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The Changing Dynamics of  
Energy in Turkey

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## Energy Scenarios and Policy

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## The Changing Dynamics of Energy in Turkey

By Simone Tagliapietra, Fondazione Eni Enrico Mattei

### Summary

This paper explores how Turkey's politics and economy are affected by changes in global energy. To define which are the most relevant developments, the paper opens with an overview of the country's economic landscape. This analysis illustrates that energy, being the key driver behind its large current account deficit, represents a major point of vulnerability for the country. On this basis, the paper illustrates Turkey's energy matrix, an analysis that outlines the rising role of gas in the country's energy sector, both under the internal (i.e. growing share of the mix) and external (i.e. the country's potential role as regional gas hub) points of view. Finally, these issues are discussed with the aim of assessing the prospects for Turkey to turn gas into a geopolitical and economic asset for the country.

**Keywords:** Turkey, Energy Security, Gas, TANAP, TAP, TurkStream

**JEL Classification:** Q40, Q42, Q48

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# **The Changing Dynamics of Energy in Turkey**

by

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## **Abstract**

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## **Introduction**

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To define which are the most relevant developments, the paper opens with an overview of the country's economic landscape. This analysis illustrates that energy, being the key driver behind its large current account deficit, represents a major point of vulnerability for the country.

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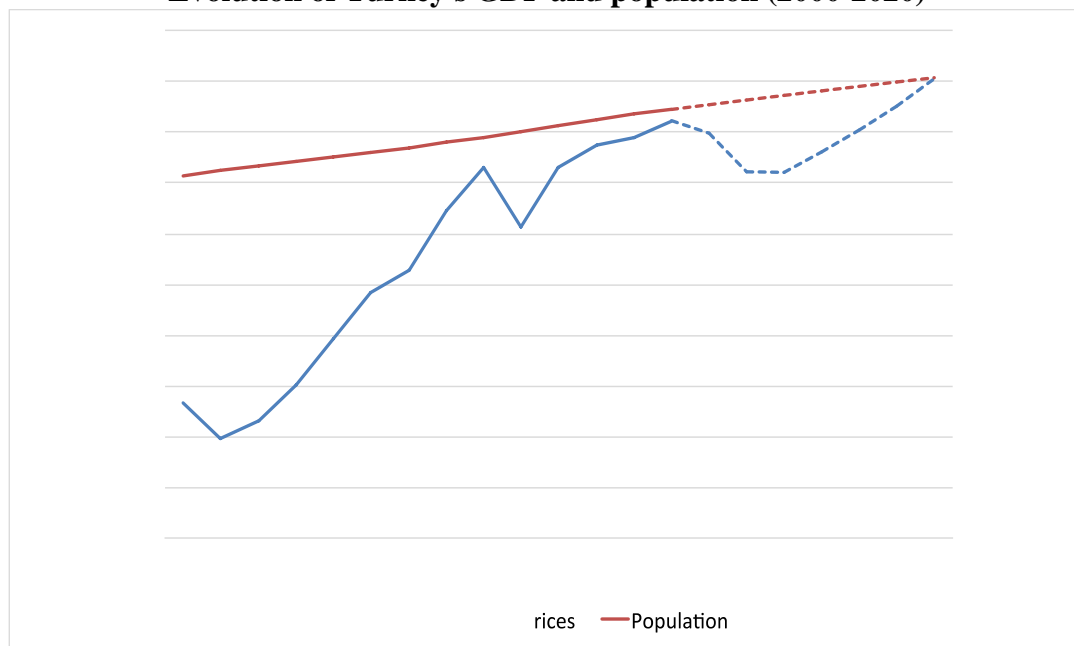
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## **Turkey's economic and geopolitical landscape: energy as key Achilles' heel?**

Economically speaking, Turkey entered the new millennium in a very bumpy way. A major financial and economic crisis hit the country in 2000/2001, forcing the government to adopt a series of structural reforms to relief the situation and put the country back on track of growth and prosperity<sup>i</sup>. These reforms, successfully designed by then-Minister of the Economy Kemal Dervis<sup>ii</sup>, paved the way for the strong economic growth staged by Turkey in the following years.

The country's GDP climbed from a level of USD 267 billion in 2000 to a level of USD 798 billion in 2014 (Fig. 1). According to IMF estimates<sup>iii</sup>, Turkey's GDP will considerably grow up to 2020, recovering from the current slowdown. The economic growth of the last decade was also accompanied by a consistent population expansion. In fact, always as shown in Fig. 1, the country's population augmented from a level of 64 million in 2000 to a level of 76 million in 2014 - a trend also likely to continue in the future.

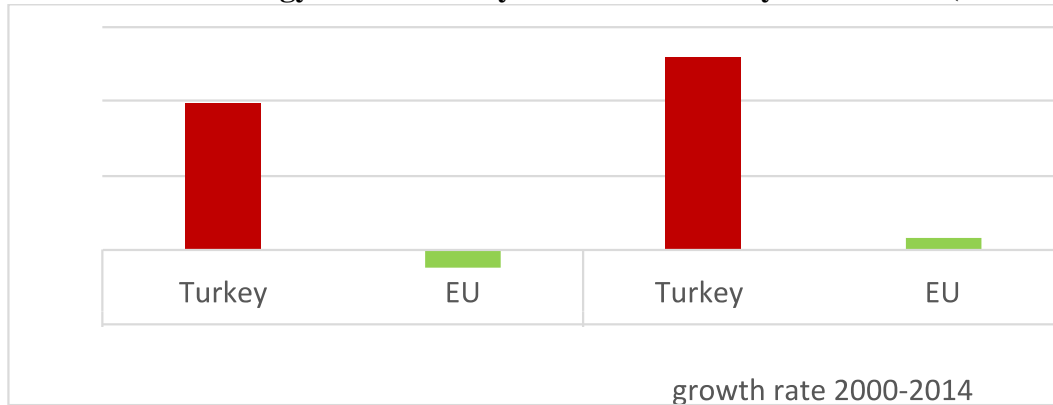
**Figure 1**  
**Evolution of Turkey's GDP and population (2000-2020)**



Source: own elaboration on IMF World Economic Outlook Database, accessed in November 2016.

As a result of this economic growth and population expansion, energy consumption increased significantly. Energy demand in the country skyrocketed from 74 Mtoe in 2000 to 125 Mtoe in 2014<sup>iv</sup>. In particular, electricity demand climbed steeply from 124 TWh in 2000 to 250 TWh in 2014. To make these numbers more eloquent, it might be noted that Turkey's energy demand expanded by an average annual growth rate of 4% between 2000 and 2014, while the EU energy demand basically stagnated. Similarly, between 2000 and 2014 electricity demand grew by an average annual rate of 5%, while in the EU it -again- essentially stagnated (Fig. 2).

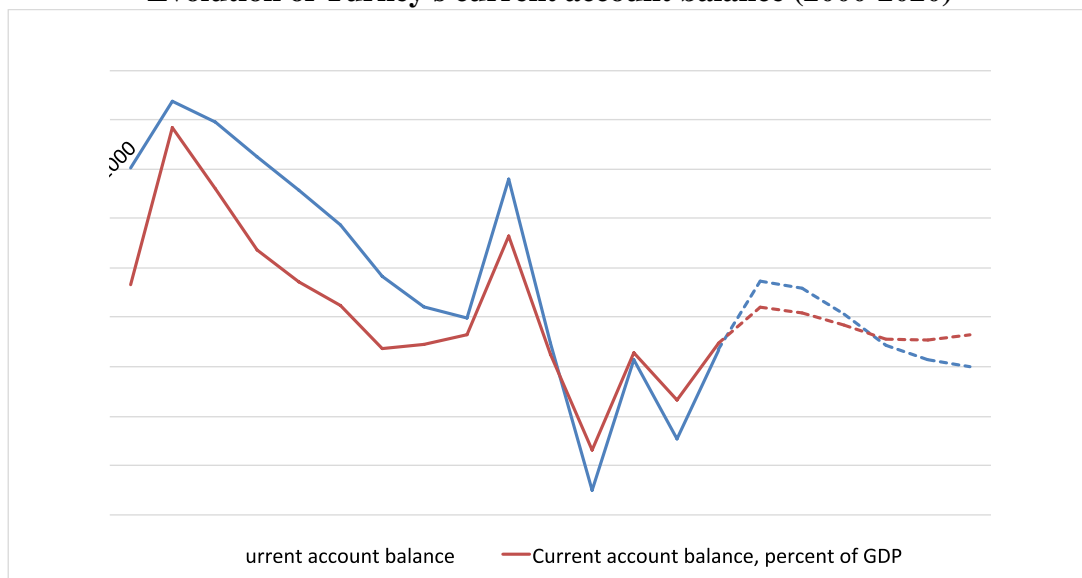
**Figure 2**  
**Growth rates of energy and electricity demand in Turkey and the EU (2000-14)**



Source: own elaboration on BP Statistical Review of World Energy (2016).

This rapid growth in energy demand had a consistent impact on the macroeconomic situation of the country. Apart from coal, a resource largely available in the country, Turkey is not a fossil fuel-rich country and has to import almost all the oil and gas it consumes. Considering that, as it will be illustrated in detail hereafter, over the 2000s much of the new energy demand has been covered by gas, the overall energy bill of the country has strongly increased. As a result, Turkey's current account deficit has significantly widened between 2000 and 2014, expanding from 3.7% of GDP in 2000 to 5.5% of GDP in 2014 - also by experiencing very high peak levels such as the 10% of GDP in 2011 (Fig. 3)<sup>v</sup>.

**Figure 3**  
**Evolution of Turkey's current account balance (2000-2020)**



Source: own elaboration on IMF World Economic Outlook Database, accessed in November 2016.

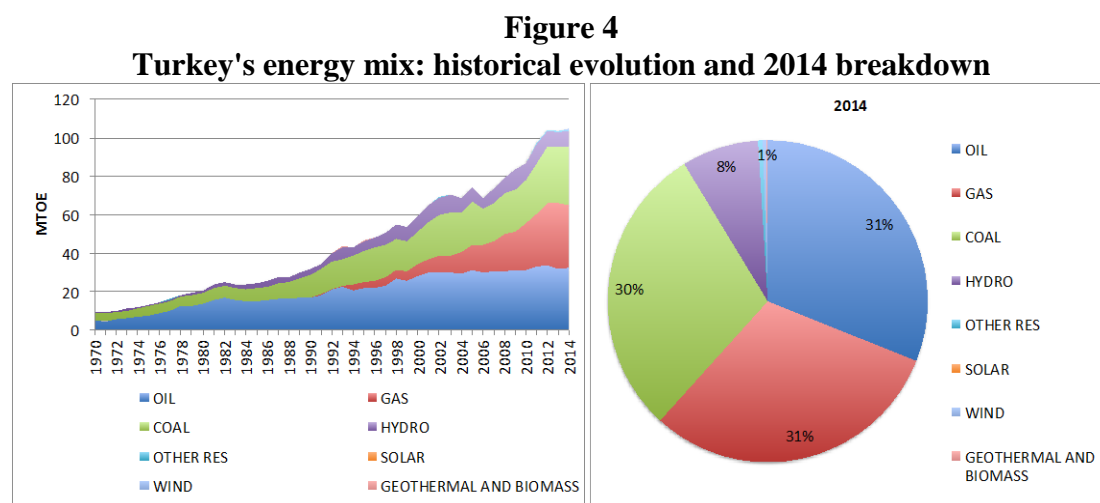
This substantial current account deficit represents a major element of vulnerability for Turkey. In particular, it exposes the country to international financial market storms, in a time of progressive tightening of the US monetary policy<sup>vi</sup>. Not by coincidence, since the US Federal Reserve has started to taper its quantitative easing programme, the Turkish lira has been among the most devaluated currencies in emerging markets<sup>vii</sup>.

Via the current account deficit, energy thus constitutes a major burden for the Turkish economy. This situation has improved during the last two years, after the historical fall in oil prices commenced in June 2014. In fact, between 2013 and 2015 the country's current account deficit was basically reduced by half. However, this positive trend might quickly reverse in the moment that oil prices will eventually start to recover.

The fall in oil prices has therefore a profound effect on Turkey. It provides a precious window of opportunity for the country to scale-up its economic competitiveness, particularly in a time of economic slowdown. However, this favourable situation will not last forever, and can thus not be considered as structural. The analysis of Turkey's energy matrix provides further insights.

### Turkey's energy matrix: the rising role of gas

When looking at the historical evolution of Turkey's energy mix, the first element to catch the attention is certainly the steep rise staged by gas during the 2000s (Fig. 4).

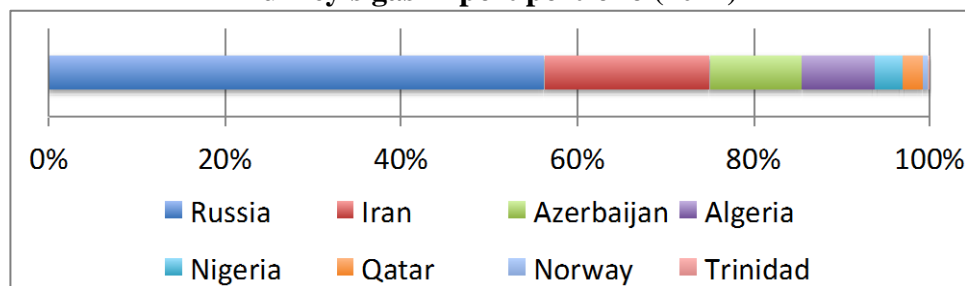


Source: own elaboration on BP Statistical Review of World Energy (2016).

With demand growing rapidly, from 6 Bcm in 2000 to 32 Bcm in 2014, gas has indeed established itself as the fuel of choice in industrial, residential and power generation sectors. This for two main factors: i) Environment: nothing related to climate change mitigation, but more simply to rising concerns about air pollution in big cities due to coal fired power plants; ii) Economic efficiency: gas was soon considered an attractive solution for power generation due to short construction period of plants and high thermal efficiencies.

Having no resources at home, Turkey has to import gas from producing countries in the region, in particular Russia and Iran (Fig. 5).

**Figure 5**  
**Turkey's gas import portfolio (2014)**



Source: own elaboration on BP Statistical Review of World Energy (2016).

Considering this dependency on few external gas suppliers, Turkey has placed security of gas supply at the top of its energy policy priorities. In fact, due to its complex infrastructure characteristics, gas is of course perceived by Turkey as a much more geopolitical fuel than oil (that has a very flexible global market) and coal (that is largely available domestically).

However, Turkey also sees gas as a potential opportunity, particularly on the basis of its strategic geographical location at the crossroads of Caspian, Middle Eastern and Eastern Mediterranean gas-rich countries and Europe. In particular, this is not only seen as a way for Turkey to diversify its own gas supply portfolio, but also to become a regional gas hub. For the stake of clarity, it should be here outlined that in the Turkish energy debate there is no specific meaning for the term 'hub'. In other words, some analysts use 'hub', while others use 'transit platform' or 'energy corridor'. The basic concept standing behind all those different expressions is the one of having a series of international pipelines crossing the country, in order to get transit revenues but also more geopolitical relevance.



This opportunity concerning gas particularly emerged after the launch of the Southern Gas Corridor (SGC) initiative by the EU in 2008. After the 2006 Russia-Ukraine-Europe gas crisis, the EU made the SGC a key component of the EU energy security strategy for two key reasons: i) Reducing the perceived over-dependence on Russian gas supplies by allowing new supplies from the Caspian and Middle Eastern regions to reach Europe; ii) Creating more competition on Southern and Eastern European gas markets<sup>viii</sup>.

### **The evolution of the SGC from Nabucco to TANAP: what's in for Turkey?**

Turkey strongly supported the SGC initiative, also by giving all its political support to Nabucco, the proposed 3,800 km pipeline with a capacity of 31 bcm/y, intended to carry gas from Azerbaijan, Turkmenistan, Iraq and Iran to south-east and central Europe via Turkey<sup>ix</sup>.

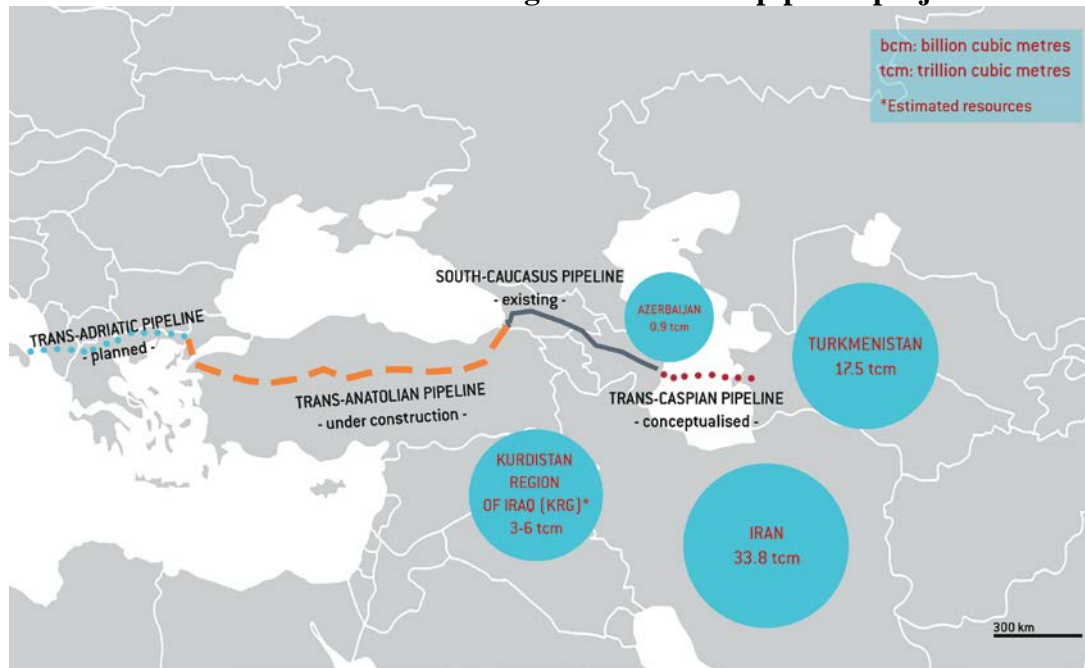
Strong of the political backing given by the EU, Turkey and the US<sup>x</sup>, the Nabucco project gradually advanced from the signing in 2005 of the joint venture agreement between the five companies initially involved, to the signing in 2011 of the project support agreements between the Nabucco consortium and each of the five transit countries (Austria, Hungary, Romania, Bulgaria and Turkey)<sup>xi</sup>.

However, notwithstanding the strong commitment of the five transit countries and the unprecedented support of the EU and the US, the Nabucco project ultimately failed for a variety of commercial and financial reasons, such as weak outlook for EU gas demand, uncertain deliverability of supplies, potential competition from the Russian South Stream pipeline that was supposed to bring gas from Russia through the Black Sea to Bulgaria, and lack of guarantees or long-term ship-or-pay contracts that would facilitate access to bank loans<sup>xii</sup>.

The difficulties encountered by the Nabucco project paved the way for the emergence of a new version of the SGC, promoted by the only available regional supplier: Azerbaijan<sup>xiii</sup>. In 2011 Azerbaijan signed a memorandum of understanding with Turkey on the Trans-Anatolian Pipeline (TANAP), a project very different to Nabucco in terms of initial capacity (16 bcm/y) and especially in terms of legal structure. Nabucco, being a project completely under EU law, was subject to rules such as third-party access and unbundling throughout its entire length<sup>xiv</sup>. By contrast, considering that Turkey has not yet adopted the EU energy *acquis* in its legislation, Azerbaijan – with a major stake in the TANAP project – will in practice control the

pipeline and all gas transit through it. Considering both Turkey's reluctance to enter the Energy Community<sup>xv</sup> and the difficulties related to the opening of the energy paper of Turkey's EU accession process, this situation is also unlikely to change in the foreseeable future.

**Figure 6**  
**The Southern Gas Corridor: gas reserves and pipeline projects**



Source: own elaboration (2016).

The construction of TANAP (Fig. 6) started in 2015 and the pipeline is expected to become operational in 2018. This development can be certainly pointed out as a very relevant development for Turkey. In fact, TANAP will not only provide the country with additional volumes of gas useful to reduce the share of other major suppliers, but it will also allow first gas transit through the country to Europe.

However, it is difficult to read this development as a major geopolitical gain for Turkey. In fact, the 10 bcm/y transiting to Europe will represent a limited share of Europe's import requirements. In addition to this, the previously illustrated legal structure of TANAP will not provide to Turkey any particular geopolitical leverage.

Also, considering the unlikely scale-up of the SGC in the foreseeable future, due to a mix of economic and geopolitical constraints in regional producing countries<sup>xvi</sup>, the margin of manoeuvre of Turkey in the regional gas markets thus seems to be rather limited.

As a result, in the foreseeable future, the country will unlikely be able to make a consistent step forward towards the realization of its regional gas hub ambitions.

### **The evolution of the SGC: what impact on the EU-Turkey relations?**

Over the last two decades, energy has emerged as an increasingly important component of the overall cooperation scheme being built between the EU and Turkey. In particular, over the years the EU-Turkey energy relations have progressively focused on gas, mainly because of the high expectations about Turkey's role as key regional gas hub between European markets and Caspian and Middle Eastern new supplies.

The developments of the SGC just described then also call into question the EU-Turkey energy relations. In particular, a major question is whether the SGC might have evolved from being a pivotal element of the EU-Turkey energy relations to becoming their Achilles' heel. In fact, the odyssey of Nabucco and the emergence of TANAP have ultimately outlined a progressive divergence in the way the EU and Turkey perceived not only the SGC but also their energy relations. As previously mentioned, after years of cooperation with the EU on Nabucco, in 2011 Turkey rapidly decided to change its approach and turn to Azerbaijan to speed-up the development of the SGC. This choice clearly reflected the fact that the primary aim of Turkey is to realize its own energy security, but it also reflected a genuine discontent of Turkey towards the EU due to the continuous procrastination of the accession negotiations in general and to the vagueness of the EU about the opening of the accession process's energy chapter in particular.

This divergence represents a serious risk not only for the EU-Turkey energy relations, but also for the strategic interests of the two players individually. A coherent and coordinated approach on the SGC would indeed allow the two players to pursue their respective interests in a much more effective way. First of all, by dealing together with natural gas producing countries the EU and Turkey could well enhance their bargaining power. Secondly, a coherent approach on the infrastructural development could allow the overcoming of a number of political and commercial barriers, respectively through the enhancement of their political and diplomatic leverage and the achievement of economies of scale<sup>xvii</sup>.

### The troubled evolution of TurkStream

On 1 December 2014, Russian president Vladimir Putin surprised the energy world by announcing, during a state visit to Turkey, the demise of South Stream and the launch of a new project to supply Turkish and south-eastern European markets from 2019 while completely bypassing Ukraine: TurkStream<sup>xviii</sup>. This proposal represented another relevant development of regional energy for Turkey.

After this declaration, Gazprom specified that Russia's plan was to construct a new pipeline under the Black Sea to Turkey with the same capacity of South Stream (63 Bcm/y), to supply 14 Bcm/y to Turkey and the rest to be used for a gas hub on the border with Greece. He also declared that primary aim of the pipeline was to completely eliminate Ukraine from Russia's gas transit to Europe. The pipeline was set to start at the Russkaya pumping station on the Russian coast of the Black Sea, which was supposed to be also the starting point of South Stream. Miller also said that an agreement on the pipeline was previously reached with Turkey and the sides already signed a memorandum of understanding<sup>xix</sup>. TurkStream, as it would have been successively named, was then already taking shape. After two months of discussions between Russia and Turkey, the latest route of TurkStream was presented in February 2015 (Fig. 7).

**Figure 7**  
**TurkStream**



Source: own elaboration (2016).

The pipeline is supposed to run for 660 km from the Russkaya pumping station on the Russian coast of the Black Sea along the old route of South Stream up to the Bulgarian exclusive economic zone, after which a new 250 km route would have dip southwest and run through the Turkish zone to the Turkish coast, near the village of Kiyikoy. According to Gazprom, the gas delivery point for Turkish consumers would be set in Luleburgaz, while a connection between Turkey and Greece would be planned in Ipsala. After the 910 km in the offshore Black Sea, the pipeline would thus run for additional 180 km on the onshore Turkish territory<sup>xx</sup>. Gazprom declared, always in February 2015, its intention to advance the construction of the pipeline's initial strings (with a capacity of 14 Bcm/y, which correspond to the volume of gas that Turkey currently imports from Russia through Ukraine) by December 2016<sup>xxi</sup>.

According to this plan, it would be up to European transmission system operators to construct the infrastructure needed to connect the TurkStream delivery point at the Turkish-Greek border with destination markets in Central-western Europe.

Considering the geopolitical impasse between the EU and Russia, this perspective envisaged in February 2015 did, of course, not advanced.

Furthermore, the evolution of the Russia-Turkey relations did not help the development of TurkStream neither. In fact, the project was slowed-down due to Turkey's internal political instability in view of the general elections of June 2015. When these elections resulted in a hung parliament and coalition negotiations broke down, Turkish President Erdoğan called for snap elections in November 2015, thus further prolonging the political vacuum in the country.

In addition to this, an unprecedented political standoff between Russia and Turkey arisen after the dawning of the Russian aircraft by the Turkish Air Force near the Syria-Turkey border, on 24 November 2015. This event was also seen, at time, as the final point to the TurkStream project.

However, in a surprising twist, the geopolitical landscape of the region changed again when, on June 30, 2016, Russian President Vladimir Putin said that Turkey had apologized for the shooting down of the Russian fighter jet with a letter sent by Turkish President Erdoğan on June 23<sup>xxii</sup>.

Since then, strained relations between the two countries entered a reconciliation process, that also re-opened the discussions about TurkStream. This Russia-Turkey rapprochement was not driven by the energy issue, but rather by the pressure put on

Turkey by the terrorist attacks of Kurdish guerrillas and of Daesh, by the massive influx of Syrian refugees into the country and by the mounting economic problems compounded by Russian sanctions.

This rapprochement certainly created, as a side-effect, also the conditions for a reinvigorated partnership in energy. Along this line, on August 31 Russia and Turkey reached an agreement on the earliest possible completion of the procedure for issuing authorizations required to launch the TurkStream project.

On September 30, Russian Energy Minister Alexander Novak declared his optimism about the quick advancement of all required construction and survey permits for Turkish territorial waters, on the basis of which the construction of the first line of TurkStream might eventually start.

On October 10, the agreement on the TurkStream project between the government of Russia and Turkey was finally signed in Istanbul. This document provides for the construction of two strings of the gas pipeline, as well as an onshore string for gas transit to Turkey's border with neighboring countries.

The troubled evolution of TurkStream illustrates how unpredictable the development of big energy infrastructure projects could be. It also shows how energy projects are function of the overall geopolitical dynamics, and not vice-versa.

It is thus possible to state that in order to understand the future prospects of TurkStream, the overall Russia-Turkey relations will need to be closely followed – as they do represent the key driver behind any of these evolutions.

## **Conclusions**

This paper illustrated that three are the key recent developments in global and regional energy that have been the most relevant for Turkey: the fall in oil prices started in 2014, the construction of the TANAP gas pipeline started in 2015 and the troubled evolution of the TurkStream gas project.

Low oil prices clearly represent a godsend for both Turkish consumers and public finances. This exogenous boost to the economy also has a political spillover, as it provides to the government a great facilitation on its attempt to revive a sluggish economy.

The construction of TANAP represents an important investment in the country, and provides to the government an additional tool not only in the negotiations of energy

contracts with other suppliers, but also in the internal political narrative of expanding geopolitical influence.

However, the effects of these two developments might be short-lived. Sooner or later oil prices will rise again, and in that moment the challenges of the past will represent in Turkey, with both economic and political consequences. In parallel, the TANAP pipeline will not result in a major geopolitical gain for the country, and the difficulty of scaling it up in the longer term could eventually derail Turkey's regional gas hub ambitions.

The evolution of the TurkStream pipeline project still represents a major element of uncertainty in the region. In fact, after being dismissed in the aftermath of the unprecedented political standoff emerged between Turkey and Russia in 2015, the project is currently being discussed again, as the two countries continue their rapprochement. Considering the volatility of regional geopolitics, notably with the Syrian issue still to be settled, the evolution of this project remains highly uncertain and it will certainly not be -even in a best case scenario- as quick as initially foreseen. To conclude, various energy opportunities for Turkey have proved to be short-lived, or not fully up to expectations, and this situation is unlikely to change in the foreseeable future, particularly considering the complex regional geopolitics. What will happen in a longer-term scenario is simply impossible to be projected, as it is impossible to anticipate what will be the geopolitical evolutions of a region that proved to be extremely volatile and unpredictable.

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<sup>i</sup> Macovei (2009).

<sup>ii</sup> The Economist (2002).

<sup>iii</sup> IMF World Economic Outlook Database, accessed in April 2016.

<sup>iv</sup> All energy statistics in this paper refer to: BP (2015).

<sup>v</sup> All macroeconomic statistics in this paper refer to: IMF (2016).

<sup>vi</sup> Council on Foreign Relations (2015).

<sup>vii</sup> Spiro (2014).

<sup>viii</sup> Tagliapietra (2014b).

<sup>ix</sup> Gas flows from these producing countries would have reached the Turkish border as follow: via the South Caucasus Pipeline in the case of Azerbaijan; via Iran or the planned Trans-Caspian Pipeline in the case of Turkmenistan; via the planned extension of the Arab Gas Pipeline in the case of Iraq.

<sup>x</sup>For the EU, Nabucco represented a major opportunity to diversify its natural gas supplies away from Russia. For Turkey, it represented a unique opportunity to realize its long-term strategic objective of becoming a key energy hub. For the US, it represented an important geopolitical asset to reduce the EU natural gas dependency on Russia, exactly as the Baku-Tbilisi-Ceyhan pipeline served in the 1990s to reduce the EU oil dependency on Russia.

<sup>xi</sup> Hafner and Tagliapietra (2013).

<sup>xii</sup> Hafner (2012).

<sup>xiii</sup> Not only because of the investments already made on its Shah Deniz natural gas field, but also because of the need to reach a final investment decision for Shah Deniz Phase II (a decision that finally arrived on December 17, 2013).

<sup>xiv</sup>The intergovernmental agreement signed by the five transit countries in 2009 provided a legal framework for 50 years, confirming that 50 percent of the pipeline's capacity was to be reserved for the shareholders of the project and the remaining 50 percent was to be offered to third-party shippers on the basis of a regulatory transit regime under EU law.

<sup>xv</sup> Turkey says that there are technical problems with some of the Energy Community Treaty's provisions. But more fundamentally, it does not like the idea of unilaterally signing up to a big chunk of the *acquis* without being able to ask anything in return. Turkey claims that such an arrangement may suit countries that are not eligible for membership. But Turkey is already a EU candidate and it does not want to be fobbed off with what it sees as a 'privileged partnership' in the energy field.

<sup>xvi</sup> Tagliapietra (2014b).

<sup>xvii</sup> See the proposal to reinvigorate the EU-Turkey gas relationship: S. Tagliapietra, G. Zachmann (2015).

<sup>xviii</sup> See: S. Tagliapietra, M. Hafner (2015).

<sup>xix</sup> Energy Intelligence (2014), *Russia Cancels South Stream Project, Plans to Redirect Volumes to Turkey*, December 2.

<sup>xx</sup> Energy Intelligence (2015), *Gazprom Agrees Turk Stream Land Route*, February 12.

<sup>xxi</sup> The remaining 49 Bcm/y would then be available on the border with Greece for purchase by European customers after other three legs are built. The timing of this second phase was far more uncertain than the first one, also considering the need of reviewing or signing new long-term contracts between Gazprom and its European customers (at least the new delivery points need to be agreed by the Parties) and building pipeline connections across the Balkans to evacuate the gas from the Turkish-Greek border to the core European gas markets.

<sup>xxii</sup> Mankoff, J. (2016).

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