

# THE NATURAL GAS TRANSPORTATION SYSTEM – THE RURAL STAKEHOLDERS

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## Abstract

*The purpose of the following article is to highlight the level of interest of the local stakeholders regarding the construction and development of the natural gas transportation system.*

*The European Council highlighted the need to modernize and expand the gas transportation infrastructure along with the importance of interconnecting the energy systems of the European Countries in order to ensure a secure and competitive energy market for all its members.*

*In Romania the natural gas transportation system is owned by Transgaz S.A. Medias, company which is listed on the Bucharest Stock Exchange market. The ministry of Economy is the majority stockholder, with 58,51% while the rest of the stocks being in the hold of legal entities and individual persons. Because of its important strategic position, Romania can benefit from important amounts of European funds in order to expand the gas infrastructure. At this time, the company managed to secure an 179,32 million euro grant and is on its way to build one of the largest gas pipelines from Romania, the BRUA pipeline which will create a gas highway between Bulgaria, Romania, Hungary, Austria.*

Key words: natural gas, gas pipeline, BRUA, stakeholders

## 1. Introduction

The EU development strategy for 2020, places the energy infrastructure on the first place, highlighting the urgent need to update the European energy networks and their interconnections at continental level in order to integrate different renewable energy sources.<sup>1</sup>

All the EU states aim to diversify their energy sources and encourage the exploitation of natural gas resources and the development of the gas transportation and distribution systems.<sup>2</sup>

Therefore, the European Parliament and the Council of the European Union are implementing a new policy regarding the energy infrastructures in order to optimize the network development at European level during 2020 and beyond and to enable the Union to achieve its key energy policy objectives of competitiveness, sustainability and security of natural gas supply.<sup>3</sup>

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<sup>1</sup> Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009 Text with EEA relevance

<sup>2</sup> Sturm, J., F., (1997), Trading Natural Gas: Cash, Futures, Options and Swaps, Penwell Publishing Company, Tulsa, Oklahoma, p. 1.

<sup>3</sup> Regulation (EU) No 347/2013, Art. 4

Thus, the European Commission establishes guidelines for trans-European energy networks, guidelines which are intended to help completing the internal energy market of the EU, while encouraging the rationalization of production, transport, distribution and use of energy resources, reduce the degree of isolation of the less-favored countries, ensuring security and diversification of energy supply cooperation between countries and contribution to sustainable development and environmental protection.

In order to achieve its goals, the EU finances the development of natural gas transportation systems of the Member States.<sup>4</sup>

One of the projects financed by the EU in Romania is the BRUA gas pipeline.

The BRUA project aims to create a link between Bulgaria, Romania, Hungary and Austria, a gas highway that will facilitate the gas transport from the south to the central Europe region.

## **2. The BRUA Natural Gas Pipeline**

The “Development on the Romanian territory of the National Gas Transmission System on the Bulgaria — Romania — Hungary — Austria Corridor — transmission pipeline Podișor — Horia GMS” is a PCI project, that aims to interconnect the Romanian natural gas transportation system and the similar systems of Bulgaria, Hungary and Austria, more precisely, the construction of a new gas pipeline linking the Technological Node Podișor and GMS Horia.<sup>5</sup>

The project has an important role for the Romanian energy system and economy and it is included not only in the Development strategy of Transgaz but also in the Romanian Energy Strategy 2016-2030 and in the EU’s development strategy at position 6.24.2 in the “COMMISSION DELEGATED REGULATION (EU) 2016/89 of 18 November 2015 amending Regulation (EU) No 347/2013 of the European Parliament and of the Council as regards the Union list of projects of common interest”.<sup>6</sup>

Through the implementation of the BRUA project, the following objectives will be achieved:

1. Diversification of the natural gas supply resources of the EU member states;
2. Will transport the gas from the Central Europe to the Caspian region;
3. The new pipeline will ensure a natural gas transport capacity to Hungary of 4.4 billion m<sup>3</sup>/year and 1.5 billion m<sup>3</sup>/year to Bulgaria;
4. Will ensure the energy security of Romania by enabling our country to have access to new gas suppliers;

Taking into account the new gas findings in the Black Sea region, in the future, the BRUA pipeline will transport those volumes of gas as well.<sup>7</sup>

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<sup>4</sup> IBIDEM, Art 5.

<sup>5</sup> Transgaz S.A. Medias, Planul de Dezvoltare al Sistemului Național de Transport Gaze Naturale 2014 – 2023, Available at: [http://new.transgaz.ro/sites/default/files/uploads/users/admin/Temp/plan\\_de\\_dezvoltare\\_pe\\_10\\_ani\\_2014\\_-\\_2023\\_14.12.2014.pdf](http://new.transgaz.ro/sites/default/files/uploads/users/admin/Temp/plan_de_dezvoltare_pe_10_ani_2014_-_2023_14.12.2014.pdf), [Accesed 12. Sept. 2017], p. 36

<sup>6</sup> Regulations Commission Delegated Regulation (EU) 2016/89 of 18 November 2015 amending Regulation (EU) No 347/2013 of the European Parliament and of the Council as regards the Union list of projects of common interest, Letter B, Art. 6

<sup>7</sup> BRUA, Un proiect TRANSGAZ pentru Romania și Europa, Broșura informativă, Available at: [http://www.transgaz.ro/sites/default/files/brosura\\_transgaz\\_varianta\\_finala.pdf](http://www.transgaz.ro/sites/default/files/brosura_transgaz_varianta_finala.pdf), [Accesed 11. Sept. 2017]

The route of the pipeline is from SE-V and will cross the territory of the Giurgiu, Teleorman, Dâmbovița, Argeș, Olt, Vâlcea, Gorj, Hunedoara, Caraș-Severin, Timiș and Arad counties.

The pipeline route will generally be parallel to existing pipelines in the South-Oltenia and West Transit Systems belonging to the National Gas Transmission System. When selecting the route, some sections have been diverted from the route following parallelism with existing pipelines for reasons of safety, environmental impact reduction, etc. The length of the natural gas pipeline route on the territory of the 11 counties is approximately 529 km, as follows: 21,657 km on Giurgiu County, 19,946 km on Teleorman County, 3,087 km on Dâmbovița County, 35,081 km on Argeș County, 49,399 km on Olt County, 56,524 km on Vâlcea County, 98,621 km on Gorj County, 79,015 km on Hunedoara County, 58,785 km on Caraș-Severin County, 80,112 km on Timiș County, and 26,724 km on Arad County.<sup>8</sup>

## **2.1 Natural gas pipeline – construction work**

The construction phases will start by making temporary paths in order to access the working fronts and to arrange the working sites and areas. After the working fronts have been delimited, the vegetation layers and the fertile topsoil layers are removed and stored separately from the rest of the soil that will be excavated. Only after they secure the fertile topsoil, the constructor can start the excavation of the trench and the preparation for the pipeline laying. After the trench is prepared, the constructor can start on assembling the gas pipeline and launching it in the trench, following the backfilling of the trench, leveling and morphological restoration of the affected areas.

After the pipe is installed and tested, the working site and area is being cleared.

The last part of the construction is represented by the environmental reconstruction of the affected area and bringing it to its original state<sup>9</sup>

All the stated actions have an impact on the environment and on the population.

For the BRUA pipeline, the width of the working lane is 21 m and in the forests, orchards and difficult areas, the working lane will be narrowed to 14 m.

All the construction works will interact with the environment on all its factors, soil, water, air, noise and vibration. These interactions may cause negative effects on the life quality of the local population from the area where the project is being implemented.

## **2.2 The social impact of the BRUA pipeline**

The BRUA project will have both positive and negative effects on the population.

### **A. Negative impact**

1. Permanent land occupation, resulting in a loss of income sources for the population;
2. Temporary land occupation, resulting in a loss of income source for the population;
3. Possible damage of local roads as a result of pipeline construction phase (material transport);
4. Noise and vibration generated by the pipeline construction activities;
5. Negative impact over the landscape during the construction period.

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<sup>8</sup> Dezvoltarea pe teritoriul României a Sistemului Național de Transport Gaze Naturale pe coridorul Bulgaria-România-Ungaria-Austria (RIM BRUA), Available at: <http://www.anpm.ro/documents/12220/2231306/Raport+privind+Impactul+asupra+Mediului+-+BRUA.pdf/fc9a15b1-b22b-42fc-8f5a-b79158ee6f31>, [Accesed 11. Sept. 2017], pp. 37, 38;

<sup>9</sup> Travaux de pose d'un gazoduc, Séquences de réalisation, Available at: <http://www.grtgaz.com/fileadmin/capsules/documents/fr/Plaqueette-pose-gazoduc.pdf>, [Accesed 12. Sept. 2017];

- B. Positive impact
1. Possible use of local labor;
  2. Construction and / or rehabilitation of access roads used by the constructors;
  3. Ensuring the energy security and safety for the population;
  4. Stimulating the internal gas market;
  5. Stimulating the economy by rising the demand of consumption goods;
  6. Offering new economic opportunities;
  7. Stimulating the investments in related businesses;
  8. Rising the number of houses that can use natural gas.

### **2.3 Consulting the stakeholders**

In accordance with the provisions of Regulation (EU) No. 347/2013, stakeholders affected by a project of common interest need to be informed and consulted extensively at an early stage where potential public concerns may still be considered openly and transparently.<sup>10</sup>

The stakeholders represent „any group or individual who can affect or is affected by the achievement of the organization’s objectives”.<sup>11</sup>

By involving all the stakeholders, the company can develop better solutions for its problems, taking into account that each pipeline project is different, as size and location. Therefore, the pipeline companies should seek involvement from various groups since the planning of the project so those who are interested can participate in the decision making process.<sup>12</sup>

The main stakeholders that can be affected by the project consist in:

- Land owners (public / private) affected by the exercise of access rights in the field;
- Land users affected by the exercise of access rights on the ground;
- People who exploit natural resources;
- Local authorities;
- Unofficial local leaders, community representatives and opinion leaders;
- Workers and employees of landowners and users;
- Local communities in the Project area;
- Vulnerable groups identified in the area;
- Proprietary third party lines / utilities affected;
- Local interest groups, official and informal associations and groups composed of and represented by affected parties.

In addition to stakeholders affected by the Project, there are also a number of relevant affected parties such as, Government institutions and regulatory agencies, local, county and central public authorities and administrations, NGOs and community organizations, local / national media; international & national, Scientific institutions and Association of Owners / Agricultural Companies / Agricultural Cooperatives.

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<sup>10</sup> Regulation (EU) No 347/2013 Art. 9

<sup>11</sup> Friedman, A., Miles, S., (2006) Stakeholders, Theory and Practice, Oxford University Press. Inc. New York, p. 1;

<sup>12</sup> Federal Energy Regulatory Commission, (2001), Ideas for Better Stakeholder Involvement In the Interstate Natural Gas Pipeline Planning Pre-Filing Process, Available at: <https://www.ferc.gov/legal/maj-ord-reg/land-docs/stakeholder.pdf>, [Accessed 12. Sept. 2017];

Therefore, Transgaz organized in October and November 2016 a number of 12 public debates along the new projected pipelines course in order to consult the stakeholders and to hear their opinions.<sup>13</sup>

The locations of the debates were selected by using the following criteria:

- Number of owners affected on each ATU;
- Organizing public consultations in locations other than the locations set for public debates under the environmental assessment procedure;
- Minimum consultation in each crossing county (except for Dâmbovița County where the pipeline route crosses a single ATU and where public debates will take place in the environmental assessment procedure);
- Location of slicing taps;
- Site construction site / pipe deposit;
- The length of the pipe section in each ATU.

The debates were planned in accordance with the provisions of Regulation (EU) No. 347/2013. The date, location and hour of the debates was announced with a minimum of 20 days before they took place, at the event's locations, at the town's hall, on the web page of Transgaz and all the relevant affected parties were invited to participate by letter.

The main topics of the debate consisted in:

1. Presentation of Transgaz S.A.;
2. Description of the Project;
3. Building principles;
4. The duration of the building activities;
5. Challenges;
6. Health and community safety;
7. Potential benefits;
8. Reactions and responses;
9. Management plans<sup>14</sup>.

**Table 1. The number of participants at the debate for each ATU**

| Nr. | Location  | County    | Total population | Directly affected | Total participants | Age |     |
|-----|-----------|-----------|------------------|-------------------|--------------------|-----|-----|
|     |           |           |                  |                   |                    | <40 | >40 |
| 1   | Mârșă     | Giurgiu   | 2,850            | 242               | 36                 | 12  | 24  |
| 2   | Gratia    | Teleorman | 3,936            | 215               | 27                 | 14  | 13  |
| 3   | Bârla     | Argeș     | 5,045            | 314               | 63                 | 21  | 42  |
| 4   | Potcoava  | Olt       | 5,800            | 314               | 50                 | 16  | 34  |
| 5   | Gușoeni   | Vâlcea    | 1,647            | 752               | 48                 | 18  | 30  |
| 6   | Bălănești | Gorj      | 2,173            | 792               | 37                 | 0   | 37  |

<sup>13</sup> Consultare publică – Proiectul BRUA FAZA I, conceptul privind participarea publicului pentru proiectul BRUA, Available at: <http://www.transgaz.ro/ro/content/consultare-publica-proiectul-brua-faza-1>, p. 8;

<sup>14</sup> Ibidem pp. 8, 9;

| Nr. | Location     | County        | Total population | Directly affected | Total participants | Age        |            |
|-----|--------------|---------------|------------------|-------------------|--------------------|------------|------------|
| 7   | Măciuca      | Vâlcea        | 1,982            | 603               | 48                 | 24         | 24         |
| 8   | Turcinești   | Gorj          | 2,213            | 12                | 35                 | 9          | 26         |
| 9   | Totești      | Hunedoara     | 1,869            | 109               | 44                 | 10         | 34         |
| 10  | Băuțar       | Caraș Severin | 2,577            | 107               | 43                 | 8          | 35         |
| 11  | Obreja       | Caraș Severin | 3,287            | 250               | 49                 | 7          | 42         |
| 12  | Costeiu      | Timiș         | 3,422            | 183               | 29                 | 9          | 20         |
|     | <b>Total</b> |               | <b>36801</b>     | <b>3893</b>       | <b>509</b>         | <b>148</b> | <b>361</b> |

Source: interpretation of data from “Consultare publică – Proiectul BRUA FAZA I”

Table 1 ”The number of participants at the debate for each ATU“, contains 8 columns as follows: Number, Location, County, Total population, directly affected, Total participants and Age.

The “Number” column represents the numbering for the debates.

The “Location” and “County” columns represent the location and county where the debates took place.

The “Total population” column represents the population for each locality.

The “Directly affected” column represents the number of people that have land properties in the pipeline’s right of way.

The “Total participants” column represents the number of people that were present at each debate.

The “Age” column divided by age, under and over 40 years old, characterizes the age of the participants.

At ATU Mârșă, Giurgiu county, from the total number of 2850 people that live in the ATU, 242 are directly affected by the pipeline’s construction work, but only 36 people participated at the debate. Regarding the age of the participants, 12, respectively 33% were under 40 years old and 12, respectively 67% were above 40 years old.

At ATU Grăția, Teleorman county, from the total number of 3936 people that live in the ATU, 215 are directly affected by the pipeline’s construction work, but only 27 people participated at the debate. Regarding the age of the participants, 14, respectively 51% were under 40 years old and 13, respectively 49% were above 40 years old.

At ATU Bârla, Argeș county, from the total number of 5045 people that live in the ATU, 314 are directly affected by the pipeline’s construction work, but only 63 people participated at the debate. Regarding the age of the participants, 21, respectively 33% were under 40 years old and 42, respectively 67% were above 40 years old.

At ATU Potcoava, Olt county, from the total number of 5800 people that live in the ATU, 314 are directly affected by the pipeline’s construction work, but only 50 people participated at the debate. Regarding the age of the participants, 16, respectively 32% were under 40 years old and 34, respectively 68% were above 40 years old.

At ATU Gușoeni, Vâlcea county, from the total number of 1647 people that live in the ATU, 752 are directly affected by the pipeline's construction work, but only 48 people participated at the debate. Regarding the age of the participants, 18, respectively 37.5 % were under 40 years old and 30, respectively 62.5% were above 40 years old.

At ATU Bălănești, Gorj county, from the total number of 2173 people that live in the ATU, 792 are directly affected by the pipeline's construction work, but only 37 people participated at the debate. Regarding the age of the participants all the 37 participants were above 40 years old.

At ATU Măciuca, Vâlcea county, from the total number of 1982 people that live in the ATU, 603 are directly affected by the pipeline's construction work, but only 48 people participated at the debate. Regarding the age of the participants, 24, respectively 50% were under 40 years old and 24, respectively 50% were above 40 years old.

At ATU Turcinești, Gorj county, from the total number of 2213 people that live in the ATU, 12 are directly affected by the pipeline's construction work, but 35 people participated at the debate. Regarding the age of the participants, 9, respectively 26% were under 40 years old and 26, respectively 74% were above 40 years old.

Only at this location the number of participants was higher than the number of directly affected people.

At ATU Totești, Hunedoara county, from the total number of 1869 people that live in the ATU, 109 are directly affected by the pipeline's construction work, but only 44 people participated at the debate. Regarding the age of the participants, 10, respectively 22% were under 40 years old and 34, respectively 78% were above 40 years old.

At ATU Băuțar, Caraș Severin county, from the total number of 2577 people that live in the ATU, 107 are directly affected by the pipeline's construction work, but only 43 people participated at the debate. Regarding the age of the participants, 8, respectively 19% were under 40 years old and 35, respectively 81% were above 40 years old.

At ATU Obreja, Caraș Severin county, from the total number of 3287 people that live in the ATU, 250 are directly affected by the pipeline's construction work, but only 49 people participated at the debate. Regarding the age of the participants, 7, respectively 14% were under 40 years old and 42, respectively 86% were above 40 years old.

At ATU Costeiu, Timiș county, from the total number of 3422 people that live in the ATU, 183 are directly affected by the pipeline's construction work, but only 29 people participated at the debate. Regarding the age of the participants, 9, respectively 31% were under 40 years old and 20, respectively 68% were above 40 years old.

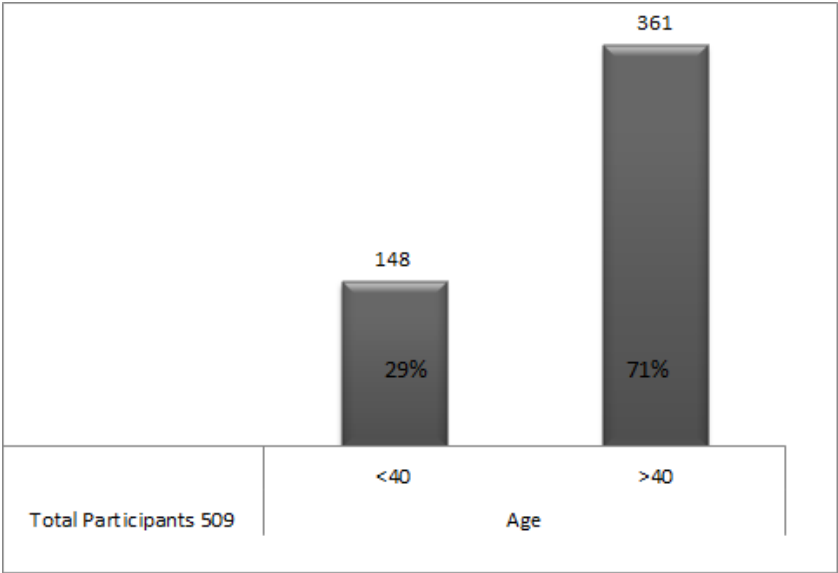
All the participants at the debates were local people.

By comparing the total number of people that live in the 12 ATU's where the debates took place with the total number of directly affected people we will see that the total affected people represent only 10.57 % from the total population. This may indicate the fact that the pipeline does not use/occupy a large amount of terrain, taking into account that at the specified ATU's in general, the land loaners have small parcels of land, which they give in lease.

By comparing the total number of people that live in the 12 ATU's where the debates took place with the total number of directly affected and the people that actually participated at the debate we can see that the residents are not interested in the BRUA pipeline project.

An important factor that may have influenced the number of participants at the debate might be the fact that a few months before, a Transgaz team already organized debates in some of the ATU's that are affected by the pipeline's construction in order to obtain the environmental agreement from the National Agency for Environmental Protection.

The coverage of the debates was made online and at each of the ATU's town halls, thing that might influence the number of participants, not many people have access to the internet in the rural areas and also many of them don't visit the town hall.



**Figure 1. Graphic representation – Age groups of the participants**

Source: Table 1 data interpretation.

Regarding the age of the participants at the debates, we can see that from the total number of 509, 148, respectively 29% were under 40 years old and 361, respectively 71% were above 40 years old.

The age difference is due to the fact that young people leave their rural homes in order to get a job. At country, the only source of money and living is represented by the land but the results of working the land for a regular person are far too small in order to satisfy the today's needs. This and the fact that our rural areas are not developed enough, make the young population to flee to big cities or in foreign countries in order to have a better life.

**Conclusions**

In conclusion, although the number of local stakeholders for the 12 regions is 36801 and the number of directly affected persons was 3893, only 509 participated at the debates and have shown direct interest regarding the construction of the largest natural gas pipeline in our country. The small number of people that showed interest would reflect the fact that people are less and less interested in the major things that happen around their communities. Taking into account the age of the participants, we can see that the population is aged, this thing reflecting an already know fact that the young people leave the rural



areas for the cities in order to get a job. Also, the aged population from rural areas, in general, has a low level of education that might contribute to the lack of interest for the debate and for the BRUA project itself.

For the fact that at the debates organized by Transgaz S.A. Medias for the BRUA project, only 509 people participated at the debate, we should ask ourselves the question, why people don't show interest regarding the projects that are being implemented in their community.

At the debates, all the public's questions were answered.

According to the official Transgaz reports, there were no questions or problems in the debates that would put the presentation team in difficulty.

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