TURKEY AND NATURAL GAS
A SECOND DISCOVERY IN THE BLACK SEA

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- What is the current situation of natural gas in Turkey?
- What is the impact of Turkey's first discovery in the Black Sea?
- What policy changes can we expect after the second discovery?

INTRODUCTION

For some time now, Turkey has been conducting drilling operations in the Black Sea in search of natural gas and petrol. In August, President Erdoğan announced the good news that 320 billion cubic meters (bcm) of natural gas were found in the Tuna-1 region, which was later renamed the Sakarya field. Approximately two months later, President Erdoğan announced that an additional 85 million cubic meters (mcm) were discovered in the same area. Such a discovery equals the discovery in Romania's Neptun Deep and brings the reserve up to a total of 405 bcm. On the basis of the first discovery, the Sakarya field was ranked the world's 12th largest deepwater gas field; however, with the new amount announced by President Erdoğan the field would rank at 11th place.[1]

In the last years, Turkey has been following a more autonomous foreign policy which allows it to put its interests first.[2] The discovery of natural gas in the Black Sea is a result of this policy. This discovery is of crucial importance for Turkey given that it is a net importer of natural gas and its timing could not be more opportune considering the latest developments in the region.

As soon as the first discovery was announced in August, it was clear that it would not only effect Turkey economically and strategically in a positive way, but that it also had the power to remove a psychological barrier that had affected Turkey for many years, breaking the pessimism haunting the country over the presence of hydrocarbons.[3] As the amount of the discovered natural gas increases, the positive implications of the discovery on Turkey grow and multiply as well.

THE CURRENT NATURAL GAS SITUATION IN TURKEY

For more than four decades, Turkey has been a net importer of natural gas: 99 percent of Turkey's consumed

1 Gloria Shkurti Özdemir, "Turkey's Discovery of Natural Gas in the Black Sea: What Does It Mean for Turkey?" *Rouya Turkiyyah*, (pending publication); Gongcheng Zhang, Hongjun Qu, Guojun Chen, Chong Zhao, Fenglian Zhang, Haizhang Yang, Zhao Zhao, Ming Ma, "Giant Discoveries of Oil and Gas Fields in Global Deepwaters in the Past 40 Years and the Prospect of Exploration," *Journal of Natural Gas Geoscience*, Vol. 4, (2019), pp. 1-28.

2 Ali Balcı, "A Three-Level Analysis of Turkey's Crisis with the U.S.-Led Order", *Insight Turkey*, Vol. 21, No. 4 (2019), pp. 13-24.

3 Sohbet Karbuz and Barış Sanlı, "Turkey's Black Sea Natural Gas Discovery: Brief History and Implications," Energy Policy Research Center, No. 28, (August 2020), p. 5.

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natural gas is imported. More than 50 percent of the natural gas came from Russia, making Turkey highly dependent on Russian gas. In an attempt to decrease its dependence on Russian natural gas, Turkey started to import natural gas from other states such as Algeria, Nigeria, Iran, Azerbaijan and the United States. Concurrently, Turkey signed new projects, such as Turk Stream and TANAP, and increased its Liquefied Natural Gas (LNG) imports. These steps have made it possible for Turkey to decrease the share of Russian gas from 59 percent in 2012 to 34 percent in 2019.[4] However, as much as decreasing the dependency on Russian imports is important, decreasing the dependency on imports in general is even more important for Turkey.

Within this framework, in 2017, the Ministry of Energy and Natural Resources announced the National Energy and Mining Policy. The post-2017 period is of crucial importance for Turkey as the natural gas and oil exploration activities started to intensify. In light of this, Turkey bought seismic and drilling ships and has been conducting offshore drilling in the Eastern Mediterranean and the Black Sea with its drilling ships (*Fatih*, *Yavuz*, and *Kanuni*) and seismic vessels (*Oruç Reis* and *Barbaros Hayrettin Paşa*). By using its own seismic and drilling ships and local staff, Turkey decreased its dependency on other states and organizations, and, at the same time, decreased the cost of the exploration activities considering that previously renting a drilling ship for 90 days cost approximately $45 million to the Turkish economy. Here it is important to state that during the last three years only 54 states have carried out exploration activities. Due to the COVID-19 pandemic this number decreased to 36 by 2020 and further decreased to 23 states in the last four months. From these 23 states only 14 have the capacity to conduct their own exploration activities without external help and Turkey is one of these 14 states. Most importantly, due to the government's effective and successful policies, Turkey was the first state included in this group in the last 10 years.[5]

In this context, the Turkish Petroleum Cooperation (TPAO) has heavily focused on offshore drilling activities and has conducted studies in the Black Sea, to gather 2D and 3D seismic data. The Black Sea is considered to be a region with great potential for natural gas and oil discovery, and as a result it is the center of attention of TPAO. However, TPAO has been conducting exploration activities in the Aegean Sea and lately in the Eastern Mediterranean as well.[6]

TURKEY'S FIRST DISCOVERY IN THE BLACK SEA AND ITS IMPACT ON TURKEY

Finding natural gas sources is crucially important for Turkey's energy policies. In that respect Turkey has conducted 9 drilling operations in the Black Sea; namely in Şile-1, Istranca-2, Limanköy-2, Yassıhöyük-1, Kastamonu-1, Sinop-1, Sürmene-1, Hopa-1, and Tuna-1. The operations of the drilling ship *Fatih* in the Black Sea are among these. It is important to mention the fact that the water borders in the Black Sea are not disputed, and that Turkey has conducted its operations within its Exclusive Economic Zone (EEZ).

On July 20, 2020, after a period of suspension, *Fatih* sailed to the Black Sea in order to conduct drilling operations in the so-called Tuna-1 zone, later renamed the Sakarya natural gas field. As a result of these operations, *Fatih* found a reserve of 320 bcm, approximately 170 km from Turkey's coast and very close to Romania's Neptun Deep block which holds up to 84 bcm of natural gas. It is important to state that Turkey's natural discovery in the Sakarya field is not only the largest ever in the Black Sea, but it can be said that it is among the biggest natural gas discoveries in 2020. As it can be seen in Table 1, the world's top 20 deepwater gas fields vary from 188 bcm to 3,200 bcm. Based on this list, the Sakarya field would be the world's 12th largest deepwater gas field.[7]

Furthermore, while discovering a natural gas reserve is important, starting the production and delivering the natural gas to the domestic market is equally

4 "Yıllık Sekto Raporu: Doğal Gaz," EMRA.

5 Göktuğ Şahin and Volkan Aslanoğlu, "Karadeniz'de yeni sondajlar yeni keşifler yolda," STAR Açık Görüş, (August 28, 2020).

6 Karbuz and Sanlı, "Turkey's Black Sea Natural Gas Discovery".

7 Gongcheng Zhang, et al., "Giant Discoveries of Oil and Gas Fields in Global Deepwaters".

TABLE 1: RESERVES OF THE WORLD'S TOP 20 DEEPWATER GAS FIELDS

S/N	Gasfield	Year of discovery	Country	Basin	Water depth/m	Recoverable reserves/($\times 10^9 m^3$)
1	Shtokmanovskoye	1988	Russia	Barents Sea	330	3200.0
2	Mamba	2012	Mozambique	Rovuma	1690	1557.6
3	Ludlovskoye	1990	Russia	Barents Sea	300	1500.0
4	Prosperidade	2010	Mozambique	Rovuma	1548	731.1
5	Zohr	2015	Egypt	Nile Delta	>2000	628.755
6	Leviathan	2010	Israel	Levant	1634	602.4
7	Jansz	2000	Australia	North Carnarvon	1321	566.34
8	Golfinho	2012	Mozambique	Rovuma	1027	559.7
9	Greater Tortue Complex	2016	Senegal	Senegal	2700	481.389
10	6506/12-1 Smorbukk	1996	Norway	Norway Sea	303	405.77
11	Torosa	1971	Australia	Browse	500	343.485
12	6305/5-1 Ormen Lange	1997	Norway	Norway Sea	857	315.1
13	Coral	2012	Mozambique	Rovuma	2261	305.4
14	Tamar	2009	Israel	Levant	1676	283.17
15	Abadi	2000	Indonesia	Arafura Sea	300–1000	283.17
16	SNØHVIT-ALBATROSS	1982	Norway	Barents Sea	320	265.43
17	Daniel East and West	2016	Israel	Levant	Offshore	252.021
18	Poseidon 1	2009	Australia	Browse	Deepwater	241.939
19	Dhirubhai	2002	Bay of Bengal	Krishna-Godavari	2000–3000	198.22
20	Greater Sunrise	1975	Australia	Bonaparte	75–700	188.350

Source: Zhang, et al. (2019)

important. President Erdoğan stated that the natural gas from the Sakarya field will start to flow by 2023. While this goal was considered unrealistic by some, experts argue that it is achievable. To support this, the Zohr field in Egypt is taken as an example. The discovery of the natural gas there was made only two months after the drilling started and the flow of the gas started 28 months later. This was the result of the immense efforts and great cooperation between the multinational oil and gas company ENI and the Egyptian government. If a similar willingness and determination is shown by the Turkish government, it is possible that the natural gas from the Sakarya field will start to flow as early as 2023.[8]

The discovery of natural gas in the Sakarya field is immensely important for Turkey. Not only was Turkey completely dependent on natural gas imports, but for many years it did not have the capability to search its own seas. For this reason, it is possible to state that now that Turkey has its own drilling and seismic ships, which are manned by local staff, a new page in Turkish history has been turned.[9] As Turkey will forge ahead with its pragmatic policies, the natural gas discovery in the Black Sea will encourage the country to pursue its political aims in the region in a determined way. Within this context, when analyzing the importance of the natural gas discovery for Turkey it is necessary to focus on three different perspectives: energy, economy, and geopolitics.

In terms of energy, the discovery can help Turkey diversify its natural gas sources, decrease the dependence on natural gas imports, lower the price of natural gas for the users in Turkey, provide a leverage for Turkey considering that many long-term natural gas contracts are about to expire, and also bring Turkey one step closer to its goal of becoming a natural gas hub. In terms of economy, the natural gas discovery will help Turkey close its current account deficit. And lastly, from the geopolitical perspective, it can be said that Turkey's position in regional and global affairs will change. The discovered reserve of natural gas will give Turkey the leverage to be able to pursue a more

8 Karbuz and Sanlı, "Turkey's Black Sea Natural Gas Discovery", p. 7-8.

9 "Doğal gaz bulundu: Karadeniz'deki gaz keşfi Türkiye'yi nasıl etkiler?," BBC, (August 22, 2020), retrieved from https://www.bbc.com/turkce/haberler-turkiye-53868045.

independent foreign policy and a more active role in the international arena. As a result, robust energy reserves could encourage the European Union to work more closely with Turkey.[10] Since Europe is looking to diversify its energy supply due to its dependency on Russian natural gas, Turkey can serve this purpose. Furthermore, it can also be said that the discovery of natural gas in the Black Sea has strengthened Turkey's hand against Greece in terms of the latest developments in the Eastern Mediterranean.[11]

TURKEY'S SECOND DISCOVERY AND ITS IMPACT

Turkey has revised the amount of the natural gas found in the Black Sea by adding an additional reserve of 85 mcm, bringing the reserve up to a total of 405 bcm. While the technical details of the latest discovery have not been given yet, it can be said that this discovery is proof of the richness of the Sakarya field raising hopes for the discovery of other reserves in the close future.

As the number of the discoveries increase, the economic and strategic benefits that they will bring Turkey increase as well. The second discovery came at an appropriate time for Ankara considering the latest developments in the region. As the natural gas reserve increases in size, it gives Turkey the necessary leverage to protect its own rights in the Middle East, the Aegean, and the Eastern Mediterranean.

Leaving aside the economic and strategic benefits, these discoveries confirmed the fact that Turkey is on the on the right path. It is expected that Turkey will continue and intensify its explorations and drilling operations with more commitment than ever. The current picture of the drilling ships and seismic vessel is further proof. Currently, *Kanuni*, Turkey's third drilling ship is going to join *Fatih* in the Black Sea. Meanwhile, the drilling ship *Yavuz* and the seismic vessels *Oruç Reis* and *Barbaros Hayreddin Paşa* will continue their activities in the Eastern Mediterranean.

It is also expected that as Turkey gains more experience and continues its activities with willingness and determination, there will be more discoveries not only in the Black Sea but also in the Eastern Mediterranean. Apart from natural gas, the possibilities to discover oil are high as well.

It is without a doubt that the natural gas discovery in the Black Sea is a turning point in Turkey's history. In the following years, we will witness how a state transforms from a net importer of natural gas to an exporter of natural gas. Furthermore, as mentioned previously, Turkey aims to become a natural gas hub. If, as expected, the natural gas discoveries continue, the country will constantly move closer to this goal.

10 Burhanettin Duran, "Reflections on Turkey's Discovery of Natural Gas," *Daily Sabah*, (August 26, 2020), https://www.dailysabah.com/opinion/columns/reflections-on-turkeys-discovery-of-natural-gas.

11 For a more detailed analysis of the impact of the natural gas discovery on Turkey, see: Gloria Shkurti Özdemir, "A New Era for Turkey: Natural Gas Discovery in the Black Sea", SETA, (August 24, 2020).