# THE ONLY REALISTIC OPTION FOR A RUSSIAN GAS-FREE EU: TÜRKİYE ROUTE[1]

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After USA, (with around 400-bcma annual consumption levels) EU is the second largest gas consumer in the World. Due to having lack of enough domestic reserves, EU has to import nearly %70 of this volume and the biggest import partner is Russia (with around %45 import dependency in gas).

In fact, the dependence on Russian natural gas for EU countries goes back before the EU was established. Natural gas, which is a much more practical and cleaner energy type, has been imported from Russia by many EU countries for many years, without hindering the industrialization and growth targets.

On the other hand, since the Cold War period, especially with the diplomatic spurts of the USA, the EU has been trying to create markets that abstain from Russian gas.

However, since they know that the Russian gas will be the cheapest, easiest to access and safest gas regarding with the supply route (generally sustainable), an effective policy cannot be carried out in this context. Moreover, we have to note that, the nature of the gas markets, which requires giant investments and climate-related policies, also affects the decisions to be made within this regard.

Therefore, EU was usually following a confused policy, where it cannot completely agree on the situation of additional Russian gas imports.

This situation has gone up to the Russia-Ukraine War!

The Russia-Ukraine war has really started to feel that: the EU countries coherently are signaling that they agreed on taking much more drastic measures and clearing their markets of Russian gas (at least in the long run). Although many countries will want to resume natural gas trade with Russia after scenarios such as change of administration (in Russia), end of war, and re-normalization with Russia, the current situation reveals that the EU seems serious for the first time!

Well, in such a scenario, how will the EU reduce Russian gas imports and reset it in the long run?

Let us shortly analyze the situation within some critical questions:

- In this context, will additional LNG from countries such as the USA, Nigeria, Qatar, Australia or the additional pipeline to be supplied from countries such as Algeria, Libya, Norway, Azerbaijan really be able to replace Russian gas in a sustainable way in the long run?
- Do the relevant countries have sufficient reserves and export capacities?
- Are there technically adequate facilities within the EU to ensure the demanded imports?
- Can these processes be circumvented with reasonable costs?

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- Will LNG options be as safe and sustainable as the pipeline-gas during bad weather conditions (usually in winter season, where the demand is peaked)?

- Although currently the USA (now the largest LNG exporter in the world) is feeding the EU gas markets with profits of hundreds of billions of dollars, will this situation continue?

- When gas prices in the domestic market start to become a little more disturbing for the US citizens (due to natural gas exports to EU), will the USA be able to maintain its export stance towards the EU? Are there enough natural gas reserves in USA to manage this process?

- Will the EU be able to avoid being dragged into even more chaos, weakness and instability in this process?

- Is there a formula to substitute Russian gas in the short term?

- In the current situation, will the decisions to reduce consumption (by creating a fearing climate) really be enough?

Unfortunately, the only answer for all of the above questions is “NO”!

At this point, as TESPAM, by using our gas balances model, we suggest a new long-term achivable option to the Europeans.

Yes, this option can only be achieved in the long term, has a huge economic and political cost and the possible gas transit through this route may not be as cheap as the Russian gas (by evaluating the unit production and transportation costs). However, this seems the only realistic, sustainable and applicable option for a Russian gas-free EU!

In this context, in TESPAM we modelled EU’s long-term gas demand and export scenarios. In the base case scenario (at 2050), as can be observed in the graph below;

-Romania will need an import volume of 6-bcma,

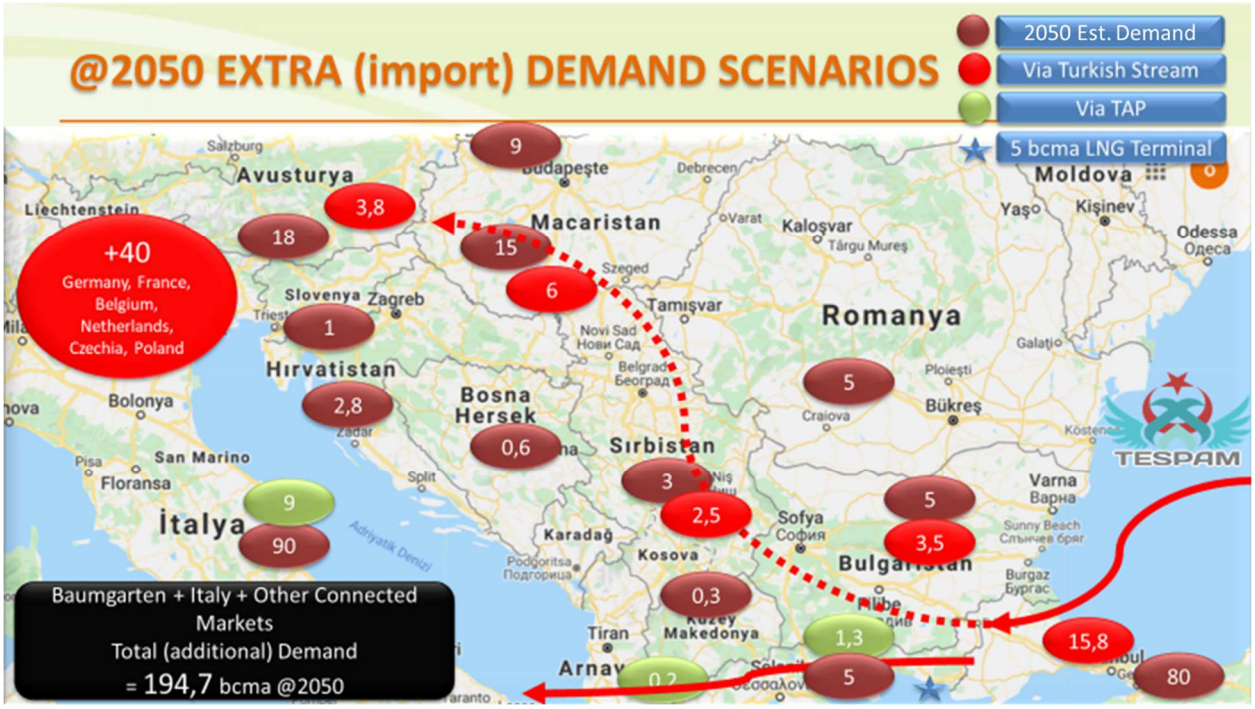
-Türkiye will need 80-bcma,

-Bulgaria will need 5-bcma,

-Italy will need 90-bcma.

-The demand of the other European countries is shown in the map within damson color balloons.

-Through the possible transit routes (pipeline infrastructure) only with some additional investments, gas in Baumgarten or/and Italy markets can be used to feed some Western & Middle Europe countries such as Germany, France, Belgium, Netherlands, Poland and Czechia. Through this route an additional 40 bcma can be available (by evaluating the limitations through the technical constraints).




*Graph 1: 2050 Gas Demand Projections in Some EU Markets*

As can be observed, Baumgarten, Italy and other connected markets will be fed through a possible Turkish route. And the total reachable demand will be around 194,7-bcma in 2050 (without Türkiye).

Note that, "+40" bcma for the due connected markets is not the total demand of those countries. This is only the volume of possible supply through this route (by taking into consideration of the technical limitations).

At this situation, if these markets have such a huge demand in 2050, who will be the suppliers?

Russia? Azerbaijan? Northern Africa? LNG?

There are different opportunities and many different limitations to deal with.

Of course Russia again will lonely be enough to completely feed these markets (if new infrastructures will be construted and the conflicts be ended).

However, what EU can do to substitute the Russian gas? Which can be an exact solution?

At this point, let us focus on again TESPAM's long-term additional export potentials of some gas bearing countries.

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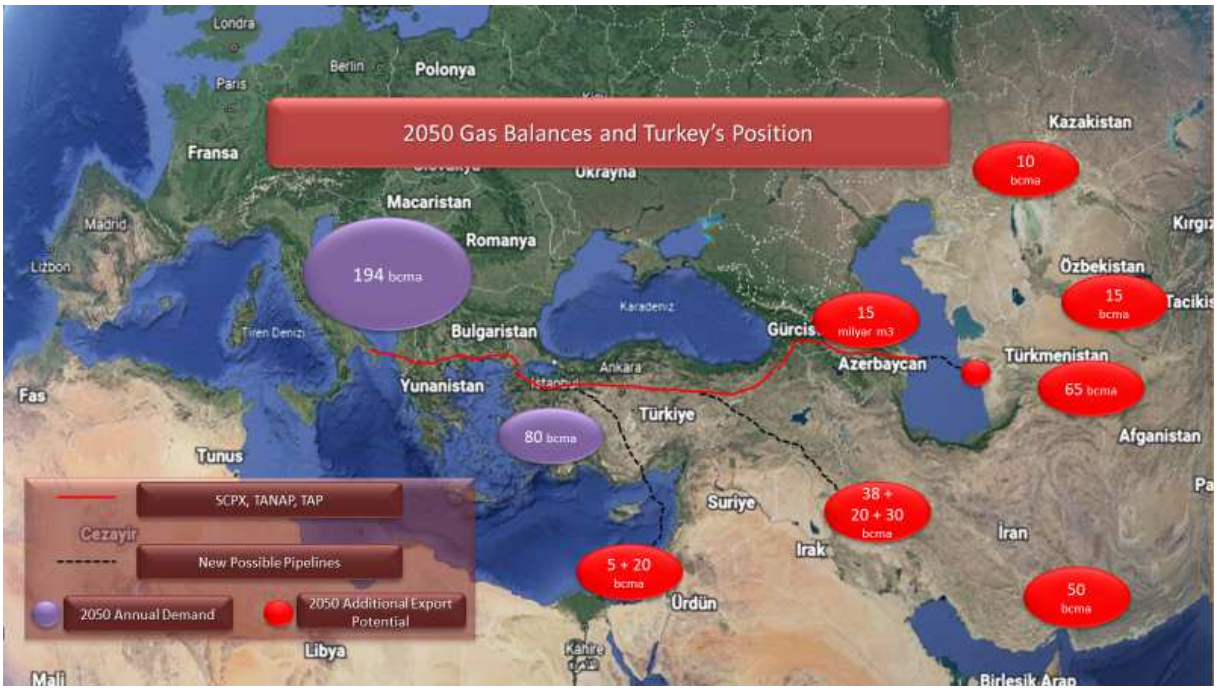


*Graph 2: 2050 Gas Balances and Türkiye's Position*

As can be observed from the graph above:

- Türkiye's hinterland has additional annual gas export potential around 218-bcma (without Iran).
- Although Iran is expected to have an additional export potential of 50-bcma in 2050, its tendency to export mainly from alternative routes (via LNG), Iran's gas export to EU markets through this scenario was not taken into consideration. In addition, there may be some cost-effective problems in some scenarios of Iranian gas to be transported to EU via a pipeline.
- Iraq's 88-bcma additional export volume includes the northern and southern gas fields, flared volumes and gas produced during oil production.
- Eastmed includes the Israel and the possible fields in the southern side of Cyprus Island.
- The biggest portion is coming from the Turkic Countries.
- This huge supply potential can be achieved only if the security concerns and the conflicts to be solved and investment environment to be sustained.
- This huge volume can be a real long-term solution for Russian gas-free EU!
- If EU will not make a spurt to get this gas, we are sure about that China is waiting (and making investment) for all of the gas resources in due region (Turkic Countries).

Note that, during calculations, only discovered and proved reserves were taken into consideration. Field by field production profiles were estimated. Up to the possible operator's operational capabilities,

all related parameters were tried to be analyzed. For the existing gas exporting countries, their additional export potentials were calculated. For example, now Azerbaijan is exporting around 20-bcma gas. In 2050, this potential will be around 35-bcma. Which means its additional gas export potential for the region is 15-bcma.

To sum up, this option currently can be the only realistic option for EU to reach a Russian gas-free market target. New discoveries may change the estimations. However, in each case Türkiye has a great role in the balances.