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Impact of Gas prices to Methanol Trading in European market

Abstract

This paper is focusing on the impact of Russian gas price the Methanol price and trading in Europe. Europe's hunger for energy has always been a difficulty. Despite efforts to increase the use of renewable sources, with the mounting sentiment against nuclear energy, reliance on fossil fuels is more important. In particular, energy source with extensive industrial and domestic uses. Nearly three-quarters of the European Unions natural gas consumption is imported and 40% of the total import comes from Russia. We investigate the impact of Russian gas price the Methanol price and trading in Europe. The purpose of our investigation is to show the effect of Russian gas for Methanol trading and to define another alternative way to Russian gas. Firstly, we introduce methanol as a main player on industry. Secondly, we show global methanol view and market share. Thirdly, we focus on the importance of Russian gas for Europe. In conclusion, we propose another alternative way to Russian gas and consider that Methanol market can stay stable in Europe.

Keywords: *Methanol, Gas price, Russia, Methanol derivatives, European market*

Avrupa Pazarında Gaz Fiyatlarının Metanol Ticaretine Etkisi

Öz

Bu çalışma, Rus gaz fiyatının Avrupa'daki Metanol fiyatı ve ticareti üzerindeki etkisine odaklanmaktadır. Avrupa'nın enerjiye olan açlığı her zaman bir zorluk olmuştur. Yenilenebilir kaynakların kullanımını arttırma çabalarına rağmen, nükleer enerjiye karşı artan duyarlılıkla birlikte fosil yakıtlara olan bağımlılık daha da önem kazanmıştır. Özellikle de yoğun endüstriyel ve evsel kullanımları olan enerji kaynaklarına. Avrupa Birliği'nin doğal gaz tüketiminin yaklaşık dörtte üçü ithal edilmekte ve toplam ithalatın %40'ı Rusya'dan gelmektedir. Rus gaz fiyatının Avrupa'daki Metanol fiyatı ve ticareti üzerindeki etkisini araştırıyoruz. Araştırmamızın amacı, Rus gazının Metanol ticareti üzerindeki etkisini göstermek ve Rus gazına alternatif başka bir yol tanımlamaktır. İlk olarak, metanolü endüstrinin ana oyuncusu olarak tanıtıyoruz. İkinci olarak, küresel metanol görünümünü ve pazar payını gösteriyoruz. Üçüncü olarak, Rus gazının Avrupa için önemine odaklanıyoruz. Sonuç olarak, Rus gazına alternatif başka bir yol öneriyoruz ve Metanol pazarının Avrupa'da istikrarlı kalabileceğini düşünüyoruz.

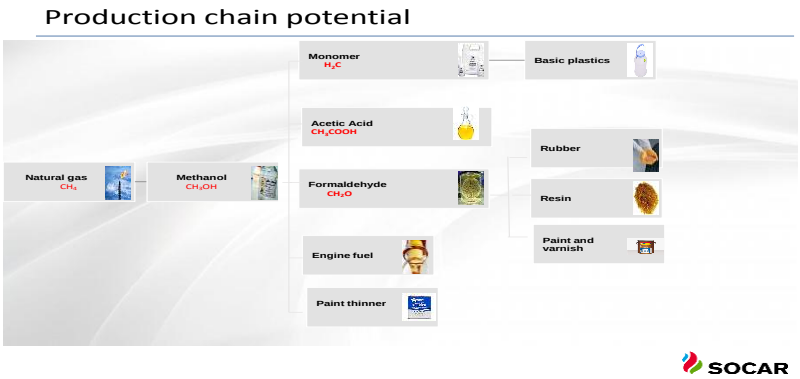
Anahtar Kelimeler: *Metanol, Gaz fiyatı, Rusya, Metanol türevleri, Avrupa pazarı*

Introduction

Methanol is a light, colorless and volatile liquid alcohol with a distinctive order. Methanol is one of the simplest sorts of alcohol and is prepared by directly combining carbon monoxide gas and hydrogen in the presence of a catalyst (https://www.globenewswire.com/news). Methanol is an essential ingredient used to produce hundreds of everyday industrial and consumer items. Methanol is comprised of four parts hydrogen, one part oxygen and one part carbon. Methanol occurs naturally in the environment and as an organic molecule, is a building block of life. It is also a naturally occurring chemical in fruits and vegetables and all humans carry background levels of methanol in their bodies as a result of their diet. Methanol has even been found on newborn stars in space. The global methanol market reached a value of US$ 26 Billion in 2021. Methanol is used by chemical manufacturers in the production of other industrial chemicals that are used to make a countless array of consumer and industrial products such as building materials and plastics. There are also growing markets for the use of methanol in the energy sector, including direct gasoline blending, marine shipping fuel, dimethyl ether (DME) and biodiesel. Today, approximately 45 per cent of global methanol demand is in the energy sector. Methanol blending into gasoline offers an alternative to the import of petroleum products and additional fuel choices to consumers. Methanol blending enables the extension of the fuels pool through the use of feedstocks such as coal, gas and biomass to produce methanol, which can be used as a substitute for imported gasoline

Formaldehyde is a primary derivative of methanol and the largest single end-use for methanol. Formaldehyde derivatives, such as urethane (for urethane foam products) and plastics are used in products for the office, car and home. Engineered woods, such as plywood, used in home construction and furniture are bonded with resins based on formaldehyde.

Graph 1: Methanol production chain

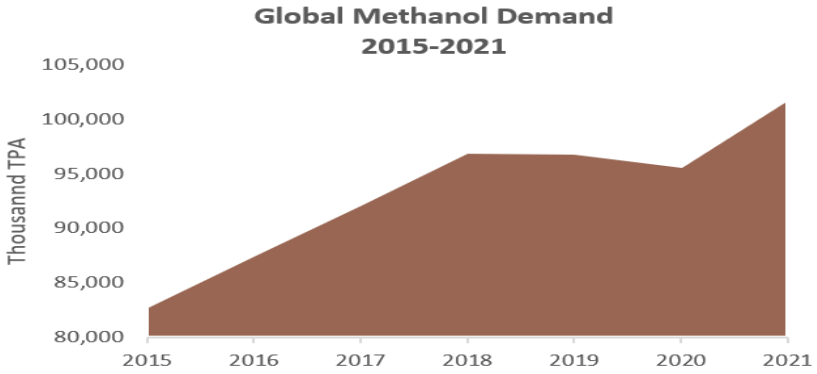


The global production capacity of methanol is observed to double in the eleven years from 2020 to 2030, from approximately 157 million metric tons in 2020, to around 311 million metric tons by 2030. This growth is attributable to nearly 131 planned and announced methanol plants, mainly located in the Former Soviet Union and Asia (https://www.statista.com/statistics/1065891/global-methanol). Moreover, the global demand for methanol reached approximately 98 million metric tons in 2021 while growing interests in clean-burning fuels and regulatory changes are drivers for new methanol applications as a fuel due to its lower emissions. The research methods employed in this article include a combination of quantitative analysis and qualitative investigation. Firstly, quantitative analysis was conducted to examine historical data on methanol and gas prices in Europe, aiming to identify correlations and quantify the impact of gas price fluctuations on methanol trading. Secondly, qualitative methods such as case studies and interviews were utilized to gain insights from stakeholders in the European methanol industry, providing a nuanced understanding of how gas price changes influence trading strategies and market dynamics. Thirdly, policy analysis was employed to review existing energy policies in Europe, assessing their potential impact on methanol trading. Additionally, market surveys and forecasting were conducted to gather data on current trends and future expectations in the European methanol market. Finally, the article utilized geopolitical analysis to explore the role of geopolitical factors in shaping gas prices and their impact on methanol trading, considering the influence of geopolitical events and policies on market dynamics.

1. Global view on methanol sales

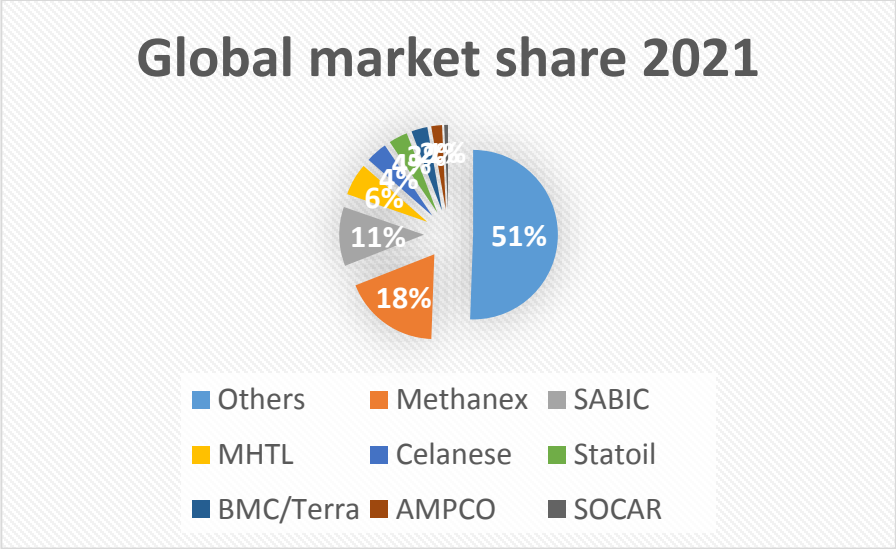
The methanol industry spans the entire globe, with production in Asia, North and South America, Europe, Africa and the Middle East. Worldwide, over 90 methanol plants have a combined production capacity of about 110 million metric tons. Some of the key players in the market are Methanol Holdings (Trinidad), Limited (MHTL), Mitsubishi Chemicals, BASF AG, Teijin, Mitsui & Co Ltd, Valero Marketing and Supply Company, Zagros Petrochemical Company (ZPC), Celanese Corporation, Saudi Basic Industries Corporation, Petroliam Nasional Berhad (PETRONAS), Methanex Corporation and Qatar Fuel Additives Company Limited. (Figure 2) Each of these companies have been strategically analyzed for the methanol market in detail. The company profiles help to get into the information about the key market players in this industry and how much hold they have on the market. In spite of being technologically intensive, the immense growth opportunities are attracting new companies to enter the market and thus accelerate intensity of competition.

Graph 2: Global methanol demand (2015-2021)



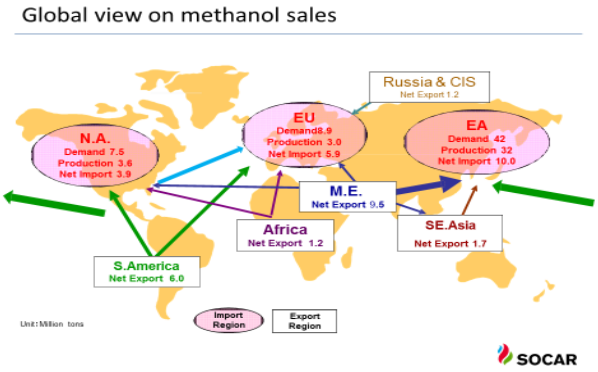
The Methanol market is observed to witness a prominent growth rate during in future. The main factors responsible for the growth of the global methanol market are the increasing usage of methanol as an alternative fuel in China, the constant growth of methanol/methanol derivatives in various end-user industries, positive government initiatives, and growing concerns of environmental issues (https://www.prnewswire.com/news).

Graph 3: Global market share 2021



Based on the division of the market in the whole world, the basis is the availability of labor forcd, legislation, commodity, and natural resources. Based on the division of the market on the whole world, the methanol market are separated 5 main parts. One of those five regions, the Asia Pacific region is growing market share of the Methanol market revenue for the forecast period that will be ending in 2030. There has been a huge increase in the factors such as the rapid increase in the consumption of methanol that is available in a series of all economic parts. Moreover, the tendency are at the highest range in countries such as the Democratic Republic of China, Japan, South Korea, and Australia amongst others (https://www.marketresearchfuture.com/reports). On the basis of geography, Europe is observed to be the most important market region because of the continuous increment in air pollution in the region. Europe is a growing methanol market with ongoing favorable government initiatives such as Methanol Economy Plan. EU is aiming to reduce greenhouse gas emissions and converting coal reserves and municipal solid waste into methanol leading to independence from import while creating new jobs by setting up Methanol Production Plants (https://www.bluequarkresearch.com/reports/global).

Graph 4: Global view on methanol sales 2021



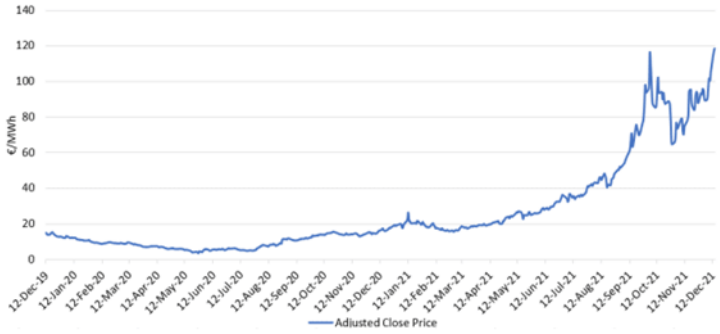
2. Rising gas prices and its impact to methanol market in Europe

Natural gas flowing through a web of pipelines from Russia heats homes and power factories across much of Europe. The main oil provider of Europe is Russia as well. Russia provides Europe with natural gas by Nord Stream and Yamal-Europe pipelines. Nord Stream is an export gas pipeline linking from Russia to Europe across the Baltic Sea (https://www.yahoo.com/news/happens). As it bypasses transit countries, Nord Stream provides Gazprom with direct access to European consumers. European countries are supplied by the high reliability of Russian pipelines. (Figure 4). Yamal-Europe is connecting Russian natural gas fields in the Yamal Peninsula and Western Siberia with Poland and Germany, through Belarus (Figure 4). We can easily observe the situation before 2nd half of 2021 with Figure 5 and Figure 6. Before increasing of Russia gas price (From figure 5) Methanol price fluctuations slightly happened. Methanol prices sharply rose after 2nd half of 2021(July-Dec) related to methanol prices. The main reason is increase of Russian gas price. The below map shows major gas pipelines between Russia and Europe

Graph 5: Major gas pipelines between Russia and Europe

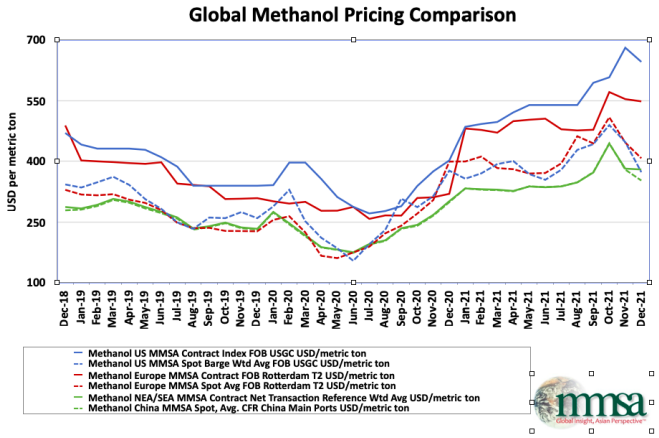
Russia has decided unprecedented surge in gas prices in Europe 2nd half in 2021, to demonstrate the importance of boosting energy cooperation with Moscow. To reflect on the past years supply-demand dynamic, we show in Figure 5, for the period between December 12th, 2019 and December 14th, 2021, the Dutch TTF spot prices, for day-ahead delivery, being the European benchmark price for natural gas.

Graph 6: Dutch TTF Natural Gas prices, data extracted from (Yahoo Finance, 2021).



We hereby easily observe Russia's influence to gas price. Especially methanol market in Europe is affected by increasing gas price. Russia provides Europe with natural gas by Nord Stream pipeline. Nord Stream is an export gas pipeline running from Russia to Europe across the Baltic Sea. As it bypasses transit countries, Nord Stream provides Gazprom with direct access to European consumers. The pipeline ensures high reliability of Russian gas supplies to Europe. The below chart compares global methanol pricing in key regional markets (United States Gulf Coast, Rotterdam, Coastal China) on a spot and contract (posting before discounts) basis. It runs from 2019 to 2021.

Graph 7: Global Methanol Pricing Comparison

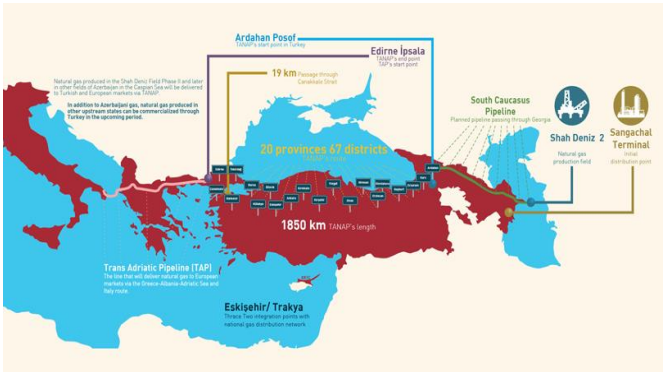


3. What are Europe's options in case of Russian gas disruption?

EU countries are heavily dependent on Russian natural gas. In this respect, the price is the most essential element for cut energy flows and political economic cooperation. Russia uses the pricing policy as it wishes because energy needs of these countries and lack of alternative routes make Russia favorable in pricing policy. Beside this, period by period Russia applies or removes price discounts for political purposes. The European market is very prominent for Russia. Because the main part the Russian economy depends on energy revenues (Wile, 2014), and any problem that can be based on energy transportation and pricing can lead to serious results in the Russian economy. That's why, Russian pipeline policy is focused on the dominance of Russia in energy market of the EU. Alternative energy routes also affect Russian energy prices and diversity of energy resources reduces Russia's political influence in Europen energy is used as a political tool by some countries in order to be influential and to pursue geopolitical goals for strengthening their international positions. From this point of view, Russia does not want to lose its monopoly in Europe's gas supply market and to see a rival in the European gas market and is not interested in EU's energy diversification (https://aliyarazimov.com/russian-interests-in-the-eu-). Alternative ways against the Russian gas have been discussing between European countries. One of alternative ways is TANAP and TAP projects which are linked Azerbaijan and Europe. The main purpose of TANAP Project is to bring the natural gas produced in Azerbaijan's Shah Deniz-2 gas field, and other areas of the Caspian Sea, primarily to Turkey, but also to Europe. The TANAP Project, along with the South Caucasus Pipeline (SCP) and the Trans-Adriatic Pipeline (TAP) are the elements that make up the Southern Gas Corridor (https://www.tanap.com/tanap-project/why).

Holding annual Ministerial Meeting of the Southern Gas Corridor (SGC) Advisory Council is one of important indicators of TANAP and TAP projects. The 8th Ministerial Meeting of the Southern Gas Corridor (SGC) Advisory Council has been held on 6th of February 2022 in Baku (2 days ago) (https://ec.europa.eu/info/news/eighth-ministerial-meeting).

Graph 8: TANAP and TAP project



The EU is Russia's biggest energy partner and the EU depends on Russia in terms of energy supply as well. Russia is the 11th largest economy in the world, however almost entire of the economy relies on oil and gas revenues. This factor causes Russia to pursue a more rigid policy in the region. Russia is not interested in diversifying energy resources of the EU. Therefore, Russia is trying to prevent the EU from supplying natural gas from new sources by creating barriers. These barriers vary depending on the course of events in the geopolitical plane. From this point of view, at the initial stage, Russia is questioning the reputation of the Southern Gas Corridor with its negative comments. At the same time, the Trans-Caspian pipeline, which will form the basis of Azerbaijan and Turkmenistan's energy export infrastructure, will be contrary to the interests of Russia. Future steps of Russia can impede realization of the project in any form with large-scale geopolitical maneuvers (https://www.tritonmarketresearch.com/reports/europe).

Conclusion

In conclusion, the methanol market in Europe is growing at a moderate rate due to factors such as the high prices of natural gas, which make methanol non-competitive. Thus, in the past few years, several plants had reduced their capacity utilization and ceased the manufacturing of methanol and its derivatives altogether. Most of the demand is now met through importing methanol from other countries. Moreover, Russia is trying to prevent the EU from supplying natural gas from new sources by creating barriers. These barriers vary depending on the course of events in the geopolitical plane. From this point of view, at the initial stage, Russia is questioning the

reputation of the Southern Gas Corridor with its negative comments. Despite the negative efforts of Russia, we propose to improve influence of TANAP and TAP project in Europe. As a result, Methanol plants in Europe can be available to buy natural gas like raw material from the southern gas corridor and decrease Russia's political and economical influence to Europe. Using of TANAP and TAP project will be resulted decreasing political and economical influence of Russia to Europe. Especially, in recent times, Russia uses the gas weapon in Russia-Ukraine conflict. It is also getting important of TANAP and TAP projects. Overall, based on the below graphs and info, If European countries invest to enlarge TAP project to central and the northern Europe and can benefit this project, Russia will not be affecting the prices of gas and methanol prices in Europe will be staying stable as well

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