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Romanian Black Sea gas

Presentation on the state of play

Bruxelles, February 2019



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Europe is becoming increasingly more dependent on imports of natural gas. A new approach according to the European Union's strategy - approved by the EU Parliament state that two of the most important priorities are:

- **access to new gas resources**
- **security of supply**



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ROMANIA – A STRATEGIC PARTNER IN THE REGION

- **On the agenda of the Romanian Presidency the energy issue will have an important place.**
- **Romania is an energy security provider in the region and in Europe and has the potential to strengthen this role by actively contributing through its policy and programs to achieving the European Union's energy objectives.**
- **Romania promotes and implements an integrated strategy in the gas sector for both transport and natural gas storage, with positive effects in strengthening regional cooperation between Romania and neighbouring countries. The integrated strategy is in line with the objectives of the Energy Union and is part of the new dimension it promotes. The Energy Union is founded on the synergy of the 5 pillars:**
 - 1) **security of energy supply and the principle of solidarity between Member States,**
 - 2) **a competitive and functional internal energy market,**
 - 3) **energy efficiency,**
 - 4) **decarbonisation,**
 - 5) **research and development of new technologies.**



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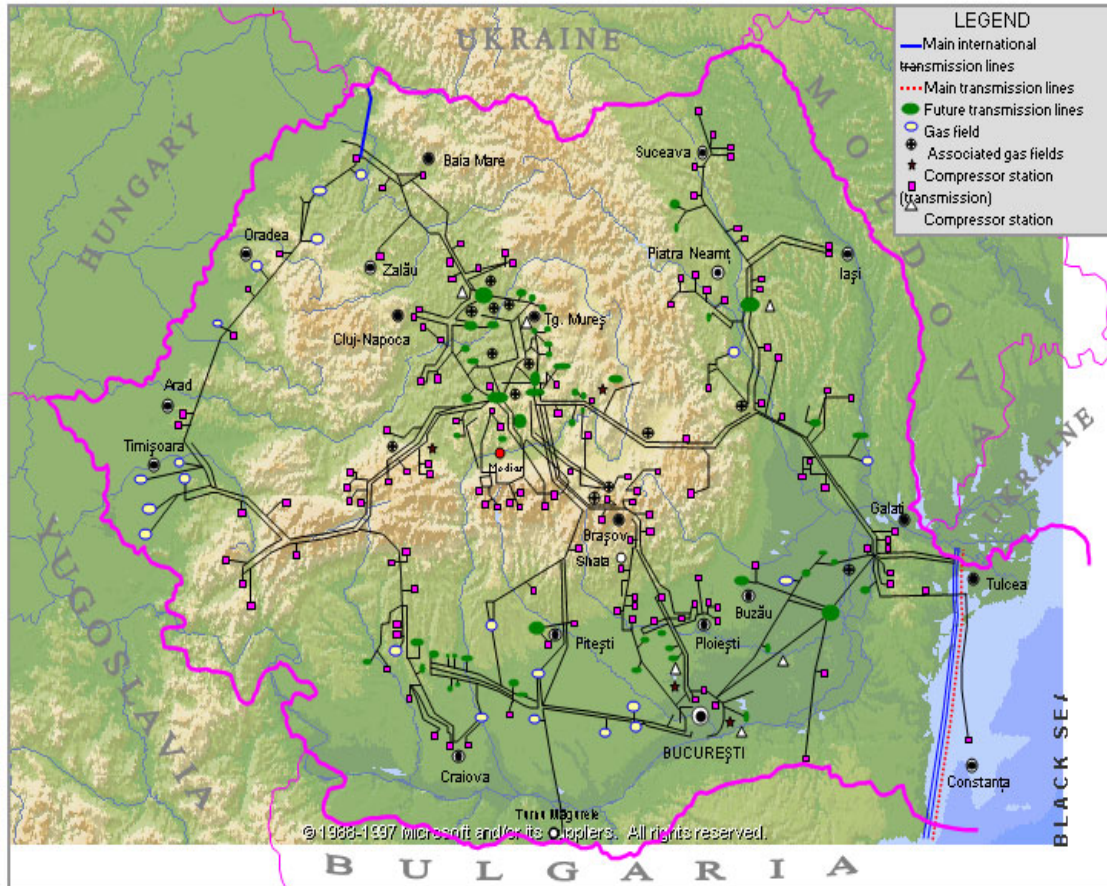
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INSTITUTIONAL FRAMEWORK

- The state policy in natural gas sector consists in establishing the objectives of the natural gas sector and the optimal modalities of achieving thereof, on terms of ensuring a long lasting development.
- The policy in natural gas sector is elaborated based on Government Program, approved by the Parliament, based on consultations with the civil society, considering the medium term developments and further targets for long term, mainly consisting in:
 - a) building the appropriate institutional framework by establishing the competent bodies and the competent authority to implement such policy;
 - b) ensuring security of supply in natural gas;
 - c) forecasting the natural gas import and export;
 - d) elaborating investment programs in natural gas sector;
 - e) ensuring environmental protection;
 - f) ensuring transparency of regulated prices and tariffs of natural gas;
 - g) increasing efficiency in natural gas production, storage, transmission, distribution and utilization;
 - h) developing and ensuring the natural gas storage capacities;
 - i) specifying the directions of relevant research and development for natural gas sector, and promoting the advanced technologies in the field ;
 - j) developing the international cooperation;
 - k) proposals of relevant regulations in natural gas sector

ROMANIA - THE NATIONAL GAS TRANSMISSION SYSTEM

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- 13.138 km of transmission pipelines and gas supply joints, including 553 km of international transit pipelines;
- 49 valve control stations and/or technological knots;
- 3 import gas metering stations;
- 5 gas compressor stations located along the pipeline routes;
- 6 gas metering stations on the gas transit pipeline;
- 1012 cathodic protection stations of the gas transmission pipelines;
- 818 gas odorizer stations
- 9 physical interconnection points with other transmission systems/ operators of adjacent systems
- 7 physical entry/exit points connected to storage facilities
- 137 physical entry points with production facilities /producers
- 870 physical exit points with distribution systems/ operator of distribution systems (not operated by the TSO)
- 232 physical entry points with direct consumers
- 85 physical entry/exit points for natural gas direct deliveries



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Given its geographical position, Romania is located at the crossroads between the well developed markets in Central Europe and supply sources in South-East.

Creates access to important supply sources for ex.:



Black Sea offshore

Gas sources coming from the South



Through the development of the NTS Romania becomes a bridge towards Central and Eastern Europe by a total investment of about 1.5 billion €



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NATIONAL GAS TRANSMISSION SYSTEM INTERCONNECTIONS / IMPORT AND TRANSIT

Interconnection with Ukraine

- 1. ISACCEA (Orlovka-UK – Isaccea- RO pipeline) - since 1979**
 - 8.6 bcm/year; Dn 1000 mm; P_{max} 55 bar**
- 2. MEDIEȘU AURIT (Tekovo-UK – Medieșu Aurit-RO pipeline) - since 1989**
 - 4.0 bcm/year; Dn 700 mm; P_{max} 70 bar**

Interconnection with Hungary

- 3. NÄDLAC (Arad – Szeged pipeline) - since 2010**
 - initial capacity – 1.7 bcm/year;**
 - maximum capacity – 4.4 bcm/year (forecasted for 2019)**
 - Dn 700; P_{max} 63 bar**

Interconnection with Bulgaria

- 4. GIURGIU (Giurgiu – Ruse pipeline) - since 2016**
 - minimum capacity – 0.5 bcm/year;**
 - maximum capacity – 1.5 bcm/year (forecasted for 2019)**
 - Dn 500; P_{max} 40 bar**

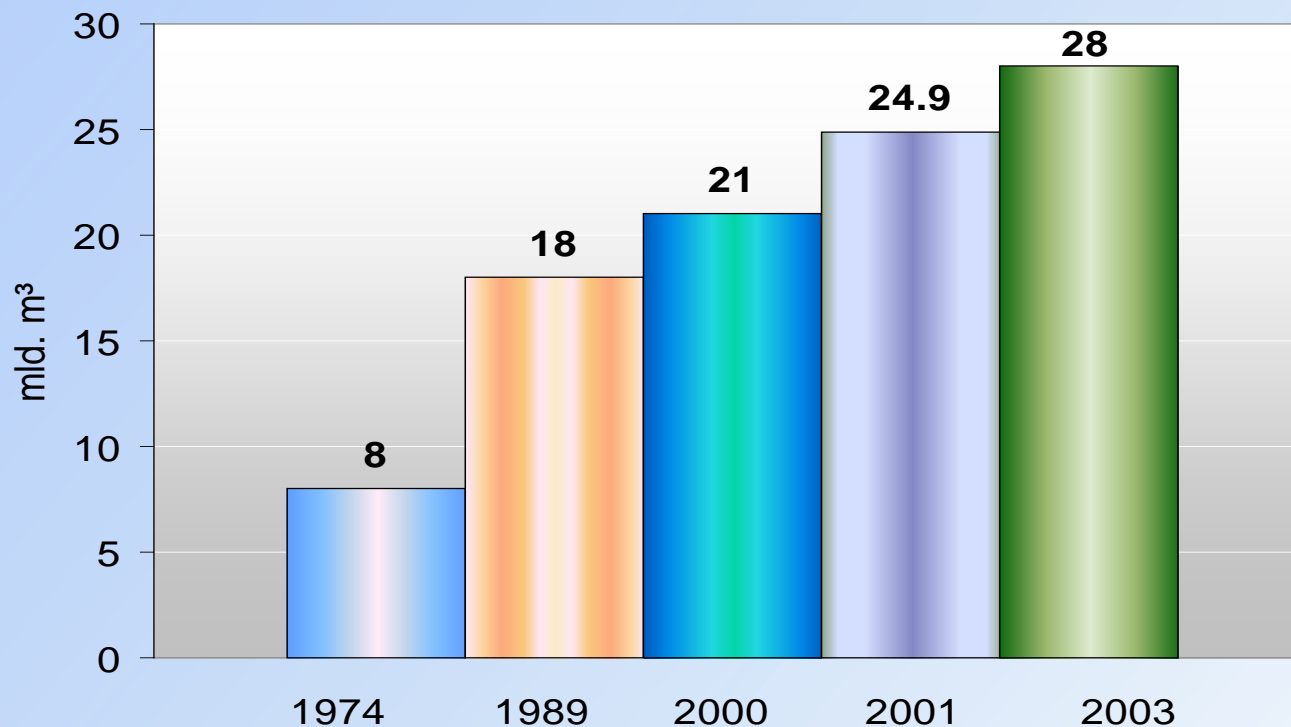
Interconnection with Moldova

- 5. IAȘI (Iași – Ungheni pipeline) - since 2014**
 - capacity – 1.5 bcm/year; P_{max} 50 bar**



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Transit capacity (ISACCEA - NEGRU VODĂ)





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SNTGN TRANSGAZ S.A. included in its 10-year Development plan (2018-2027) for the gas transmission system a series of projects designed to contribute to:

-  increase the interconnectivity of the Romanian transmission system and neighboring countries**
-  create adequate transmission capacity for retrieving and harnessing of the natural gas coming from the Black Sea to the regional markets**



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Black Sea shore — Podișor (RO) pipeline for taking over the Black Sea gas

The development of the Romanian NTS for hauling natural gas from the Black Sea - by integrating Black Sea – Podișor Pipeline



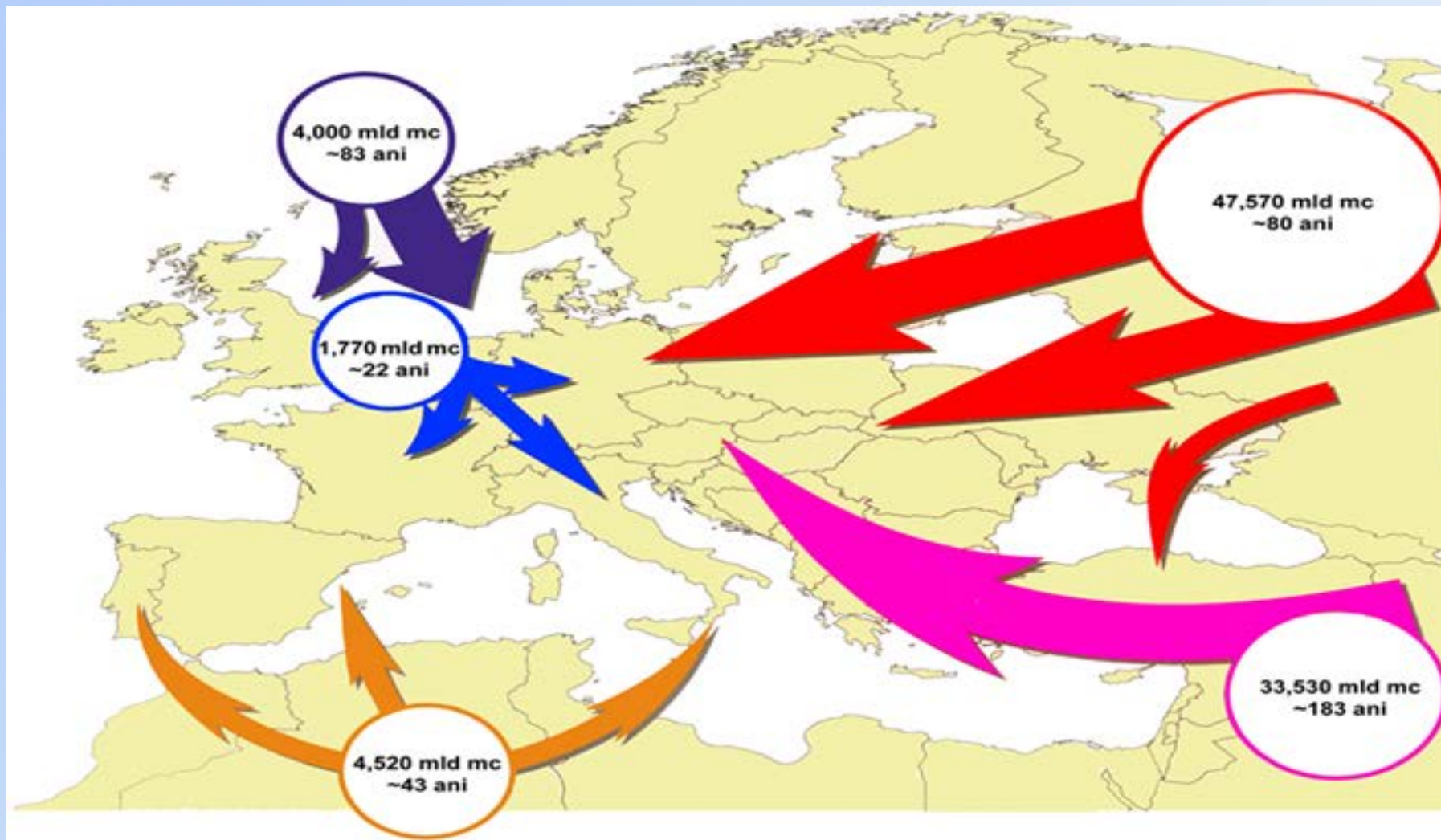
The project aims to create a link between the Black Sea and the Podișor technological node to transport the gas from the offshore exploitation through the BRUA Corridor

- 🔥 **Deadline:** 2020
- 🔥 **Pipeline length:** 300 km
- 🔥 **Estimated value:** 299,2 mil. €

PROJECT DESCRIPTION



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Black Sea - a strategic vector in the energy sector

- Romania has a strategic position on the Black Sea and supports the need to capitalize on the potential of this area of production and distribution of great importance for energy security with significant hydrocarbon resources. Developing Black Sea resources is a priority for Romania, as well as attracting investments and collaborating with companies that have the know-how and the necessary technologies.
- In recent years, several energy companies have announced discoveries in the Romanian Black Sea perimeter and are currently carrying out operations to verify the viability of the exploitation. The largest is announced by the consortium Exxon-OMV Petrom, but there are also other companies that have announced important discoveries like Black Sea Oil and Gas Exploration, or Lukoil, alongside PanAtlantic and Romgaz.
- The deposits discovered until now could bring on the market between 6 to 8 bcm/year for the next 20 years



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BLACK SEA CONCEPT





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The use of Black Sea resources and the construction of transport infrastructure for their take-over can provide:

- **diversification of natural gas supply sources for consumers in Romania and other countries in the region;**
- **reducing dependence on gas imports from the Russian Federation;**
- **transport to the Romanian market and to other Central European gas markets in the Black Sea.**



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- **Ensuring competitive and sustainable energy is thus one of the most important challenges of the years 2035-2050.**
- **In this context, the Romanian Government gives great importance to encouraging investments in order to find new hydrocarbon reserves and increasing the replacement rate.**
- **In the short and medium term, in order to increase the safe reserves of crude oil and natural gas, Romania should take as a priority investment in technologies that will lead to increased recovery from existing deposits, and in the long run to develop exploration projects (under 3000 m), onshore with complicated geology and offshore deposits in the Black Sea.**



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- **The scenario of capitalizing the gas volumes announced by the exploration companies in the Black Sea area will bring the availability of significant volumes of natural gas that will reconfigure the energy security not only of Romania but of the entire region.**
- **Thus, after the start of production in the Black Sea, the surplus of domestic production will have to be capitalized in the context of the existence of a single European market, in conditions of economic profitability. The scenario of using these gas volumes to increase energy security and economic development by bringing added value internally and making better use of them is a natural objective.**
- **Considering the estimated gas volumes to be exploited annually from the Black Sea perimeters, it is a fact that under the current conditions, except for the very low temperatures, the Romanian market (taking into account the existing storage capacities) can not fully absorb these volumes.**



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The legislative framework

- **Law no. 256/2018 on certain measures necessary for the implementation of oil operations by offshore oil perimeter holders creates the specific legal framework necessary for the implementation of oil exploration operations, development of oil exploration as well as works on wells related to petroleum operations carried out by petroleum agreements holders with respect to offshore oil perimeters in accordance with the provisions of the oil agreements concluded between holders and the National Agency for Mineral Resources.**
- **The new rules cover areas such as the procedure for authorizing work, financial, commercial, and labor law issues, compensation and compensation provisions, as well as the applicable legal regime for civil offenses and penalties. The law also regulates the tax regime applicable to offshore gas revenues and the investments that this kind of activity involves.**



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- The works are executed on the basis of the permit issued by the Ministry of Energy, on the basis of the documents provided by the law and represents the building / dismantling authorization for offshore works and respectively, the building/dismantling authorization for land works to coastal terminals.
- The works on wells are based on an approval issued by the National Agency for Mineral Resources, which represents the building / dismantling authorization.
- Following the request made by Black Sea Oil & Gas the Ministry of Energy issued on January 30th, 2019 the authorization to execute the construction works for the Midia gas development project - the offshore component.

This authorization act is extremely important not only for the project owner, but also for the Romanian energy sector as a whole. The document is a premiere in Romania's offshore oil industry after 1989. The subject of the Black Sea natural gas reserves has long been discussed and designed as an opportunity for Romania to contribute to Europe's energy security and to become a regional hub. This act moves from all these debates to effective action and is also a sign of confidence that we can, together with the companies that have invested in exploration in the Black Sea, capitalize on the energy resources that we have.



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Thank you for your attention !