

# Promoting Policies of the Romanian Gas Companies towards a Sustainable Consumption and the Consumer Protection

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## **Abstract**

*This study considers and defines the relationship between the policies the gas companies and gas distributors use in order to promote and encourage its customers to behave responsibly and maintain a sustainable consumption even in the highly debated activity sector, energy. Starting from the definition of sustainability, "meeting today's needs without sacrificing the ability of future generations to meet their own needs" (Sustainable Development Goals, 2030 Agenda, 2015), also known as sustainable development, companies underline and support the importance of such a development policy.*

*Corporate Social Responsibility is an aspect of corporate governance through which companies have initiated a range of socially responsible actions that can be quantified in terms of sustainability and sustainable performance. These actions will be analyzed and researched during the article. The indicators will be measured and the main results highlighted. The essential role these companies have in the energy field in Europe, together with innovative sustainable development policies, help to avoid, reduce or control the harmful impact of industrial activities on the environment and population.*

**Keywords:** Sustainable Consumption, Consumer Analytics, Big Data, Gas companies.

**JEL classification:** Q01, Q34, Q56, D18.

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## **1. Introduction**

You have probably recently heard the expression sustainable consumption in many contexts, some of them related to the very actual theme of sustainable development. However, most of the time, Responsible Consumption has many meanings and it does not seem to be very clear every time when it is being referred to. Perhaps the most significant aspect regarding Responsible Consumption is that there is another kind of consumption, the irresponsible one. It seems a little discouragingly, but if we use the rarity attribute, does it really mean that in all other cases the term "irresponsible consumption" is justified? The answers of the researchers in sustainability is definitely positive. Most of the times the consumer practices that we are familiar with are irresponsible. How about the fact that we are opening the windows in our homes to cool the room instead of slowing down the

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heat? This is a very simple trick that the gas distribution companies offer its consumers in order to have a more responsible consumption.

However, it is worth noting: responsible consumption does not exist as such, but is a critical movement of the consumer society, a value-for-money consumer spending movement. It is possible to talk about Ethical Consumption, Green Consumption, Critical Consumption or Consumption based on solidarity. However, all these involve another type of consumer: the consumer-citizen, concerned about the impact of his everyday consumer acts, aware of boycott practice, fair trade and various systems.

The current article provides research on how the gas distribution companies can provide a more sustainable environment through CSR activities and projects. First of all, it can be accomplished through lower technological consumption, which will be further explained and presented, but also by promoting a sustainable consumption to the ordinary citizens. Related to the sector of activity in the field of national gas transport and the obligation of efficiency, the study creates a report of its responsible consumption.

## **2. Literature review**

Energy is an interconnected and modern commodity that is essential for our modern economy to continuously progress (Hansen et al., 2013 and Ringler et al., 2013). However, the energy sector's unsustainable reliance on fossil fuels is responsible for at least two-thirds of our nowadays global greenhouse gas emissions (The International Energy Agency, 2016a).

The mining and industrial sectors are some of the largest consumers of this unsustainably created energy. For improving energy efficiency these two sectors are a large potential. (The International Energy Agency, 2016a and Rahman et al., 2016). There were several attempts for reducing energy consumption and greenhouse gas emissions over time through a range of treaties such as Paris Agreement. (United Nations, 2016).

“Nevertheless, the underlying mechanisms for reducing emissions can result only from sustainable energy utilization by the consumer” (International Energy Agency, 2016b). There is an obvious need of the humanity to enhance the sustainable production or to reduce energy consumption. There are plentiful and diverse feasible alternatives which can contribute to sustainable energy consumption (Abdelaziz et al., 2011; Chu et al., 2016; Poveda, 2017; Poveda and Young, 2015), but “only a few have applied big data to achieve this goal” (Song et al., 2017; Zhou et al., 2016).

Based on the above-mentioned evidence and gaps, the following sections of this paper will present the methodology used and the results obtained together with their discussion.

### **3. Methodology of Research**

This article is the result of a deduction and induction, investigation, critical and comparative interpretation of numerous national and international studies on the research theme. It is a presentation of the current situation of the Romanian gas companies towards a sustainable consumption and its implications.

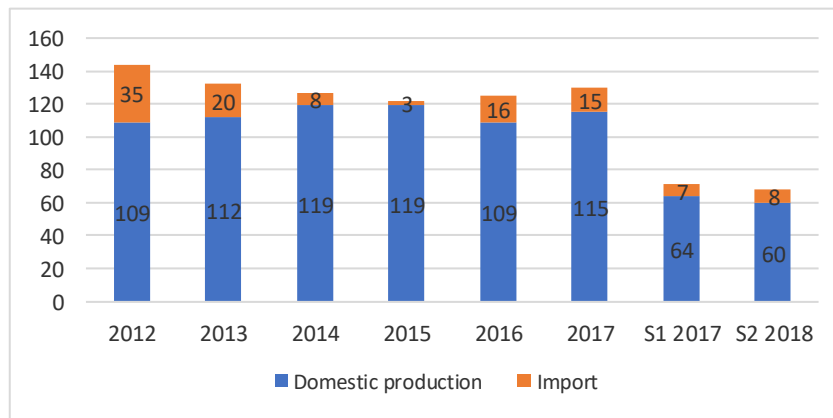
Another important source for this article was an interview with an officer from the Romanian National Gas Transmission System. The selected methodology for the paper is a qualitative research technique, which involves “conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program or situation” (Boyce, 2006) and is very modern. The format of the interview is a structured in-depth one, which faces only one expert respondent: the data officer of the company. Since the interviewer can control the quality of the result, the training before taking it becomes crucial. The questions were organized in details and rehearsing the interview was a way to practice it. Still, open answers were expected and the continuity of the discussion was an unknown. The research will introduce a process that includes the three main steps: information retrieval, comparing the data gathered from the interview with the general information found on the internet about the subject and presenting the analysis in a narrative method.

One complex aspect of this analysis will be information retrieval and data preparation. The correct extraction and preparation of the data will have a major impact on the success of the study. The information retrieval process should be able to gather the latest policies released by the company. The real challenge is to find out even practices that are not very popular among organizations and what it takes in order to keep the security of a company intangible. After the information retrieval process, the data needs to be classified, the most important paragraphs of the interview must be selected compared to other companies’ practices.

### **4. Findings**

According to the National Energy Strategy, Romania has a diversified, but quantitatively reduced, range of fossil and mineral primary energy resources: crude oil, natural gas, coal, uranium ore, as well as significant potential for renewable resources. In Romania, natural gas covers about 30% of domestic primary energy consumption, followed by oil products (26%), solid fuels (20%), renewable energy sources (16%) and nuclear energy (8%).

The evolution of the national consumption of natural gas has registered a strong downward trend, from 150.8 mil. MWh in 2011 to a minimum of 121.7 million MWh in 2015. The subsequent image describes the evolution of the actual gas consumption from imports and own source over the past years.



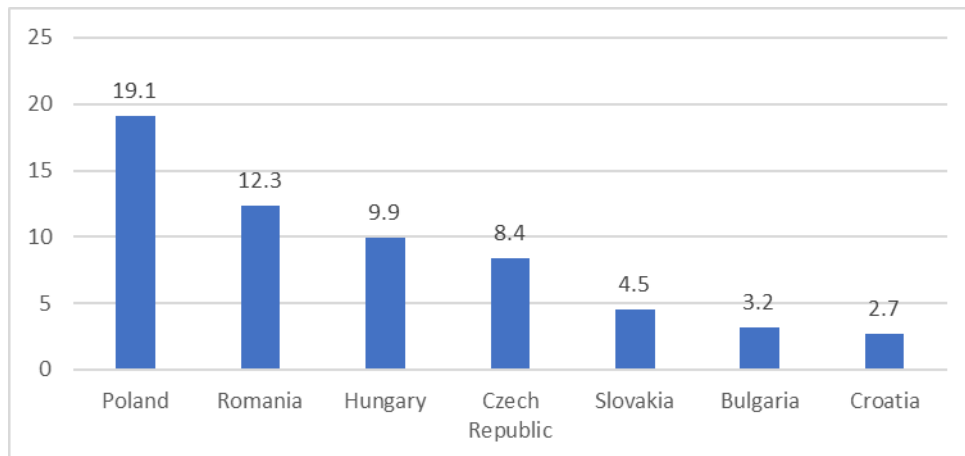
**Figure 1. Natural Gas Consumption in Romania**

*Source:* Data retrieved and processed from ANRE report, SI, 2018

The strong decrease was determined, on the one hand, by the restriction of industrial activity and, on the other hand, by the measures of efficiency of the consumption of natural gas, applied by the companies. A decrease in household consumption also contributes to the downward trend.

Nevertheless, Romania is considered to be the largest natural gas market in Central Europe and was the first country to use natural gas for industrial purposes. In the early 1980s, the Romanian market reached record dimensions as a result of government policy aimed at abolishing energetic import dependency. At that time, an increase in Romanian gas production was aimed and achieved. In the post-revolution years, a significant reduction in production was sought and carried out in order to avoid exhausting the countries resources. At the end of 2017, Romania still had proven gas reserves to reach a total of 100 billion cubic meters, shows data centralized by British Petroleum (BP). At European level, Romania has the fourth largest proven gas reserve, after the UK (200 billion cubic meters), Norway (1,700 billion cubic meters) and the Netherlands (700 billion cubic meters). As a result, imports increased again.

At regional level, Romania is still one of the big natural gas producers, but also one of the biggest consumers in Central and Eastern Europe. Picturing this fact is the figure below.



**Figure 2. Consumption of natural gas in Central and Eastern Europe, 2017, billion cubic meters**

*Source:* Data retrieved and processed from ANRE report, SI, 2018

The liberalization of the Romanian natural gas market began in 2001 as part of the liberalization concept of the Romanian economy and the free movement of goods and services. The initial opening of the internal market for 10% of total consumption gradually increased until it was fully opened to industrial customers on 1 January 2007. On 1 July 2007, the natural gas market was also liberalized for household customers in accordance with EU Directive 2003/55 / EC.

The Government of Romania decided to abolish regulated natural gas prices due to its commitments to the International Monetary Fund (IMF), the World Bank and the European Commission. The deregulation process for domestic consumers is expected to be carried out by June 30, 2021, however there is a strong need for a prudent approach by the public authorities in supporting this process in order to avoid negative effects at the level of the domestic consumers (Consiliul Concurenței, 2018).

According to the National Energy Regulatory Authority (ANRE, 2018b) in Romania, 95% of natural gas is produced by two companies OMV Petrom S.A. and S.N.G.N. Romgaz S.A., while the remaining 5% is produced by the smaller companies Amromco Energy S.R.L., Foraj Sonde S.A., Hunt Oil Company Of România S.R.L., Mazarine Energy România S.R.L., Raffles Energy S.R.L., Stratum Energy România LLC.

Approximately 65% of total national production is located in Mures County. S.N.G.N. Romgaz Filiala de Înmagazinare gaze naturale DEPOGAZ Ploiești S.R.L. and Depomureș S.A. are licensed to operate underground gas deposits. The Romanian gas market consists of two components:

- the competitive segment, which includes the sale of natural gas among suppliers and between suppliers and approved customers. The prices in this segment are formed freely due to supply and demand;

- the regulated segment, which includes gas supplies to fixed customers at predetermined prices set by framework contracts. In the regulated market segment prices and tariffs are set by the ANRE.

91 companies are licensed to deliver gas to end consumers. E.ON Gaz and Engie Romania cover 90% of the regulated segment. 85% of the competitive segment are covered by Romgaz, OMV Petrom Gas, Engie Romania, E.On Energie Romania and OMV Petrom (Sucursale). In 2018 a number of 36 distributors were active on the market.

Last but not least, there is the activity of natural gas transport. This is a public service of national interest, being included in the regulated segment of the internal market of natural gas. The internal transport service designates the set of activities and operations carried out for and in connection with the reservation of the transport capacity and the SNT transport of the quantities determined by natural gas. The transport service is provided under a natural monopoly regime based on the tariff established by ANRE. The transport of the quantities of natural gas is realized from the delivery / commercial takeover points from the entrance to the SNT to the delivery / commercial takeover points from the exit from the SNT.

Transgaz is the transport and system operator of the national natural gas transmission system and it is responsible for its functioning in conditions of quality, safety, economic efficiency and environmental protection. The purpose of Transgaz is to fulfill the national strategy established for the internal and international transport of natural gas, and the dispatching of natural gas. It operates the NTS under the Concession Agreement concluded with the National Agency for Mineral Resources (ANRM) valid until 2032, the national natural gas transport system belonging to the public domain of the state. In this Role it is a key player of the Romanian Gas Market and its actions are determinant for the other players in the market.

#### **4.1 The Sustainability of the National Gas Transmission Company (TRANSGAZ)**

Consistent with the principle of implementing responsible management in fulfilling the assumed mission, the company is aware that financial support for a noble cause or for an important purpose is vital. Therefore, through the initiated social responsibility programs and projects (CSR) the company demonstrate its status as a “good citizen”. The concern's essential role in the energy field in Romania and in Europe naturally complements its willingness to support the real needs of all those who contribute permanently to the good work. As a component part of the sustainable development strategy, the CSR policy aims to increase the company's accountability to employees, shareholders, partners, community and the environment.

The firm's corporate social responsibility policy is based on a set of principles that define this interaction between the company on one hand and employees, shareholders, partners, community and the environment on the other (Dima, 2016). Transgaz engages in community life both through sponsorship and

humanitarian financial aid, as well as through corporate social responsibility projects initiated since 2010. The priority areas in which the company has been involved are: sustainable community development, education, sport, art and culture, humanitarian actions, health and environment.

Following the implementation of the principles from the Corporate Governance Code of the Bucharest Stock Exchange, the company started to gradually adopt and integrate in its business model best practices in CSR. Like this, the company increases both the efficiency of the management act and the value of the company by strengthening the confidence of employees, shareholders, partners and community in its economic and social potential.

Through all the proposed corporate social responsibility, volunteer, sponsorship and donation actions, Transgaz is ethically committed and contributes through transparent and responsible business practices to the sustainable development of the economy and to social cohesion.

#### **4.2 Energy Efficiency - Corporate Social Responsibility or Legal Obligation?**

The first indicator analyzed is “Increasing energy efficiency” and its objective is “Maintaining the share of technological consumption in total natural gas below 1%”. The increased energy efficiency was 0.72 in the first semester of 2018. The degree of achievement is 138,8%.

As a result of the annual balances of natural gas level at SNTGN Transgaz SA, between the quantities of gas entering and leaving the national gas transport system, there are certain differences called technological consumption.

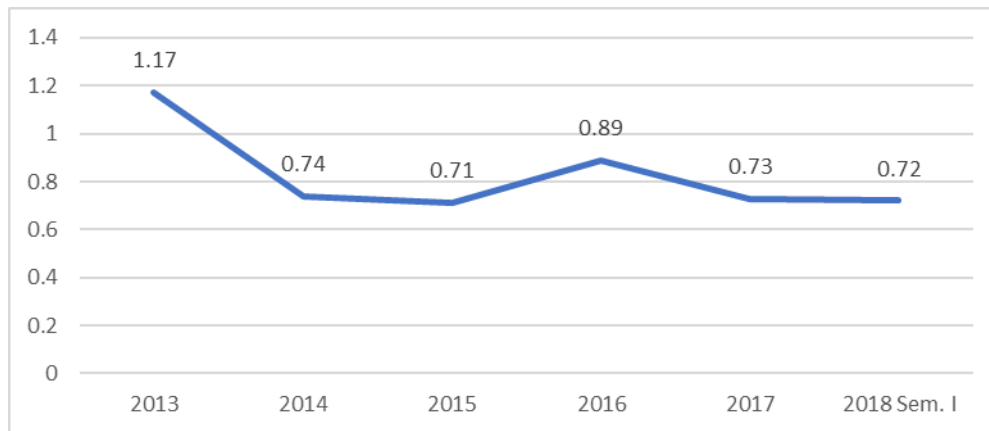
According to the Guidelines for the Determination of Technological Consumption Considered Losses of Natural Gas in the Transport and Distribution Networks, a guide elaborated in 1999 and published under the aegis of the Ministry of Industry and Commerce (actual Ministry of Economy), the technological consumption is divided into:

**Table 1. Measurable and Undefined technological consumption**

<b>Measurable technological consumption</b>	<b>Undefined technological consumption</b>
Consumption in compressing stations	Technological consumption required in technological installations - replacement, inspection, adjustment, discharges of safety valves, leakages to dismantle connections on pipes;
Consumption in spaces and processes	Unidentified losses / defects of tubular material;
Consumption of repairs, pipeline rehabilitation, development of the National Transport System	Measurement error - operation of meters under improper pressure conditions. Inappropriate gas quality, precision of meters and gas chromatographs.
Consumption of technical accidents - cracks, pipe breaks.	

*Source:* Associates Report of the National Gas Transmission Company, 1<sup>st</sup> Semester, 2018

The cost of technological consumption is recovered through the transport tariff, which is included in the operational expenses. The following figure shows exactly how the technological consumption evolved through the last years in Romania.



**Figure 3. Share of technological consumption (Evolution Romania 2013-2018)**

Source: Data retrieved and processed from: ROMGAZ Report – Financial Results 1<sup>st</sup> Semester / 2<sup>nd</sup> Trimester 2018

The decrease in the share of technological consumption in the total natural gas from 1.17% in 2013 to 0.72% in the first half of 2018 is the result of the effective management of the NTS operation, of the technical measures undertaken for this purpose.

However, concomitant with the companies' rising interest in CSR, connected to its launch on the Bucharest Stock Exchange, Law No. 121/2014 on Energy Efficiency was put in place the legal act to implement the Energy Efficiency Directive. In addition, Government Decision No. 122 of 11 March 2015 introduced a "National Energy Efficiency Action Plan".

The new Energy Efficiency Act established a new framework for action to ensure that the national target of reducing energy consumption by 19% is achieved by 2020 and that further improvements in energy efficiency after 2020 are being prepared. This goal is to be achieved by:

- a provision whereby the central administrative authorities must achieve an annual rehabilitation rate equal to 3% of the total area of heated and / or refrigerated buildings and can only procure products, services and construct buildings with high energy efficiency rate;
- everyone is committing to energy savings of 1.5% per year;
- clear obligations of companies in the field of energy efficiency (see below);
- information and motivation of end consumers.



With regard to companies the measures stipulated in the Energy Efficiency Act include, for example:

- carrying out energetic audits;
- the training of energy auditors;
- energy labeling systems and standards that track the improvement of the energy performance of products and services;
- programs to advise consumers on the use of energy-efficient technology;
- establishment of a special fund for energy efficiency investments.

Furthermore, companies whose annual energy consumption is higher than 1000 tons of oil equivalent must conduct an energy audit every 4 years in an energy consumption framework representing at least 50% of the total energy consumption of the respective society. The audit is carried out by an authorized natural or legal person and serves as a basis for the definition and application of measures to improve energy efficiency.

These companies must employ an energetic manager, who needs a special authorization from the National Department of Energy Efficiency and has to submit every year a statement on the total annual energy consumption including a filled out comprehensive questionnaire regarding the energetic analysis of the company. Furthermore, since the gas transmission infrastructure is of strategic importance, Transgaz has the obligation to evaluate and improve energy efficiency in the design and operation of gas infrastructure.

Since the existing law generally does not oblige companies to implement energy efficiency measures, only to constantly monitor and analyses their consumption, the chosen indicator can be also an expression of social interest. On the other hand, in the case of gas and electricity infrastructure operators, they are compelled to undertake energy efficiency improvements, so the hypothesis is considered invalid.

Energy efficiency on consumer side is promoted by natural gas suppliers. One of the popular projects in Romania is an infographic brochure with several tips and tricks for spending less on household maintenance by reducing gas and energy consumption. A very good observation here is that only 26% of the total natural gas used are household consumers. The other 74% are industrial gas consumers (this includes also the technological consumption).

Looking towards industrial customers, Engie Romania and E.On Romania, the main two players on the gas supply market, count to the main suppliers of energy efficiency services. Engie Romania, formerly known as GdF Suez Romania (Gas de France) through Trapec / Tractebel Engineering is also one of the main implementators of energy efficiency projects financed by the European Bank for Reconstruction and Development. E.On is also getting stronger Europe-wide day by day in energy services.

## 5. Conclusions

Corporate Social Responsibility is an aspect of corporate governance through which companies have initiated a range of socially responsible actions that can be quantified in terms of sustainability and sustainable performance.

The national natural gas transportation company in Romania and local gas suppliers are aware of the importance of the fact that sometimes, financial support for a noble cause or for an important purpose is vital. Therefore, through initiated programs and projects of social responsibility the companies are actively involved in the life of the community, thus demonstrating their status as "good citizens".

The essential role that these companies have in the energy field in Romania and Europe is naturally complemented by the desire to support the real needs of all those who contribute permanently to the good progress of their work. But is this the main reason why some key non-financial indicators were created and tested semestrial? Social Responsibility implies interest in sustainable development – reconciling economic with ecologic and social aspects. One indicator Romgaz is proud of is the increase in energy efficiency. The paper showed that this indicator, usually strongly linked to CSR, cannot be taken into account in the particular case of the Romanian operator of the gas transport infrastructure Transgaz.

Transgaz is however managed responsible, trying through all their actions to maintain the balance between the interests of the entire world (people, firms, the environment) for the prosperity of both the present and future generations.

In order to respond to this principle, the policies adopted within this gas company aim at:

- Minimizing the negative impact of the activity on the natural and social environment;
- Encouraging a responsible and efficient consumption;
- Minimizing technological losses;
- Generating economic benefits to the local community;
- Improving working conditions.

Also, in the case of gas suppliers, when it comes to energy efficiency, in production, transportation and consumption, they are definitely led by business interest. On the other hand, all these companies count to the main sponsors of cultural, educational and sports events and also support the Romanian health care system, all actions which can be attributed to CSR.

Although this study presented some interesting insights, it also faces some limitations. Indeed, the prosecution of this research as well as future studies are called to explore this topic of interest based on a larger sample of interviews or by quantitatively analyzing data collected through an extensive survey with companies operating in this field. In addition, it would be also interesting to carry out a comparison among the current situation of different countries in the European union concerning this sector.

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