



20th International Scientific Conference Economics and Management - 2015 (ICEM-2015)

## The assessment of natural gas pricing

Vilda Giziene<sup>a,\*</sup>, Lina Zalgiryte<sup>b</sup>

<sup>a,b</sup>*Kaunas University of Technology, K. Donelaicio str. 73, Kaunas LT-44239, Lithuania*

---

### Abstract

Prices of natural gas is a huge political and economic problem. This creates not only additional costs to households and industries but also affects the corporate global competitiveness. In order to ensure that Europe is going to deal with changes in energy market, it is necessary to ensure that consumers receive a sustainable and affordable energy and industry is able to maintain its competitiveness. The purpose of this paper is to analyze pricing structure and to identify factors with the most affect on natural gas price. To achieve this the changes in the price of natural gas in the EU were analyzed; gas pricing structure was investigated; effects on household and organization costs for natural gas were determined The analysis of scientific literature, statistical data, and legislation are used. A comparative and causality analysis of EU and other countries allowed to identify factors having most effect on the price.

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of Kaunas University of Technology, School of Economics and Business

*Keywords:* Natural gas; Price; Economic growth; Pricing structure; Pricing model.

---

### Introduction

The energy sector and its problems are significant at both global and national levels. Energy is particularly important segment of economy, which is responsible for production and functioning of infrastructure. In today's knowledge economy, energy becomes even more significant when energy supply disruptions can damage the widely used technologies and suspend life of society (Lithuanian Free Market Institute [LLRI], 2005). High energy prices encourage the analysis of energy sector, its development trends and forces to stimulate the search for possibilities to reduce consumption, increase energy efficiency and reduce energy costs.

The characteristics of energy market distinguish it from other branches of the economy. First of all, energetics is distinguished by its technological properties, which are conditioned by continuity of production, distribution and

---

\* Corresponding author. Tel.: (8 37) 300550

E-mail address: [vilda.giziene@ktu.lt](mailto:vilda.giziene@ktu.lt); +370 37 324073.

consumption processes. The second unique feature of energetics – expensive object engineering, construction and long service life. The third feature – the impact of energy on environment, and the fourth – broad production and management links with other economic sectors (Nevardauskas, 1988, p.4).

Scientific literature distinguishes various economic energy indicators, which are important for assessing the mutual ties of energy and other economic areas. Klevas (2000) analyzed the relations between energy sector and the country's gross domestic product (GDP). The import of fuel used to generate energy directly effects country's GDP, because the purchase of this fuel is directly related to the disbursements of foreign currency. The balance of fuel export and import also has a direct impact on GDP – a negative balance negatively effects GDP. The export of energy resources have a positive contribution to GDP because of direct connection with obtaining foreign currency. According to Klevas (2000), energy consumption in manufacturing and service sectors is also a very important part of the creation of GDP. The increase of energy consumption and rising energy prices usually cause price growth of goods and services, which affects inflation and reduce export opportunities. The negative factors include fuel imports, but its negative effects can be reduce export of energy resources, extraction and production of domestic resources to replace imported fuel. One more channel, identified by Klevas, through which energetics affects the country's GDP, is households' final energy consumption – it is the households' expenditures for energy, which reduce their savings and other investment opportunities. From the presented ties between GDP and energy sector it can be concluded that rising energy costs are a negative phenomenon in the national economy.

Other authors analysed the relationship between energy sector and the country's economic situation in other aspects. Hakim M. M. Abdullah-Al- Mamun M. (2010) analyzed the influence of demographic factors on energy consumption, arguing that growth of agricultural sector, emergence of new households together with growth of labor force increase the GDP, and has a direct impact on increase of energy consumption.

According to Klevas and Štreimikienė (2006), energy, as an industry is described by infrastructure and interconnections of electricity, centrally supplied heat systems, oil, gas, coal and local and renewable energy resources. For this paper, one component of energetics was selected – natural gas market. The purpose of this paper is to analyze pricing structure and to identify factors with the most effect on natural gas price. This analysis could be taken as a foundation to further analysis of the long-term gas price forecasting.

## 1. Trends in energy consumption and energy pricing

Based on the overall energy consumption by regions in the world there are countries that consume the most part of energy: China (22.4 % in 2013), United States (17.8 % in 2013), and European Union countries (13.2 per cent). Statistics show that the least energy consumed during the period of 2003 – 2013 was in Africa and the Middle East region with only 3.2 and 6.2 % of total world energy consumption. That is close to Russian Federation energy consumption.

Table 1. World primary energy consumption in 2003 – 2013, Million tonnes oil equivalent

| Region                   | Year | 2003   | 2006   | 2009   | 2012   | 2013   | Change 2013 over 2012 | 2013 share of total |
|--------------------------|------|--------|--------|--------|--------|--------|-----------------------|---------------------|
| US                       |      | 2302.3 | 2333.1 | 2205.9 | 2208   | 2265.8 | 2.90%                 | 17.80%              |
| Total North America      |      | 2762.7 | 2827.2 | 2690.4 | 2723.4 | 2786.7 | 2.60%                 | 21.90%              |
| Total S. & Cent. America |      | 482.6  | 550.7  | 592    | 656.9  | 673.5  | 2.80%                 | 5.30%               |
| Lithuania                |      | 8.9    | 8      | 7.8    | 6.1    | 5.7    | -7.20%                | < 0,05 %            |
| European Union           |      | 1789.6 | 1826.3 | 1691.2 | 1685.5 | 1675.9 | -0.30%                | 13.20%              |
| Russian Federation       |      | 642.2  | 675.7  | 647.8  | 699.3  | 699    | 0.20%                 | 5.50%               |
| Total Europe & Eurasia   |      | 2913.8 | 3017.1 | 2839.1 | 2942.6 | 2925.3 | -0.30%                | 23.00%              |
| Total Middle East        |      | 486.2  | 580.1  | 679.7  | 764.4  | 785.3  | 3.00%                 | 6.20%               |
| Total Africa             |      | 304.5  | 338.3  | 372.4  | 402.4  | 408.1  | 1.70%                 | 3.20%               |
| China                    |      | 1245.3 | 1767.9 | 2104.3 | 2731.1 | 2852.4 | 4.70%                 | 22.40%              |

Download English Version:

<https://daneshyari.com/en/article/1109089>

Download Persian Version:

<https://daneshyari.com/article/1109089>

[Daneshyari.com](https://daneshyari.com)