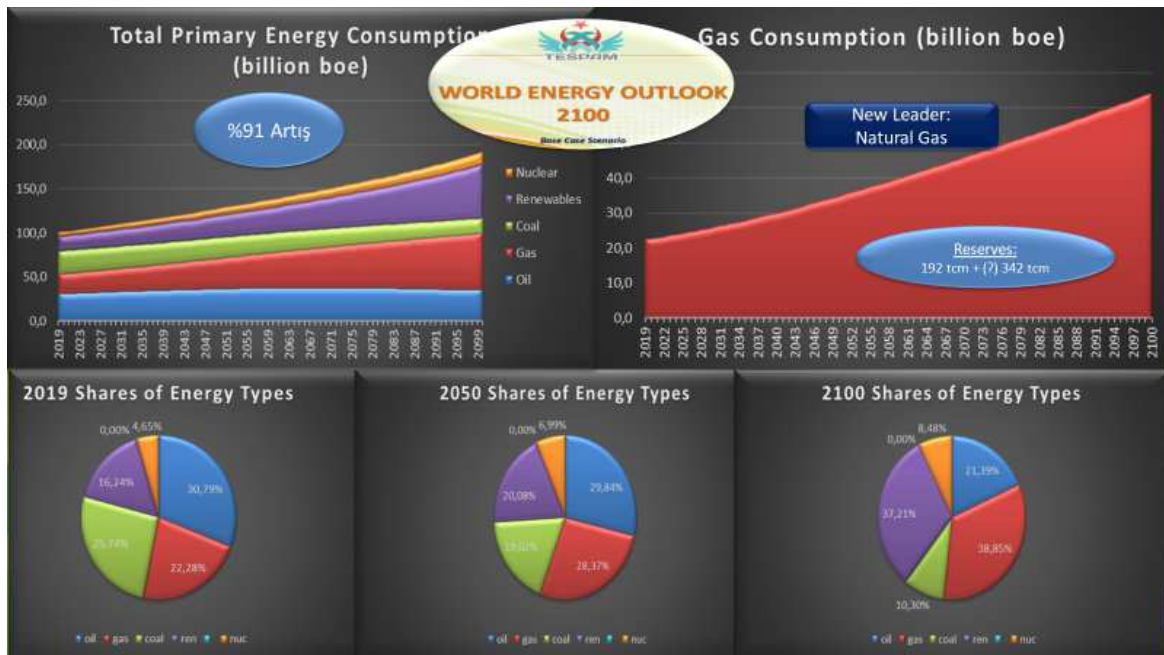


TÜRKİYE'S BLACK SEA DISCOVERY AND REGIONAL ASPECTS¹

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Global energy demand has been rising rapidly since the beginning of the 1900s. In this context, the trend towards energy types has changed over time due to mainly supply security and CO2 emission concerns and technology-cost alterations. Oil, which has become the most important energy source with the beginning of the 19th century, gradually leaves its throne to natural gas (which we can partially describe as cleaner), especially within the scope of carbon mitigation targets. As expressed in the long-term global demand projections prepared by TESPAM, although great progress will be made in the field of renewable and clean energy, socioeconomic and technological factors reveal that the era of oil and natural gas (even coal), will not be ended in such a short time. In this context, as can be seen in the graphs below, natural gas will emerge as the most important resource of the future. [1]



Graph 1: Global Energy Trends and Projections [1]

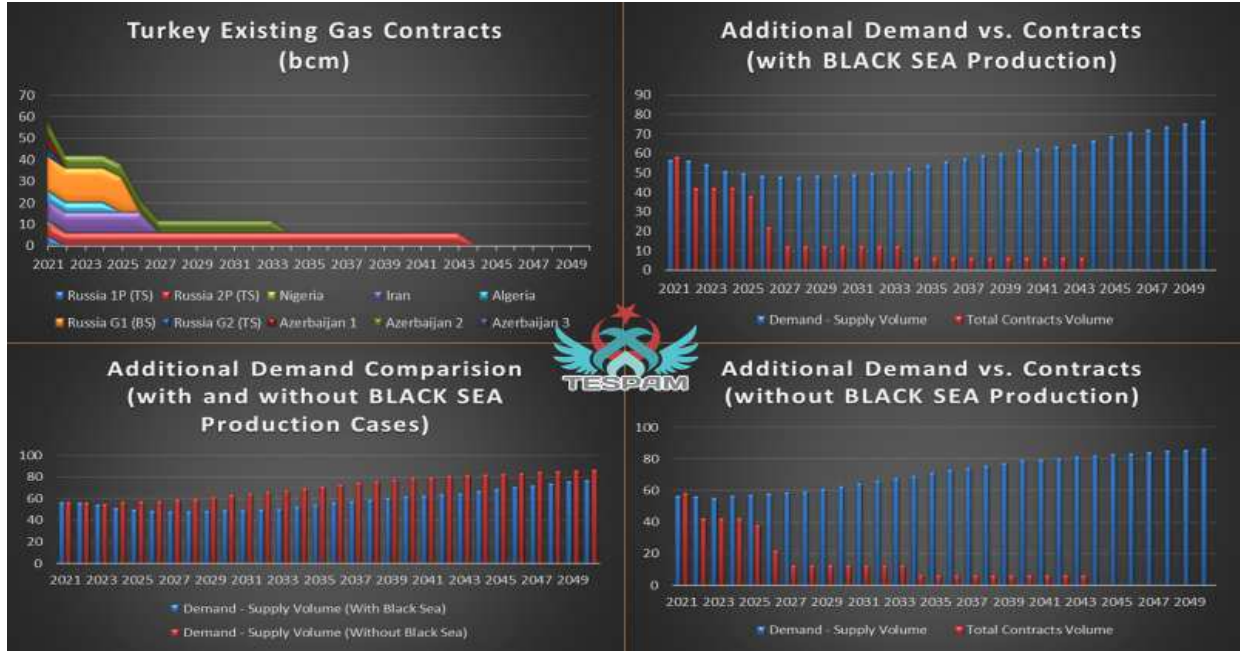
While such a picture is in question on a global scale, natural gas (which we describe as the most important energy source of the future) will have a much different place for countries such as Türkiye (which is growing, has the ability to access new resources through many different routes and has to import almost all of its consumption). In this context, Türkiye's gas discovery in the Black Sea is a revolutionary development from the perspective of the country's energy supply security.

In addition to these, current energy crisis has increased the importance of natural gas to such levels that cannot be predicted anymore.

¹This article belongs to the Special Issue No:1 of the International Journal of "Sustainability with Climate and Energy", published by Tespam, Selected Papers of the [2022 Black Sea Summit on Energy Crisis](#)

This resource, which Türkiye has completely discovered with domestic resources and will start production in 2023 (again with domestic capabilities), has the abilities that can change many balances on a national and regional basis.

Firstly, while the data announced by the Turkish Ministry of Energy [2] are interpreted in the national framework, Türkiye's natural gas balances and importance of Black Sea discovery can be projected as can be seen in the graphs below.



Graph 2: Türkiye's Gas Balances up to 2050 [3]

We have to note that, in this scenario it is assumed that a plateau rate of 17 billion m³/year (which will last for about 10 years and can be reached during 2030s) will be achieved in Black Sea. Moreover, for Türkiye's demand projections, TESPAM's due private models were utilized. Undoubtedly, supply projections will change as the final production scenarios shared by the Turkish NOC.

The results claim that domestic resources in Türkiye can meet almost 30% of the domestic consumption for around 10 years.

In addition to the domestic consumption shares, the due discovery will provide Türkiye with many benefits, such as: strengthening the Türkiye's ability to manage natural gas supply-demand balances, reducing possible prices in new import agreements, making new Turkish Gas Market (under EPIAS) more effective and functional, ensuring stock security and obtaining opportunities for new discoveries. Moreover, there will be many direct and indirect contributions to the development of domestic technologies.

For evaluating the long-term regional aspects of this discovery, a complicated dynamic model has to be constructed. Within this model, annual national gas balances, seasonal supply properties, new possible import contracts, available LNG and pipeline capacities, storage probabilities, supply potentials of new possible domestic and/or foreign resources and current international free

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transmission capacities has be be evaluated. TESPAM (by using such a private model) continues to project new possibilities and to interpret different scenarios by taking into consideration the updated emerging developments.

In general, our existing model shows that, Türkiye will continue to increase the volume and the efficiency of its domestic gas market. By continuing to support the volumetric increase of its storage capabilities and the development of Black Sea discovery, will not risk its existing contractual import options within the existing sellers.

It reveals that it can establish a dynamic supply-demand, domestic production-import-export mechanism. In this context, production in the Black Sea greatly relieves Türkiye's hand. In other words, it is not reasonable to expect Türkiye, which is a big consumer, to become a net gas exporter at the current stage. However, when the due dynamics (such as, number of technically and economically accessible markets, profitable supply agreements, increased domestic production potential and overcome domestic demand) are re-shaped by time, spot export opportunities will also be in question. On the other hand, while considering that, the Black Sea discovery was made in an untouched area; new exploration possibilities in the Black Sea or other areas could change all the balances and move Türkiye to a very different position in terms of both gas trade and regional balances. For this reason, the eyes of all foreign missions, especially the existing suppliers, are on this new discovery of Türkiye.

As a result, Black Sea discovery on a regional basis increased the geostrategic importance of the area in terms of new potential resources. In addition to this, existing energy crisis, Russia – Ukraine War and EU's desperate struggle to find alternative gas resources in the short time puts this discovery and Black Sea in a more critical position. Türkiye's developing economic and technical capabilities in this area (by considering the fact that having investment and profit in a region can make you to invest also in to the other low profit resources such as the methane hydrate, wind and hydrogen) also can be other important points to be discussed for an integrated greener targets. Moreover, this will not be only for Türkiye, will be for the regional actors. We have to note that, making an important discovery in a region means that the due region will be appreciated and therefore, the ability to allocate finance for economic-new exploration investments, logistics and alternative resources will be able to be strengthened.

For this reason, the Black Sea and Türkiye's new discovery has come to a more important position for both Türkiye and other regional and global actors.

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