, where the depth will meet the requirements of STAS 9312/87 (i.e., at least 1.5m). **Figure 3.a and 3.b** illustrate the arrangement of a 22/24m wide working strip.

4.3.3 Pipe Stringing, Bending and Welding

The pipeline will be constructed from approximately 12 m long sections of steel pipe. Before the pipe is prepared for welding, a bending crew will bend the pipe in place where necessary to match terrain contours. The crew will use a hydraulic bending machine to put gradual bends in the pipe. This equipment bends individual joints of pipe to the desired angle at locations where there are significant changes in the natural ground contours, or where the pipeline route changes direction. The bending will be limited to making many small bends along the length of a pipe section until the desired summary bend angle has been reached.

Where the bend cannot be made gradual enough to meet specific conditions, a prefabricated factory bend will be inserted into the pipeline. These conditions will be identified prior to construction. The individual sections of pipe will be welded together to form the pipeline. The weld will consist of several passes (layers) depending on the pipe wall thickness. The pipes will be joined together using a motor-driven welding machine by a continuous wire arc welding process. Pipes will be connected by electric butt welding by rotation, to create the sections, and

on site (in the ditch) to create the line of the pipeline. All full line butt welds and curves will be insulated with heat-shrinking sleeves or cold applied tapes (reinforced insulation). Above-ground sections of the pipeline will be protected by applying a layer of anti-corrosive primer and two coats of paint.

Sections of pipes will then be joined by connecting and welding several together so that a pipes string is formed and placed on temporary supports along the edge of the trench. The weld will be tested by Non- Destructive Testing (NDT) with radio graphic inspection. Any welds indicating defects will be remedied by repair or replacement. After the welds have been checked, tested and approved, the coating crew will clean the exposed steel section at the joint between the pipes, sandblast the steel and apply a protective coating to it. The coating will be heat-shrinkable polyethylene sleeves. The entire pipeline coating will be electronically inspected, using Direct Current Voltage Gradient (DCVG) or any equivalent technique, to assess the condition of coating to locate and repair any coating faults or voids.

4.3.4 Pipe Laying, Checking and Backfilling

Assembly of and laying the pipeline within the trench will be performed as follows:

- Sections of pipe (a maximum of two doublets) will be joined by electric welding adjacent to the trench.
- The sections of pipe will be laid in the trench using launcher type TL.4 mobile cranes (as shown in **Figure 4** below). Changes in direction, both horizontally and vertically, will be made through CMF curves (minimum 5 x DN). To avoid exceeding the material elasticity limit of the pipeline, the following conditions will be met:
 - Distance between launchers: max. 20m;
 - Maximum lifting height for pipeline during the laying process: 1.5 m.
- The pipeline will be assembled in the trench, in final position, by on site welding in accordance with API Std. 1104-1105.

Once the pipeline has been assembled within the trench, the trench will be backfilled with in-situ excavated material . This can either be performed manually or mechanically, according to the "Technical regulations for the design and execution of gas transmission pipelines", approved by Order A.N.R.E. no. 118/2013. Backfilling will only be performed after:

- Checking and insulation of all welds performed in situ;
- Installation of potential outlets (where applicable);
- Carrying out of strained soil layer;
- Carrying out of drainage vents (where applicable).



Figure 4. Laying a section of pipeline into the trench

4.4 Specialist Excavations

The pipeline route crosses a number of areas where specialised construction approaches are required. These include areas of infrastructure (roads, railways, pipelines etc.), rivers and streams, areas with high groundwater and areas of particular environmental and/or social sensitivity. The requirements and technical instructions of the competent authorities will be taken into account in the detailed design and construction of crossings. Crossing techniques can be divided into the following:

- **open cut** (where the trench is dug directly across the feature), and
- **trenchless crossing** methods which prevent surface disturbance.

Trenchless crossing methods include jack and bore, thrust-boring, auger boring, micro-tunnelling and HDD. These methods are used where ground conditions permit, where disruption to others will be unacceptable or where there will be significant damage to the environment by the use of open cut methods.

Watercourse crossings will be performed either by open-cut excavation or by horizontal directional drilling (HDD) based on the Hydrological Study (March 2015) recommendations. Where the pipeline crosses water courses that are not registered in the Land Register, the depth of the pipeline will be below the scouring level established in a hydrological study. Where the pipeline passes underneath drainage channels, minor watercourses or areas with high water tables, the pipe will be encased in concrete to compensate for the hydrostatic force. Any affected riverbanks will be restored to their initial state.

In total some 283 under-crossings will be executed on the BSPP route (see Annex III- Project routing details, **Table 1**). The table below indicates where these approaches are expected to be used:

Table 6. Crossing Approaches

Crossing	Approach
Main River Crossings	HDD will be used at the main river crossings of the Danube, Borcea Waterway and Argeș River.
Cultural Sites	HDD will also be used at the cultural heritage site at km 118.
National Roads	All national and county roads and highways and railways will be crossed by Horizontal Drilling. Only private access roads (27 in total) will be crossed by open-cut methods.

Communication Lines	Where the pipeline route crosses any communication lines, works shall be executed in accordance with STAS 9312-87 " <i>pipelines under-crossings of railways and roads outside town limits</i> ", which requires that the pipeline will be mounted in metallic protection tubes.
Slopes	In areas where there is a need to crosscut into slopes to enable installation of the pipeline, terraces will be excavated in the hillside to allow safe access for construction equipment on the inside of the trench. Once the pipeline has been laid, the hillside will be filled in as far as possible. ³

A summary of the construction characteristics of the pipeline is shown in the **Table 7** below.

Table 7. Functional and constructive characteristics of the Black Sea shore-Podișor Pipeline

Name	Unit of measurement	Size
Maximum operating allowable pressure	bar	63
Design pressure	bar	63
Pipeline length in the plan	km	308,1
Real pipeline length	km	308,4
External pipe diameter	mm	1219/1016
Water course crossings by horizontal directional drilling	piece	3
Water course and marshland crossings with ballasting pipe	piece	20
Waterway (3) and cultural site (1) crossings by horizontal drilling	piece	4
Waterway crossings by ballasting pipe	piece	153
National road crossings by horizontal drilling	piece	12
County road crossings by horizontal drilling	piece	18
County road crossings in open cut	piece	3
Communal road crossings by horizontal drilling	piece	5
Communal and service roads in open cut	piece	11
Railroad crossings by horizontal drilling	piece	5
Transgaz and third parties pipeline crossings	piece	41
Dike crossings	piece	5

³ The route of the pipeline is overlapping with gentle slope areas and limited geological concerns. No extended landslides or other geomorphological risks have been identified.

Forrest crossing, out of which 1.302 km of affected standing crop and 0.672 km of unaffected standing crop – crossed over by directional drilling	km	1,974
Cut off valves Ø 1219/1016" ANSI 400	piece	3/17
Cathodic protection stations	piece	10

4.5 Block Valve Station and Cathodic Protection Station

The project is planned to have 20 valve stations and 10 cathodic protection stations (located above ground) as presented in the table below. The cathodic protection stations are required to reduce the risk of pipe corrosion during its life cycle and will be placed within cut-off valve stations as also shown below.

Table 8. Valve Stations location and chainage

Valve no.	CPS no	Location	Kilometric position
VS 2	CPS1	To the West of Railroad CF800, in the area of Tuzla locality	km 0 + 000
VS 3		Upstream the under-crossing of the railroad CF803, the area of Tuzla locality	km 31 + 764
VS 4		Within the station for pig receipt – launching, downstream the under-crossing of the railroad CF803, the area of Amzacea locality	km 32 + 475
VS 5	CPS2	Interconnection with Transit I pipeline	km 37 + 386
VS 6	CPS3	Upstream Danube crossing, the area of Rasova locality	km 72 + 750
VS 7		Downstream Danube crossing, the area of Rasova locality	km 76+ 534
VS 8		Downstream crossing Borcea Arm, the area of Borcea locality	km 90 + 331
VS 9	CPS4	Upstream crossing Borcea Arm, the area of Borcea locality	km 95 + 296
VS 10	CPS5	Upstream the undercrossing of the railroad CF 802, near Ștefan Vodă	km 131 + 258
VS 11		Downstream the undercrossing of the railroad CF 802 near Ștefan Vodă	km 131 + 822
VS 12	CPS6	Upstream the undercrossing of county road DJ 304, the area of Ulmu locality	km 164 + 295
VS 13		Upstream the undercrossing of the railroad CF 801, near Mitreni locality	km 197 + 508
VS 14	CPS7	Downstream the undercrossing of the railroad CF 801, near Mitreni locality	km 197 + 838
VS 15	CPS8	Downstream the undercrossing of the service road, near Zboiu locality	km 225 + 931

VS 16		Downstream the undercrossing of the railroad CF 102, near Băneasa locality	km 250 + 509
VS 17		Upstream the undercrossing of the railroad CF 102, near Băneasa locality	km 250 + 727
VS 18	CPS ₉	NT Interconnection Vlașin, the area of Vlașin locality	km 266 + 016
VS 19		Upstream the undercrossing of the railroad CF 100, near Vadu Lat locality	km 299 + 700
VS 20	CPS ₁₀	Downstream the undercrossing of the railroad CF 100, near Vadu Lat locality	km 299 + 833
VS 21		GCS Podișor, the area of Buçșani locality	km 308 + 165

Details for the engineering, construction and commissioning schedule for the BVS & CPS will be developed in the detail design phase, but will involve standard operations namely:

1. Preparation of the construction site;
2. Earthworks;
3. Preparation of foundations;
4. Erection of equipment and building;
5. Laying of cables and electrical works;
6. Piping and mechanical works; and
7. Installation of operational and instrumentation systems.

4.6 Other Technological Components

The project will also have a number of other specific technical components as shown in the table below:

Table 9. List of other components

Component	Description
Pig Receiver – Launcher	A Pig ('Pipeline Intervention Gadget' or 'Pipeline Inspection Gauge) Receiver – launching station will be located in the Amzacea area at km 32.4. This is a device located on the pipeline to allow the launching and receipt of PIGs, inspection tools and other equipment which must be moved through the pipe, in order to supply information on the technical status of the pipeline.
Interconnection with T ₁ transit pipeline	<p>The interconnection with T₁ transit pipeline will be at on TAU Amzacea. The interconnection will consist of a regulating valve system and elements / command elements which allow directing the gas coming from the Black Sea and which can be directed to Podișor and/or to T₁ transit pipeline, according to the commercial needs, as follows:</p> <p>The gas which is delivered to Podișor pass through Dn 1000 valve to Podișor</p> <p>The gas which is delivered to T₁ transit pipeline pass through Dn 500 valves and are measured through the measuring panels with ultrasound meters Dn 500 or Dn200 according to the transported capacity.</p>

NT Vlașin Interconnection	<p>The interconnection with Dn 500 Podișor – Giurgiu pipeline consists of a valve system and elements / command elements which allow directing the gas coming from the Black Sea and which can be directed to Podișor and/or Giurgiu according to the commercial needs, as follows:</p> <p>The gas which is delivered to Podișor pass through Dn 1000 valve to Podișor</p> <p>The gas which is delivered to Giurgiu pass through Dn 500 valves and are measured through the measuring panels with ultrasound meters Dn 250</p>
Interconnection with GCS Podișor	<p>The interconnection is performed within Podișor Compression Station. The BSPP will be coupled in GSC Podișor with Podișor – Corbu pipeline which is part of the BRUA transmission corridor. In GSC Podișor, a pig receiving station and measurement panels provided with ultrasound meters Dn 500 will be mounted.</p>
Sensitive fibre optic cable	<p>The sensitive fibre optic cable shall be mounted in the same trench as the pipe at a depth of 80 cm</p>
Measurement system	<p>Gas metering will occur in the following points: at the interconnection with T1 (km37+386 - Azamcea), at the interconnection of NT Vlașin and at the interconnection in SCG Podișor.</p>
Data acquisition	<p>This system is collecting data on pipeline parameters and delivers data at the dispatcher installed at Podișor compression station and further at National Dispatcher Center.</p>
Pipeline Monitoring	<p>A monitoring system for unauthorized excavating on the pipeline route is based on the detection of vibrations transformed into electromagnetic pulses and delivers alarms to the dispatcher installed on Podișor compression station.</p>
	<p>The breaking, fire and gas prevention monitoring system is delivering alarms to the dispatcher installed on Podișor compression station.</p>

4.7 Project Alternatives

Selection Criteria

The following key parameters were taken into consideration at the project design stage:

- Safety and security:** Given both the strategic importance of the project (and investment), and the risks inherent in natural gas transport, the design sought to apply best practice in pipeline safety and technical quality wherever practical. For example, as with other Romanian pipelines of this nature, the Project has been designed to meet the requirements of "ANRE Order no. 118/2013: Technical regulations for design and execution of gas transmission pipelines". The pipeline will be designed to allow the cleaning and inspection with intelligent PIG ('Pipeline Intervention Gadget' or 'Pipeline Inspection Gauge). The installation of the designed pipe will be below the frost depth, respectively at a depth of at least 1 m measured from the surface of the soil to the upper generatrix of the pipeline, except for obstacle under-crossings (cadastral waters, national and county roads, railways, dams). These will be under-crossed in accordance with the requirements of the standards and technical norms in force. The seismic classification is in accordance with the "Seismic Design Code - Part I", indicative P 100 - 1/2013. A digital data tele-transmission system will be built as well.
- Economic criteria:** the design process considered the most effective solutions to ensure a long design life, aligned with minimal construction costs.
- Social criteria:** the aim was to select the pipeline route which minimised impacts on local communities during construction and operations. This meant avoiding, as far as possible, residential areas and existing transport routes.

- **Environmental criteria:** the aim was to avoid, as far as possible, protected areas and forests to reduce the impacts on biodiversity.

Route Options

Having the start and end points fixed (start -Tuzla, end-Podișor), two main route options were considered, the chosen route and one further to the south, see **Figure 5**. The southern option was discounted due to excessive geotechnical risks and route instability that would incur excessive costs. In addition:

- In the early stage of design (Pre-Feasibility Study, Trangaz,2014) the pipeline corridor was following a straighter route from Tuzla to Podișor running closer to Danube and Bulgarian border.
- In 2016, for the Feasibility Study done by Transgaz, most of the route (approximately between today Km30 to KM230) was pushed North with 25 to 40 km in Dobrogea (East of Danube) and 10 to 15 km in Wallachian Plain (West of Danube). This major change in corridor route ensured that populated areas would be avoided, less protected sites would be affected (Natura 2000 SPA's and SCI's are more compact close and along the Danube), topology, geology and hydrogeology are more suitable for pipeline construction and installation.

These will be described further in the Project ESIA report.

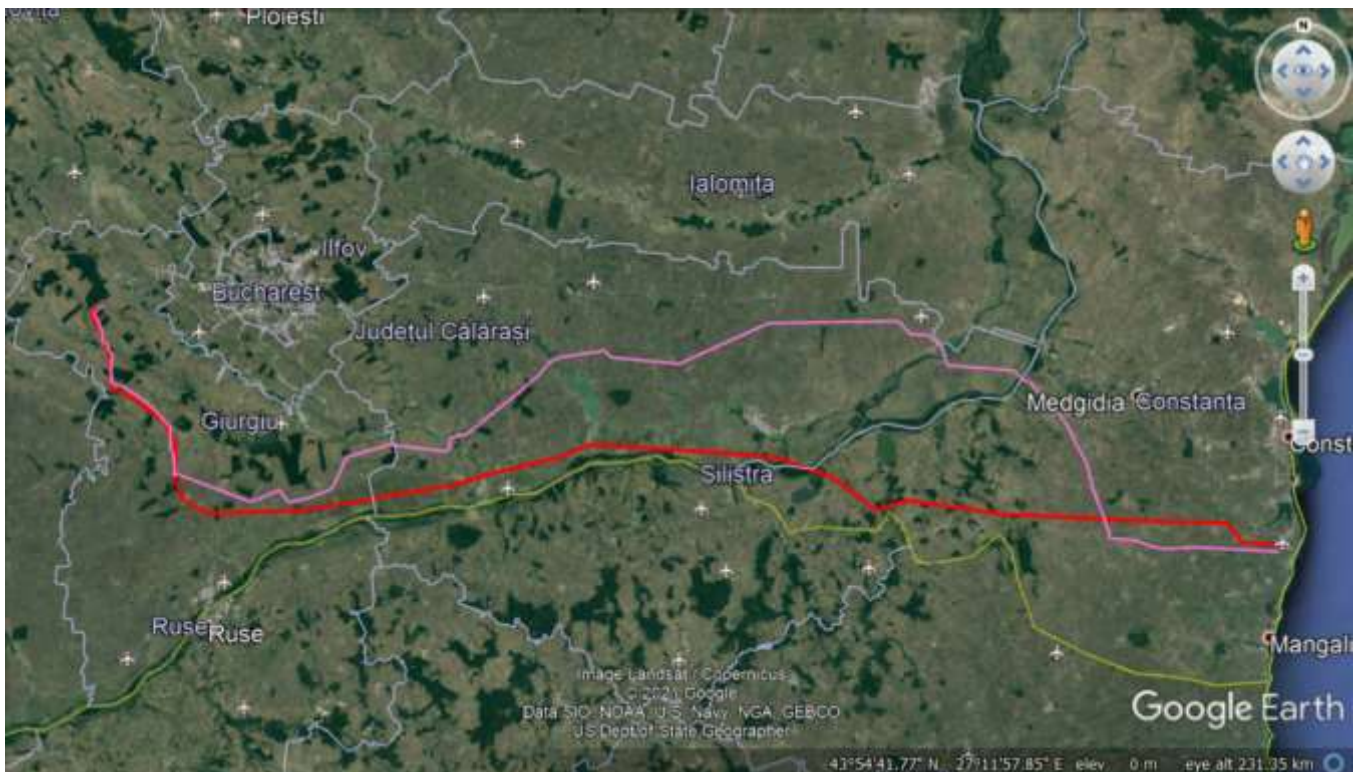


Figure 5. Proposed Pipeline Route (in pink) and Pre-Feasibility Study route (in red)

Construction Alternatives

Two alternatives were considered for installing the pipeline (buried or above ground). The advantages and disadvantages of each option are outlined below in **Table 10**

Table 10. Advantages and Disadvantages of pipeline installation options

Approach	Advantages	Disadvantages
Above Ground Pipeline	Significantly lower construction effort and cost	Significant social impact and fragmentation of the crossed areas. Additional long term compensation costs relating to property rights. Requires the inclusion of curved sections of pipeline to enable expansion of the pipeline due to temperature variations, or crossings (above or beneath) the pipeline to ensure access to each side. Additional important pipeline protection must be considered during operational phase. Permanent impacts on: the landscape/visual impacts; loss of land use function (agriculture etc.); fragmentation of habitats by creating a major artificial barrier and third party interference, intentional or not intentional*. * https://www.concawe.eu/wp-content/uploads/2017/01/cr152pipelineintegrity-2006-02009-01-e.pdf
Buried Pipeline	Limited residual environmental impacts during the operational phase.	Requires an important financial as well as logistical and human effort, during construction phase.

Whilst the resources and costs required for a below ground pipeline were greater, this solution was preferred as it has a reduced environmental and social impact, especially regarding habitat fragmentation over the lifetime of the project.

4.8 Associated Facilities

The environmental and social assessment process of the Project (as described in Section 3 and Annex III – Project details) typically seeks to identify and characterise, to the extent appropriate, potentially significant environmental and social issues associated with activities or facilities which are not part of the project, but which may be directly or indirectly influenced by the project, exist solely because of the project or could present a risk to the project. These associated activities or facilities may be essential for the viability of the project and may either be within the control of the client or carried out by, or belong to, third parties. The BSPP project includes the following associated facilities:

- The pipeline starts in Tuzla UAT where it connects with the pipeline from the Black Sea continental extraction platform at a Natural Gas measuring station located onshore. The gas extraction from Black Sea continental platform is to be developed by a different company. The Transgaz pipeline is dedicated for this project thus, directly connected to it and depends on the development of this project.

Offshore developments will be reviewed in greater detail where available data exists as part of the ESIA process.

- The interconnection with T1 transit pipeline (km37+386 - Azamcea) and with Podisor – Giurgiu pipeline at Vlașin (km 266+016) have been identified as associated facilities on pipeline’s path. The specific layout for the interconnections and the possible impacts will be further assessed in other sections of the documents.

The BSPP pipeline ends through a connection with Podisor-Corbu pipeline in GCS Podisor, thus integrating the project with BRUA transmission corridor.

Based on available information, further details regarding the Associated facilities will be included in the ESIA/SLIP Package.

4.9 Project Area of Influence

The 'spatial scope', 'study area' or 'area of influence (Aoi)' for the Project is used to describe the extent to which project impacts will be realised. The Aoi may vary depending upon the type of impact being considered and the attributes of the potentially affected receptors⁴ and may also extend across administrative or national boundaries. In each case, however, the Aoi includes all areas within which significant impacts are likely to occur considering the:

- the physical extent of the proposed works, defined by the limits of land to be acquired or used (temporarily or permanently) by the Project; and
- the nature of the baseline environment and manner in which impacts are likely to be propagated beyond the Project boundary.

For the proposed BSPP project, the Project Aoi is taken to include the footprint of all project activities⁵ and a working strip of 150m either side of the pipeline. This includes the areas in which a direct or indirect impact on the physical, biological, social or cultural environment might occur. Where different/wider areas are used/considered this will be discussed in the respective Baseline Sections of the ESIA and in Transport Management Plans.

4.10 Project Timeframe

The duration of the Project construction phase is estimated at 24 months. This includes the following key dates:

- 2014 - Pre-Feasibility Study
- February 2016 - Feasibility studies and FEED (pipeline and GCS)
- 2017 – 2020 - Permitting (construction permits)
- Before April 2021 - Procurement for works execution (frame contract for construction and main contractor selected)
- Execution Phase expected to take 2 years from commencement.
- Commissioning is expected after the execution and testing.

The pipeline has been designed to be used for a long period of time, according to standards and legislation in force and in the future can be converted to hydrogen transportation. More details to be provided under ESIA study.

⁴ For example, effects on archaeological features are typically confined to those areas physically disturbed by the construction works, whilst the effects of noise or visual intrusion can be experienced at some distance, and air pollution may be dispersed over long distances .

⁵ This includes the pipeline working strip (which has a width of maximum 24m (see Chapter 4.1 for details) and includes room for for simultaneous vehicle movements), access roads, , construction yards, laydown areas, work sites and other related facilities including delivery routes for all project materials to the project.

5 Existing Conditions

This Section describes the existing conditions present in the Project Aol, and has been used to inform the scoping matrix. Where data deficiencies have been identified during the ESIA process, recommendations will be made to address these during preconstruction survey (by the Contractor) or by using of Construction Environmental and Social Management Plans (CESMPs) to be developed by Transgaz or the Contractor. Outlines for Management Plans' contents will be included in the ESIA.

5.1 Geology and Geomorphology

A general review of the geology and geomorphology for the entire route in Dobrogea and Wallachian Plain was done. A detailed baseline geotechnical study was undertaken considering seismic risks areas and drillings every km apart plus extra drillings at identified structures and features such as roads, railways and water channels, river crossings.

5.2 Soils

Nationally soils are classified into 12 classes and 32 types differentiated by structure and productive capacity. Impacts to soil will arise from both compression and during excavation of the trench and storage of top and sub soils. This will be managed through a soil management plan. In total around 689.4 ha of soil will be affected during construction works, although only around 1.25 ha will be permanently lost through the construction of valve stations. Given that the thickness of the topsoil is around 30 cm, an estimated volume of 2.6M cubic meters of fertile soil will be mobilized. Whilst no specific soil sampling has yet been undertaken for the project, this will be undertaken as part of the compensation process for the project.

No baseline data on areas with potentially contaminated soil is provided. From km280 to km308 the pipeline routes with an active oilfield owned by OMV Petrom.

5.3 Groundwater Resources

No specific groundwater studies have been undertaken for the project to date, although desk-based data on groundwaters is included in the geology documentation.

5.4 Surface Waters

Most of the main water crossings will be of class I (Very good condition) or II (Good condition) watercourses. No baseline water quality data are presented in the national EIA. Impacts to water courses will be managed through the water crossing management plan.

5.5 Biodiversity

The project passes through 8 protected/designated sites (all Natura 2000 sites) and 3 Ramsar sites, although for the latter the route passes almost entirely through farmland habitat and is not expected to negatively impact the conservation objectives of these sites or the species they were designated to protect. In total the BSPP route overlaps with Natura 2000 sites for 14.24 km, representing 4.6% of the total length of the project. The project also passes very close to the 2 additional Natura 2000 sites; however, these are not within the Right of Way.

Overall, approximately 99% of the project Aol consists of heavily modified non-irrigated ploughed farmland, with most of the remaining area modified pasture land. Indeed, over the total 308 km of the route only around 6 acres (<0.8%) is considered natural habitat (tree stands, bushes, natural meadows, riparian areas, etc.), of which broadleaf woodland and natural or semi-natural grasslands are the most common. Despite this, 23 habitat types present in Annex 1 of the habitat's directive (priority status) were identified within the Natura 2000 sites crossed by the route.

46 species listed under the Habitats or Birds Directives are thought to occur within the Aol, with another 151 species potentially present that are not threatened or listed on Habitats or Birds directive. An initial

review of the IBAT data identified 53 IUCN red listed (CR, EN, VU) species that may occur within 50 km of the proposed route, although the limited habitat diversity and small amount of natural habitat present within the Aol mean that most of these are very unlikely to be present. **[HOLD: awaiting results of limited baseline survey].**

5.6 Waste

The national frame for waste segregation and disposal is presented. No identification of waste disposal facilities or landfill sites were made. Romania has signed up to EU Waste Directives and has developed waste disposal sites accordingly. The Contractor will be expected to identify suitable disposal and recycling facilities, and this will be a detailed part of the Waste Management Plan for the project.

5.7 Cultural Heritage

Data on cultural heritage has been obtained from local county authorities and all known cultural heritage sites are listed in the EIA. One cultural heritage site will be crossed using HDD at km 118 in relation to existing an archaeological site with the generic name "Cetățuia" see **Figure 6**. This site is represented by a quadrangle fortification with earth wave and defence ditch, with a side of about 160 meters. The field survey conducted by the Archaeological Directorate of SNTGN in March 2017 found that broad-date artifacts were found on the surface of the site in the 8th to 10th centuries. Chr. In view of the scale of possible preventive archaeological research and the uncertain level of probability of obtaining load discharge certificates, the Archaeological Directorate of the SNTGN proposed, and the Specialist Designer and the Technical-Economic Council of the SNTGN considered that the most appropriate solution to avoid the context presented above, is to sub-cross the perimeter by horizontally directed drilling. Any other findings during excavation will be addressed using the Chance Find Procedure that will be prepared.

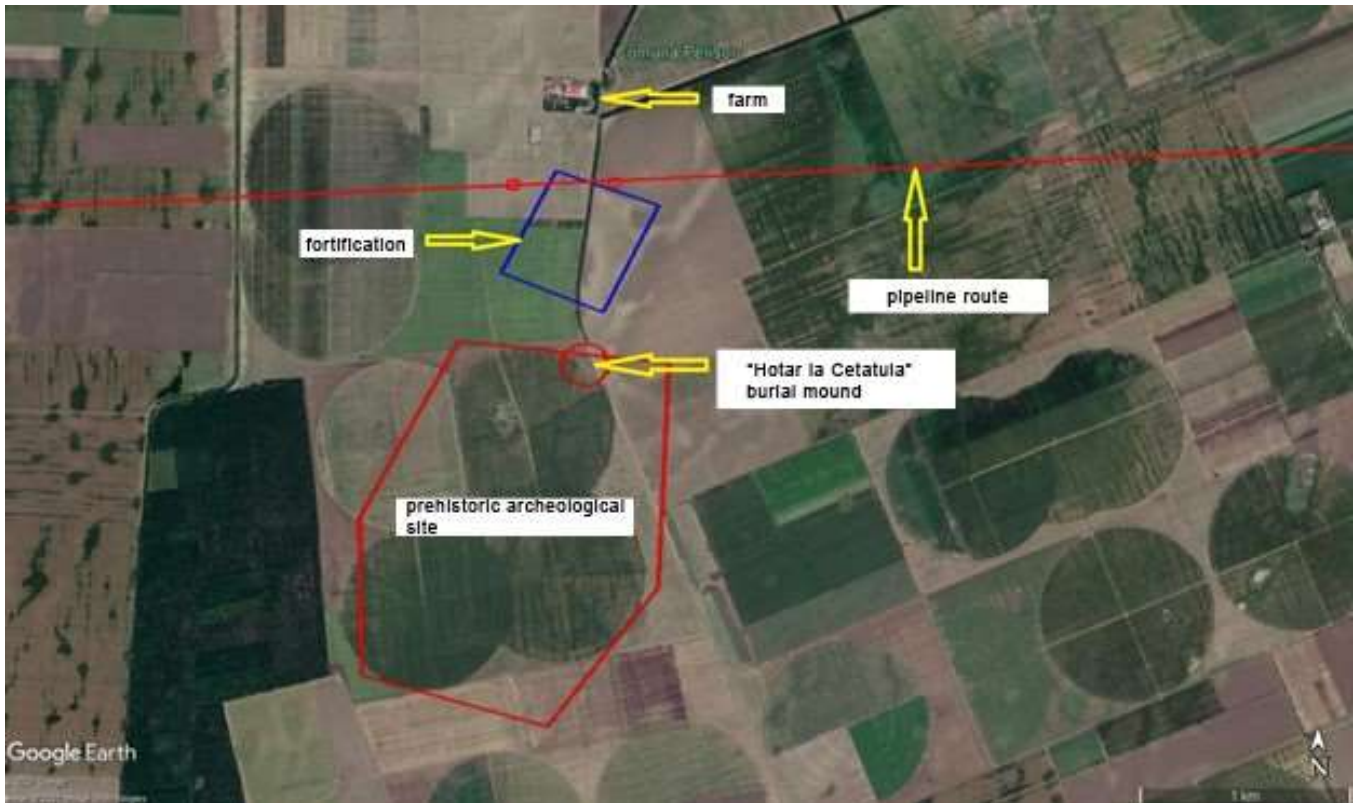


Figure 6. Cetățuia archaeological site

5.8 Landscape and Visuals

Cultural/Tourism effects could also include temporary visual/ impact on landscape & aesthetic value of area and potential loss of income through temporary lack of access to tourist sites.

5.9 Traffic & Transport

The pipeline route is overlapping mostly with rural areas and transportation routes are yet to be defined. No traffic study/ baseline has been undertaken.

5.10 Ambient Air Quality and Green House Gases

No baseline air quality data has been collected for the national EIA. Air quality along the route is generally likely to be good with no important industrial sites. No reference to the oil field overlapping the route between km286 to km308. This will be managed as part of pre-construction survey to be carried out by the contractor and then through Management Plans. The construction of the project will produce negligible GHG emissions with only mobile plant and equipment on site producing emissions, these will be in fluctuating numbers over the project timeline and will be recorded through maintaining a weekly plant inventory. The finished project is a buried pipeline that will produce negligible GHGs when in operation with limited fugitive emissions during pigging operations and possible small fugitive leaks at the valve stations. These will be below the 25kT/annum reporting threshold.

5.11 Noise & Vibration

Maximum and minimum noise baseline data has been recorded at 6 times over a 24-hour period at each of 6 locations along the pipeline (Tuzla - km 3, Cochirleni - km 74, Borcea - km 93, Vlad Tepeș, Bucșani and Lecta Nouă km 290). This is presented in the national EIA but should be regarded with caution given the lack of repeat monitoring. No baseline data for vibration has been conducted.

5.12 Socio-Economic Issues

The Environmental Impact Assessment Report prepared in 2018 for the BSPP pipeline briefly presents the socio-economic conditions along the pipeline route. In this case, the study covers aspects such as: baseline conditions at the level of each administrative unit (AU) crossed by the pipeline (location, population trend, main occupational sector of the AU, existence/non-existence of objectives of local interests) and some potential impacts on the socio-economic environment referring to: demographics, labour force and labour market, unemployment dynamics, wages, community and occupational health and safety, living conditions, vulnerable groups, cultural heritage, local businesses, changes in land use and in the real estate value, tourism). In addition, the study highlights some measures to be undertaken by Transgaz to mitigate the identified impacts.

However, given the high level of information included in the EIA Report with respect to some of the aspects mentioned above (i.e. land use, labour, local businesses, vulnerable groups, etc.) and due to specific data gaps, additional data will be collected in the ESIA development process for the following: public utilities, farming activities along the pipeline route, economic activities, access roads, associated facility, labour influx, workers accommodation facilities, land use and landowners, vulnerable groups, leisure areas, local traditions.

As part of the site visit undertaken for the Scoping Phase, it has been identified that one situation might generate physical displacement. More specifically, an informal construction situated near km 93 of the pipeline route, near the exit point of the HDD used Danube-Borcea branch crossing. The structure will be undercrossed by the HDD and is situated at about 250 meters from the HDD exit point. Further investigations are needed to understand if the structure will be affected by the HDD work, or if the structure's presence on the pipeline route, although being under-crossed by the HDD, might generate impacts during operation (ex. for maintenance or other kinds of interventions on the pipeline).

No permanent housing was identified as being displaced during pipeline construction.

6 Scoping Matrix

This Section outlines those elements of work to be undertaken during the ESIA.

6.1 Introduction

Further to the Scoping Workshop and based on current understanding and available information, the following **Tables 11** and **12** outline the potential environmental and social impacts during both the construction and operational phases of the Project (by topic) that have either been scoped in or out for further detailed assessment and the justification for why.

For Scoped out topics no further ESIA detailed assessment will be provided.

Table 11. Scoping Matrix – Project Construction Phase

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
1	Geology and Geomorphology	Landslides.	Surrounding environment and construction workers.	Physical harm to workers or destruction of surrounding habit or infrastructure (including the pipeline).	In areas identified as high risk of landslides extra precautionary measures to be taken during construction.	Out	Scoped out as baseline covered in existing geotechnical studies and these are considered to have provided adequate coverage.
2	Geology and Geomorphology	Faults.	Surrounding environment and construction workers.	Physical harm to workers or destruction of surrounding habit or infrastructure (including the pipeline).	High risk in areas exhibiting seismic activity.	Out	Scoped out as baseline covered in existing geotechnical studies and these are considered to have provided adequate coverage.
3	Geology and Geomorphology	Soil Liquefaction.	Pipeline.	Destruction of pipeline integrity.	Areas of seismic activity with high soil saturation levels.	Out	Scoped out as baseline covered in existing geotechnical studies and these are considered to have provided adequate coverage.
4	Geology and Geomorphology	Karst Areas.	Pipeline.	Destruction of pipeline integrity.	Areas with a high proportion of soluble rocks.	Out	Scoped out as baseline covered in existing geotechnical studies and these are considered to have provided adequate coverage.
5	Soils	Clearance of the working strip, excavation of the pipeline trench and reinstatement activities.	Geological and soil resources.	Deterioration in soil grade/quality and productivity.	Careful soil handling is required to enable effective vegetation re-instatement and/or re-use of soils for agriculture.	In	Scoped in with regard to particularly high-grade agricultural soils.
6	Soils	Use of/construction of access roads.	Geological and soil resources.	Compaction of soils by construction plant and vehicles.	Reduced aeration, permeability and water-holding capacity of soils. Increased susceptibility of soils to wind and water erosion.	Out	Scoped out with regard to additional studies, however GIP mitigation measures to be incorporated into the SLIP.
7	Soils	Accidental spills of oils or chemicals due to poor pollution prevention and control measures.	Geological and soil resources.	Localised contamination of soil.	N/A	Out	It is understood that Transgaz will be applying Good International Practice (GIP) to their construction activities as part of their HSE-MS.
8	Soils	Contaminated Land.(potential)	Construction Workers.	Exposure to contaminants present in soils via acute exposure scenarios such as inhalation of dust or vapour or ingestion.	Construction workers could develop health problems as a result of exposure.	In	Scoped in for any known areas of significant land contamination. In preconstruction phase, they need to identify any areas of existing contamination (e.g., oil field at km280 to km308).
9	Soils	Contaminated Land.(potential)	Surface and Groundwater.	Mobilisation of contaminants in the soil that would otherwise be immobile (e.g., from historic landfill sites) and the creation of new pathways for contamination to reach groundwater and surface water resources i.e., via leaching and run-off.	A reduction in water quality could further impact users of water resources (for agriculture or potable supply) and aquatic flora/fauna.	Out	Scoped out with regard to additional studies, however GIP mitigation measures to be incorporated into the SLIP. NB: water quality issues are covered in the Groundwater and Surface Water Sections.
10	Groundwater Resources	Contaminated Land.(potential)	Groundwater quality; users.	Mobilisation of contaminants in the soil that would otherwise be immobile and leaching of these contaminants into the groundwater.	A reduction in ground water quality could further impact users of water resources (for agriculture or potable supply).	In	Scoped in with regard to groundwater abstractions from shallow aquifers, only in areas of significant contamination. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
11	Groundwater Resources	Installation of the pipeline.	Groundwater levels, users; dependent water bodies.	Introduction of a below ground obstruction (i.e., the pipeline).	Groundwater recharge/flows may be impeded within any underlying shallow aquifers.	In	Scoped in regarding groundwater abstractions from shallow aquifers and water level dependent sensitive wetlands. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
12	Surface Waters	Clearance of vegetation from the working strip, excavation of the pipeline trench.	Surface Water quality; water users; aquatic flora/fauna.	Mobilising suspended solids or pollutants from soils in run-off from works areas. High concentrations of suspended solids can result in increased turbidity, if nutrients are added this can result in eutrophication and depletion of dissolved oxygen; all of which can impact on users of water resources and aquatic flora/fauna.	Abstractions from watercourses adjacent to construction activities. Watercourses in areas of priority habitats and species.	Out	Scoped out regarding additional studies, however GIP mitigation measures to be incorporated into the SLIP. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
13	Surface Waters	Directional Drilling under water courses.	Surface Water quality; water users; aquatic flora/fauna quality.	N/A	N/A	Out	No physical impacts are expected on the watercourse, all drilling will be conducted well below the riverbed and entry point will be well back from the riverbank. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI. ERP for mud break-out into the rivers to be in place prior to works commencing.
14	Surface Waters	Effluents generated as a result of hydro-testing, accommodation camps, de-watering.	Surface Water quality.	Direct discharges of pollutants from the hydro-testing process and other point sources into water courses.	water users; aquatic flora/fauna.	In	Scoped in because the proposed treatment of discharges is not yet clear. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
15	Surface Waters	Dust suppression.	Surface Water quality.	Mobilising suspended solids in run-off from works areas.	Water users; aquatic flora/fauna.	Out	Scoped out with regard to additional studies, however GIP mitigation measures to be incorporated into the SLIP. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
16	Surface Waters	The use of construction plant.	Surface Water quality.	Accidental spills of oil/chemicals directly into watercourses or via run-off from works areas.	Water users; aquatic flora/fauna.	Out	Scoped out with regard to additional studies, however GIP mitigation measures to be incorporated into the SLIP. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
17	Surface Waters	Abstraction from water courses for Hydro-testing and dust suppression.	Surface Water quality.	Temporary reductions in flows and water levels.	Water users; aquatic flora/fauna.	In	Abstraction rates, durations and volumes will need to be confirmed. Existing flow regimes within the water courses from which water will be abstracted will be needed to understand the magnitude of the effect. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
18	Surface Waters	Cofferdams during pipeline installation.	Surface Water quality.	Reduced flows downstream.	Water users; aquatic flora/fauna.	In	Scoped in for sensitive watercourses (i.e. existing abstractions or ecological sensitivities) otherwise managed through GIP. During preconstruction phase water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
19	Surface Waters	Introduction of pipeline into the watercourse (river bed). In stream construction activities (excavations etc.).	Surface Water quality; water users; aquatic flora/fauna quality.	Disturbance to and alteration of the structure and nature of the riverbed.	Increased turbidity downstream, the potential release of nutrients resulting in	In	Scoped in for sensitive watercourses (i.e. existing abstractions or ecological sensitivities) otherwise managed through GIP. During preconstruction phase

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
					eutrophication and deoxygenation of water.		water quality sampling and testing to be carried out within groundwater and surface waters in the AOI.
20	Biodiversity	Vehicle mobilization, including transport of people and equipment within the works area.	Terrestrial habitats. (includes Natura 2000 sites). Commuting mammals including bats. Wintering and breeding birds.	Disturbance of fauna due to noise, direct mortality due to RTAs and degradation of habitats due to compaction and vegetation destruction or the ingress of non-native invasive species.	Currently the receptors are habituated to remote locations with little or no background noise or traffic therefore the additional vehicle traffic has the potential to have a significant effect. Less likely to have a significant effect on more mobile species such as birds and reptiles who can move away from the source of the disturbance. Although it is likely that many will become habituated and/or use other areas this avoidance may lead to a fragmentation of habitat for those receptors. There are a number of habitats present throughout the area that are likely to qualify as critical habitats or priority biodiversity features that would be sensitive to degradation, and slow to recover naturally. Mitigation developed for key receptors is likely to fulfil mitigation requirements for all receptors.	In	Scoped in to ensure that impacts and mitigation for critical habitats and priority biodiversity features is adequate which may be in excess of Good International Practice Construction.
21	Biodiversity	Compounds, field working camps construction and operation, including the effects of the production of wastes and indirect pressure of workers presence.	Terrestrial and riparian habitats (includes Natura 2000 sites). Breeding birds. Wintering birds. Small and large mammals. Reptiles. Amphibians. Fish. Invertebrates.	Disturbance of fauna, particularly while breeding, degradation of habitats, direct and indirect pollution of habitats, potential for direct mortality through illegal hunting and fishing.	Currently the receptors are habituated to remote locations with little or no human interaction additional numbers of people and their associated waste has the potential to have a significant effect. There are a number of habitats present throughout the area that are likely to qualify as critical habitats or priority biodiversity features that would be sensitive to pollution and degradation, and slow to recover naturally. Less likely to have a significant effect on more mobile species such as birds and reptiles who can move away from the source of the disturbance.	In	Scoped in to ensure that impacts and mitigation for critical habitats and priority biodiversity features is adequate which may be in excess of Good International Practice Construction.
22	Biodiversity	Pipeline working corridor vegetation clearance including compounds.	Terrestrial and riparian habitats (includes Natura 2000 sites). Breeding birds. Wintering birds. Roosting bats.	Loss of vegetation, fragmentation, disturbance, direct mortality.	The clearance of vegetation will remove habitat but more significantly increase fragmentation of existing corridors, this would lead to disturbance of faunal species and could cause direct mortality	In	Scoped in to ensure that impacts and mitigation for critical habitats and priority biodiversity features is adequate which may be in excess of Good International Practice Construction. To ensure that the need for any compensation measures are identified.

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
			Breeding mammals (small and large) (breeding and sheltering). Reptiles (breeding and hibernating). Invertebrates.		during the breeding or sheltering seasons of others and there is the potential to spread. non-native invasive species throughout the works corridor.		
23	Biodiversity	Pipeline construction activities including topsoil removal, pipeline soldering and water crossing construction.	Terrestrial and riparian habitats (includes Natura 2000 sites). Breeding birds. Wintering birds. Mammals. Reptiles. Amphibians. Fish. Aquatic invertebrates. Other aquatic receptors such as broad clawed crayfish.	Noise disturbance in the mid-term which may lead to habitat fragmentation. Indirect and direct pollution due to sedimentation of water courses and construction consumables and waste. Riparian habitat loss and fragmentation.	While many faunal receptors have the potential to be disturbed by ongoing construction activities it is likely that many will become habituated and/or use other areas however this avoidance may lead to a fragmentation of habitat for those receptors. The aquatic species are less likely to be significantly affected by general terrestrial construction disturbance as they can move away from localised construction activities but they may be affected by pollution and sedimentation during in water works. The banks may require additional stabilisation prior to the re-establishment of vegetation.	In	Scoped in to ensure that impacts and mitigation for critical habitats and priority biodiversity features is adequate which may be in excess of Good International Practice Construction. To ensure that the need for any compensation measures are identified.
24	Biodiversity	Water abstraction.	Riparian habitats. Wintering wildfowl and wildfowl and breeding birds associated with riparian environments. Otter. Amphibians. Fish. Aquatic invertebrates. Other aquatic receptors such as broad clawed crayfish.	Potential for degradation to banks and direct mortality to fauna, disturbance while breeding.	The abstraction of water for construction purposes such as damping down and cleaning machinery could result in species being abstracted along with the water and during that abstraction habitat may be damaged and breeding birds and wintering wildfowl disturbed.	In	Scoped in to ensure that impacts and mitigation for critical habitats and priority biodiversity features is adequate which may be in excess of Good International Practice Construction.
25	Biodiversity	Unlikely Events, such as landslides, fires, collapse of trenches.	All.	There is potential for effects on all receptors due to unforeseen events.	Although somewhat degraded through agricultural practices and logging, the area is otherwise relatively stable and undisturbed.	In	Unlikely events could increase the likelihood and significance of potential impacts and effects assessed due to the project.
26	Biodiversity	Other projects.	All.	There is a potential for other projects to have an effect when assessed in combination with the BSPP Project.	Increased disturbance or the need for wider infrastructure improvements to facilitate access.	In	Within project cumulative works (i.e. working on the project at multiple locations at the same time by different contracting teams) and works required by other projects within the vicinity could increase the significance of any of the individually assessed effects and thus require additional mitigation or compensation.
27	Waste	Contaminated water.	Aquatic Environments.	Untreated wastewater if returned to local water courses	Water sources into which water used on the project is pumped back into.	In	Assessment of practices in place to ensure wastewater is treated sufficiently.

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
				could disrupt and degrade aquatic habitats.			
28	Waste	Spilt contaminated waste and hazardous waste.	Ecological environment.	Degradation of local ecological environment due to introduction of waste materials into the system.	Natura 2000 site and highly sensitive flora and fauna.	In	Scoped in due to the necessity to understand how waste will be handled.
29	Waste	Improper storage of contaminated waste and hazardous waste.	Ecological environment.	Degradation of local ecological environment due to introduction of waste materials into the system.	Natura 2000 site and highly sensitive flora and fauna.	In	Scoped in due to the necessity to understand how waste will be stored.
30	Landscape and Visuals	Construction works and materials.	Ecological and Human environments.	Introduction of construction materials and invasive construction practices will change local environments throughout the route.	Local Communities.	Out	Impacts will be minimal.
31	Cultural Heritage	Invasive construction procedures including: directional drilling and trenching.	Culturally significant heritage sites and archaeological finds.	Potential psychological damage to unidentified tangible cultural heritage sites.	Any unexpected archaeological findings.	Out	The ESIA will include full review of archaeological studies extent and review of desktop sources.
32	Cultural Heritage	Invasive construction procedures including: directional drilling and trenching.	Culturally significant heritage sites.	Potential psychological damage to identified tangible cultural heritage sites.	Designated sites.	Out	A cultural heritage inventory was produced for the entire route. This was undertaken with third party independent reviewers- County museums and local specialist. Data is considered adequate.
33	Cultural Heritage	Disruption caused by physical construction/obstruction of roads and ROW's/noise during cultural tradition.	Local tradition or cultural practise.	Obstruction to culturally significant calendar event.	Local communities neighbouring pipeline.	Out	Interaction between cultural events timing and construction timing. will be managed under CESMPs.
34	Cultural Heritage	Introduction of non-local personal into local community areas which may lead to the disturbance.	Cultural identity.	Loss or disruption to cultural identity.	Local communities neighbouring pipeline, especially in close proximity to workforce accommodation.	In	Work force demographic is currently unknown, thus further assessment needed as to its impacts. The potential of local hiring vs. foreign workers will also need to be further developed under ESIA process.
35	Cultural Heritage	Vegetation Clearance.	(Unknown) Archaeology.	Limited Disturbance only.	Designated sites, Unknown Sites.	Out	Negligible impact upon cultural heritage. Any cultural heritage issues will be picked up in the Chance Finds Procedure.
36	Cultural Heritage	Pipeline Assembly**.	N/A	Disturbance.	N/A	Out	Negligible impact upon cultural heritage. Any cultural heritage issues will be picked up in the Chance Finds Procedure.
37	Cultural Heritage	Trench backfilling.	N/A	Disturbance.	N/A	Out	Negligible impact upon cultural heritage. Any cultural heritage issues will be picked up in the Chance Finds Procedure.
40	Cultural Heritage	Cleaning testing.	N/A	Disturbance.	N/A	Out	Negligible impact upon cultural heritage. Any cultural heritage issues will be picked up in the Chance Finds Procedure.
41	Cultural Heritage	Site reinstatement.	N/A	Disturbance.	N/A	Out	Negligible impact upon cultural heritage. Any cultural heritage issues will be picked up in the Chance Finds Procedure.

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
42	Traffic & Transport	Increased vehicle traffic to and from the active construction sites.	Road Users (including local residents); Biodiversity*, Air Quality*, Noise and Vibration*.	Vehicular access to active construction sites may result in localised congestion.	Driver delays, pedestrian delays and a reduction in pedestrian amenity value (i.e., the pleasantness of the journey) and an increased risk of accidents, especially around site access points.	In	Delivery of pipeline segments overall by road, plus other construction related vehicle trips is expected to have a significant impact on vehicle movements. Scoped in for known areas of traffic congestion and potential sensitive receptors (schools, hospitals, clinics etc.) Traffic Management Plan to be implemented.
43	Traffic & Transport	Partial road closures or diversions.	Road Users (including local residents).	Alternative routes may result in Increased journey lengths and times; and localised congestion.	Driver and Pedestrian delays.	Out	This will be covered under the Socio-Economics Chapter.
44	Traffic & Transport	Increased vehicle traffic/construction plant levels.	Existing Road Network Users.	The quality of access roads may reduce.	There may be deterioration of roads, an increase in potholes, muddy roads etc.	Out	Scoped out with regard to additional studies, however GIP mitigation measures to be incorporated into the SLIP.
45	Ambient Air Quality and Green House Gases	Construction activities: earthworks, excavation, vehicle movement, stockpiles, unpaved surfaces, cement production, etc.	Human receptors: workers and residential population living near the construction sites.	Increase in the concentration of dust in the atmosphere due to fugitive dust emissions along the working strip, and work sites – pollutant of concern: construction dust.	Environment surrounding construction site route.	Out	Greenhouse gas emissions will be negligible.
46	Ambient Air Quality and Green House Gases	Construction activities: construction machinery / equipment and movement of vehicles involved in construction (i.e., generators, excavators, bulldozers, side booms, trucks, cars).	Human receptors: workers and residential population living near the construction sites.	Increase in the concentration of gaseous pollutants in the atmosphere due to emissions of exhaust gases along the working strip, and work sites – main pollutants of concern: NO ₂ and CO.	Environment surrounding construction site route.	Out	Greenhouse gas emissions will be negligible.
47	Ambient Air Quality and Green House Gases	Construction emissions from vehicles / traffic (Heavy Goods Vehicles) associated with transport of materials for construction activities (mostly pipe, water (?) and workers).	Human receptors: residential population living near the access roads used by Heavy Goods Vehicles involved in the construction of the project.	Increase in the concentration of gaseous pollutants in the atmosphere due to emissions of exhaust gases along the access roads used by Heavy Goods Vehicles involved in the construction of the project – main pollutants of concern: NO ₂ , PM ₁₀ , CO.	Environment surrounding construction site route.	Out	Greenhouse gas emissions will be negligible. Dust suppression can be dealt with as part of the CEMP.
48	Ambient Air Quality and Green House Gases	Construction activities: welding and maintenance.	Human receptors: workers and residential population living near the construction sites.	Increase in the concentration of other pollutants of concern (VOCs from lubricants, welding process) due to emissions along the working strip and work sites.	Environment surrounding construction site route.	Out	It is considered that these emissions will be managed from a H&S impact by regulation and that, provided that good practice is applied and general management / mitigation is implemented, these emissions are low and not susceptible to induce significant impacts.
49	Ambient Air Quality and Green House Gases	Construction activities (construction equipment and construction traffic).	Global.	Increase in the concentration of GHG in the atmosphere.	Global Environment.	Out	GHG emissions (basic calculations only based on estimated vehicle and plant numbers).
50	Noise & Vibration	Operation of fixed and mobile plant engaged in construction activities.	Local residents.	Increased noise and vibration levels.	Local residents may experience nuisance effects, if this occurs during night hours this could lead to sleep disturbance. Influence of vibrations caused by heavy traffic and other project related activities, on the structure of the houses,	Out	Scoped out, mitigation as required to be included in MPs.

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
					especially old houses in the rural areas.		
51	Noise & Vibration	Increased vehicle traffic.	As above.	As above.	As above.	Out	Scoped out, mitigation as required to be included in MPs.
52	Noise & Vibration	Operation of fixed and mobile plant engaged in construction activities.	Users of local facilities (e.g. educational facility, healthcare facility, place of worship or open spaces – areas of landscape or historic value).	Increased noise and vibration levels.	Disturbance caused by noise/vibration could result in interference with teaching, intrusion during worship, disturbance of the recreational use of an open space.	Out	Scoped out, mitigation as required to be included in MPs.
53	Noise & Vibration	Increased vehicle traffic.	As above.	As above.	As above.	In	Scoped in to enable the determination of the impact of noise levels on sensitive receptors. Transportation routes for all materials and staff delivered to/from site can have an impact on the villages close by. Need details of sensitive receptors on route.
54	Noise & Vibration	Operation of fixed and mobile plant engaged in construction activities.	Construction Workers.	Exposure to high noise levels.	Health effects.	Out	It is understood that Transgaz will be applying Good International Practice (GIP) for the protection of construction workers as part of their HSE-MS.
55	Noise & Vibration	Operation of fixed and mobile plant engaged in construction activities.	Fauna.	Increased noise and vibration levels.	Disturbance, especially during sensitive seasons.	Out	Dealt under the Biodiversity Section, MPs and construction schedules.
56	Public Utilities, Services and Transport infrastructure	Construction work.	Local communities, business, public authorities.	Accidental or planned disruptions to the water / wastewater / electricity / gas supply during construction works in the area of the intersection points with the public utilities and service networks.	Disruptions of accessing the public utilities and services.	In	Scoped in with regard to local communities – addressed under the SIA.
57	Public Utilities, Services and Transport infrastructure	Construction work.	Local communities, business, public authorities.	Potential increased pressure on the public electric grid by the construction camps and construction sites.	Disruptions of accessing the public utilities and services.	In	Scoped in with regard to local communities – addressed under the ESMP (construction sites management).
58	Land use	Construction work.	Landowners / users in the proximity of the working corridor.	Temporary difficulties for landowners/users/workers to reach their lands. (including animal grazing activities).	Enable to access land.	In	Scoped in with regard to local communities – addressed under the LARP.
59	Land use	Construction work.	Landowners / users.	Decrease of soil quality and productivity due to improper depositing of the topsoil during construction works, and/or improper rehabilitation of disturbed land after construction and due to risk of soil contamination from poor waste management or spills/leaks of fuels, lubricants and solvents from equipment used during the construction of the pipeline.	Decrease soil productivity.	In	Scoped in with regard to local communities – addressed under the ESMP.

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
60	Economic activities	Construction work.	Local businesses.	Local construction firms can be exposed to loss of skilled and semiskilled staff due to opportunities available within the project.	Potential losses.	In	Scoped in with regard to local businesses – addressed under the SEP.
61	Livelihood	Construction work.	Members of local communities.	Social tensions between community members and non-local workers.	Conflictual situations at community level.	In	Scoped in with regard to local communities – addressed under the SEP.
62	Livelihood	Construction work	Local businesses	Social tensions resulting from competition for employment.	Conflictual situations at community level.	In	Scoped in with regard to local communities – addressed under the SEP.
63	Livelihood	Construction work	Skilled and unskilled labours engaged in agriculture	Potential temporary loss of employment for seasonal or permanent workers especially those engaged in agricultural activities.	Losses for persons engaged in agricultural activities.	In	Scoped in with regard to local communities – addressed under the LALRP.
64	Livelihood	Location of Construction corridor / Associated facilities	Landowners / users	Temporary/permanent loss of livelihood, income, land use rights for owners, users and workers due to land-take by the project.	Losses encountered by landowners/users due to permanent land take.	In	Scoped in due to their entitlements for being compensated – addressed in the LALRP.
65	Livelihood	Location of Construction corridor / Associated facilities	Landowners / users	Reduced levels of compensations due to lack of property transactions data in the area.	Landowners / users are not able to access compensation.	In	Scoped in due to their entitlements for being compensated – addressed in the LALRP.
66	Livelihood	Location of Construction corridor	Landowners/ users	The compensations provided for temporary and permanent land take may be potential sources of conflict and community tensions, and may include: - Tensions between owners and users in case of informal (verbal) agreements. - Tensions in the community caused by different levels of compensation Conflicts between multiple owners of the same land plots.	Landowners / users are not able to access compensation.	In	Scoped in for understanding the local expectations and for being able to prepared the SEP.
67	Livelihood	Location of Construction corridor	Vulnerable groups	Temporary/permanent loss of livelihood for persons depending on affected land or natural resources as a result of land acquisition and construction works.	Vulnerable groups are not properly identified and the compensation packages are not adequately adapted for them.	In	Scoped in due to their entitlements for being compensated – addressed in the LALRP.
68	Labour and Public Health	Construction work	Workers	Risk of labour accidents for workers associated with construction activities.	Potential injuries for workers.	In	Scoped in with regard to workers – addressed under the Health and Safety Management plans and Training / Site Induction.
69	Public Health	Construction work	Members of local communities	Risk of accidents due to open trenches and other project related accidents for community members.	Potential injuries for members of local communities.	In	Scoped in with regard to local communities – addressed under the Community Health and Safety Management plan.

No.	ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
70	Settlement and Housing	Location of Construction corridor	Assets located within the construction corridor	Possible loss of structures/assets (permanent or temporary) located on the pipeline corridor (either authorized or illegal).	Losses encountered by legal or illegal owners/users of assets.	In	Scoped in due to their entitlements for being compensated – addressed in the LALRP.
71	Settlement and Housing	Project information provided to local communities / Communication methods.	Local communities	Unrealistic expectations that the pipeline project will benefit their settlement by providing gas supply (for those settlements that are not connected to gas supply networks).	Increase number of grievances / requests from local communities. Local resilience towards project development.	In	Scoped in for understanding the local expectations and for being able to prepare the SEP.
72	Settlement and Housing	Pipeline and AGIs.	Landowners	Perceived decrease of property value due to proximity of the pipeline to the houses (for the houses located in the Aol).	Losses encountered by land owners which would like to sell their properties after the construction is finished.	In	Scoped in due to their entitlements for being compensated – addressed in the LALRP.
73	Settlement and Housing	Location of Construction corridor.	Landowners	Decrease of property value due to the restrictions imposed by the Project for land plots situated in the build-up area crossed by the pipeline.	Losses encountered by land owners which would like to sell their properties after the construction is finished.	In	Scoped in due to their entitlements for being compensated – addressed in the LALRP.
74	Awareness	Location of Construction corridor.	Local communities	Public perception of negative impacts of the pipeline project, especially for those not benefiting from compensation.	Increasing expectations and increased number of complaints.	In	Scoped in for understanding the local expectations and for being able to prepare the SEP.
75	All	Associated Facilities.				In	We are collecting data about permitting status and project scheduling.

Table 12. Scoping Matrix – Project Operational Phase

ESIA Topic	Source of Impact	Receptor(s)	Impact	Key Receptor Sensitivities	Scoped In/Out	Justification for Scoped In/Out
Biodiversity	Rights of Ways (RoW) Maintenance requiring the clearance of vegetation for access to the pipeline.	Terrestrial and riparian habitats. Commuting mammals including bats. Wintering and breeding birds. Reptiles.	Degradation to existing habitats Introduction of non-native invasive species. Also, disturbance and direct mortality of breeding animals. Permanent fragmentation effects.	The maintenance itself could cause degradation to existing habitats out with the working corridor for access but also compaction of habitats within the working corridor and the potential to prevent the establishment of previous restoration and/or in introduce non-native invasive species. Also, disturbance of breeding animals and potential for direct mortality if they have occupied the area in the interim. The increased fragmentation could make some animals more vulnerable to prey when attempting to cross the gap or could “sterilise” some areas by preventing commuting.	Out	To be covered in MPs.
Landscape and Visuals	Permanent changes to landscape.	Ecological and Human environments.	Permanency of new infrastructure causing visual and environmental disturbance.	Throughout route.	Out	Visual impact minimal.
Cultural Heritage	AGI use.	Known Arch.	Visual, air, noise.	Designated sites.	Out	No effect on known archaeology.
Cultural Heritage	ROW / pipeline maintenance.	Known Arch.	Visual, air, noise.	Designated sites.	Out	No effect on known archaeology.
Noise & Vibration	Operation of the GCSs.	Local residents.	Increased noise levels.	Local residents may experience nuisance effects, if this occurs during night hours this could lead to sleep disturbance.	Out	No GCS in project.
Public utilities	Maintenance work.	Local residents.	Accidental events involving the pipeline/AGIs could affect public utility networks.	Local residence may experience disruptions in accessing public utilities (water, heating etc.).	In	To be addressed within Emergency Response Plan for operational period.
Land use	Maintenance work.	Landowners/land users.	Potential temporary loss of crops for landowners/users in case of maintenance activities. Potential for restriction on crop types that can be planted on the pipeline corridor during operation	Income losses for landowners/ users.	In	To be addressed within LALRP. To be addressed with transport and access routes.
Public health	Operation.	Local communities.	Perceived safety risks at the level of the community living in the proximity of the pipeline.	If not properly informed, members of local communities might raise concerns about safety aspects.	In	To be addressed within SEP.

No significant impacts are expected during the Project Operational phase for the following topics: Geology and Soils; Surface Water; Traffic & Transport

7 Next Steps

Based on the scoping matrix presented in Section 6, this Section identifies key gaps in the work undertaken to date and outlines the work to be undertaken as part of the main ESIA.

Timeline of main deliverables, based on Proposal assumptions and the activities undertaken to date:

- ESIA 20/09
- SEP 09/08
- ESMP's 20/09
- Public Disclosure End (120 days) 28/02

7.1 Key Gaps in the EIA's compliance with EBRD's PRs

An initial gap analysis has been undertaken of the Romanian EIA and permitting process conducted by Transgaz and compared with EBRD's Environmental and Social Policy (2019) and associated Performance Requirements (PRs). This analysis was based on a desktop review of available Project documentation provided by Transgaz, interviews with Transgaz management and a site visit to the pipeline corridor. The site visit took place between 18 and 19 of May 2021 and the scoping workshop was held on the 20th of May, with subsequent email exchanges after that date.

The analysis identified a number of gaps in the EIA's compliance with EBRD's PRs including specific requirements for further information on:

- The Project's Area of Influence
- Associated facilities (notably the offshore gas exploitation facilities)
- Contaminated sites situated along the pipeline route
- Transportation routes for workers, plant and materials
- Supporting Infrastructure (e.g., access roads for construction working areas, pipeline laydown areas)
- The socio-economic baseline and socio-economic impacts
- Stakeholder identification and engagement
- Affected landowners/users and the land acquisition process
- Potential economic displacement/Possible situations of physical resettlement
- Priority Biodiversity Features and Critical Habitats, Approach to 'no net loss/net gain' of biodiversity
- Potential cumulative impacts

Approaches to address these gaps are provided in the following sections.

7.2 Environmental Aspects

The following table shows the key work to be developed in the ESIA from the environmental perspective following the 'scoped in' assessment from the Scoping Matrix in **Table 12** above.

Table 13. 'Scoped in' for ESIA

Element	Description
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Aol	Area of interest was discussed and agreed as 150 meters each side of the pipeline. Additional influence may be considered along transport routes for plant and equipment delivery to site. The impact associated with AOI will be taken forward and considered within ESIA and in Transport Management Plan.
Associated Facilities	A short summary of the associated facilities is made within National EIA. For ESIA stage a review of publicly available sources will be undertaken and Key Stakeholders contacted as part of Stakeholder engagement plan.
E&S Management Plans.	We will work with Transgaz to develop all management plans that will be developed for the project purposes.
Surface Water	Whilst no water sampling has been undertaken for the project to date, impacts to major watercourses will be addressed by use of directional drilling. For smaller watercourses impacts will be minimised through application of a watercourse crossing management plan aligned with Good International Practice. As such no further water sampling or modelling is proposed for this ESIA. Development of Construction Environmental and Social Management Plans (CESMP) for pre-construction survey of water course that may include water quality testing. No further intrusive work /analysis campaigns will be done during ESIA.
Soil	Use the local geotechnical report to inform the ESIA of any areas of concern along the pipeline route, develop the pre-construction survey methodology and the CESMP for topsoil handling and storage. No further intrusive work /analysis campaigns will be done during ESIA.
Groundwater resources	Identification of abstraction wells still in use for potable water supply and irrigation, identification of potentially vulnerable aquifers in the project Aol, development of CESMP for effluent disposal and working practice in vulnerable areas.
Surface water	Abstraction for hydrotesting and dust suppression. Assessment of treatment requirements / disposal options for the water once used. No further intrusive work /analysis campaigns will be done during ESIA.
Biodiversity	Priority Biodiversity Features and Critical Habitats assessment as part of ESIA. Update baseline with focused site survey.
Contaminated Sites	Identification of areas of potential contamination – landfills, historical industry and current industry – on the pipeline route that may impact the project and its construction workforce. Working practices in these areas to be developed as part of the CESMP for personnel safety and waste disposal. No further intrusive work /analysis campaigns will be done during ESIA.
Cultural Heritage	Use local archaeological report and social baseline to identify potentially sensitive areas along the route. Develop Chance Find Procedure and working practices for the CESMP. No further intrusive work will be done during this stage.
Transport	Assess potential transport routes for plant, equipment and personnel both along the construction project length and potential bulk supply routes. This will inform the Aol, and the Transport Management Plan in the CESMP.
Noise and Vibration	Identification of potentially sensitive sites close to the pipeline and transport routes that may be impacted by noise and vibration. Develop pre-construction assessment procedure for baseline readings at identified sites, Develop monitoring plan as part of Transport Management Plan and general construction monitoring. No further baseline field collection data will be done during ESIA.

7.3 Social Aspects

The following table shows the key work to be developed from the social perspective.

Table 14. ESIA activities

Element	Description
Social baseline (SB).	<p>The SB will be used to inform the ESIA process by reviewing and documenting existing social baseline information connected to the project’s activities. The SB follows the social Performance requirements (PRs) of the EBRD Environmental and Social Policy (EBRD, 2019). The following issues will be considered:</p> <p>Data about Transgaz’ organizational structure, environmental and social policies procedures, plans, manuals, contractor management, monitoring procedures</p> <p>Labour and working conditions (human resources policies, working relationships, workers accommodation, labour influx)</p> <p>Community Health and Safety (demography, settlement and housing, public utilities, services and transport infrastructure (including access roads), education, public health and safety, infrastructure and equipment safety, emergency preparedness and response)</p> <p>Land use and agriculture in the area, land acquisition process and compensations procedures, involuntary resettlement, economic activities (including tourism and recreational), livelihoods</p> <p>Cultural heritage (cultural activities, cultural heritage items identified)</p> <p>Stakeholder identification (including vulnerable groups), stakeholder engagement activities conducted to date, means of information disclosure, grievance mechanism).</p>
Social impact assessment (SIA).	<p>The SIA will focus on detailing the socio-economic context for the current investment and on identifying all the impacts, both positive and negative, during the entire life span of the project, for the scoped-in items.</p>
Land acquisition & livelihood restoration framework/plan (LALRF/LALRP).	<p>The LALRF/LALRP will focus on defining the categories of persons that will be entitled for compensation and the type of compensation. Also, the document will define the type of compensations and the institutional arrangements necessary for granting them. The Framework document developed for the BRUA pipeline together with the updated internal Land Acquisition Procedure will be reviewed and the consultant will analyse the opportunity to develop either a LALRF or a LALRP based on data available and correlated with the project schedule.</p>
Stakeholder Engagement Plan.	<p>This document will provide guidance and feedback for enabling the Transgaz team to prepare a dedicated SEP that is in line with SIA and LALRF/LALRP. The Concept for stakeholder engagement for the Project, developed by Transgaz, the informative materials and the Report on Public consultations carried out by Transgaz in 2017 in 9 administrative units will be reviewed and certain recommendations will be formulated and included in the Plan. During the scoping phase an initial Media Research has been conducted by the consultant. Annex IV presents the Media review for the project.</p>

Outline Construction Environment and Social Management Plans (CESMPs) will need to be developed for Transgaz and their contractor to add site specific detail to be able to demonstrate an auditable trail of on-going compliance with EBRD PRs as the project develops.

An Environmental and Social Action Plan (ESAP) will also need to be developed and agreed between all parties to capture actions and their timing for completion where compliance cannot currently be demonstrated but can be achieved during the project lifetime. The ESAP will have to form part of the legal documentation package and be tied to project milestones in order to set an auditable framework for Transgaz to be able to meet EBRD PRs without any delays to the financing process.