

## **WORKING PAPER**

# **Moving Pieces: European energy security amid rapidly changing geopolitical developments**

By Neil Brown and Brenda Shaffer  
January 2016



*This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of Brenda Shaffer and Neil Brown and can in no way be taken to reflect the views of the European Union.*

## Summary

- A number of geopolitical developments that have taken place in recent months create both challenges and opportunities for Europe's energy security, especially for security of supply of natural gas.
- The fast moving events and their intensity give reason to form policies and take steps to insure Europe's continued security of energy supply.
- These main geopolitical developments are: Removal of sanctions on Iran; Conflict between Saudi Arabia and Iran; Extended low oil price; Russia—Turkey conflict; Turkish-Israel reconciliation Continued war in Syria; Rise in terror attacks on energy production and transport infrastructure; Economic crisis and potential renewal of conflict in the South Caucasus; Lack of resolution of the Russia-Ukraine conflict; forthcoming decision on renewal of sanctions on Russia.
- Sanctions removal and the potential for cooperation with Europe and the US, will create new developments in Iran's foreign policy moves, regional Gulf stability and in the Iranian domestic arena.
- The conflict between Iran and Saudi Arabia will most likely intensify and can have larger security implications as well as affect energy infrastructure in the region and potentially affect the global oil price.
- The conflict between Russia and Turkey and its potential escalation threaten to create significant new regional security problems, complicate current security challenges, such as ISIS and stabilization of Syria, and undermine Turkey's role as an energy transit state to Europe. Despite the current high tensions, Ankara and Moscow most likely will find a way back to cooperation.
- The impending return of regular diplomatic relations between Turkey and Israel will be a positive factor in improving regional security and can help facilitate export of Eastern Mediterranean natural gas resources to Europe.
- In the South Caucasus, an emerging economic crisis and heightened conditions for renewal of conflict have raised the prospects for instability in the region and can add a factor of instability to the planned gas supplies from the Caspian to Europe. Georgia's recent flirt with Gazprom negotiating gas imports from Russia is particularly worrisome.
- Europe will take steps in coming months that will define its relationship with Russia as a gas supplier.
- The Southern Gas Corridor is slated to bring gas supplies from the Caspian to Europe by 2020. The project is currently ahead of schedule in almost all of its components and even below budget.
- Sanctions removal will facilitate Iran increasing its gas production and export prospects; nonetheless significant export to Europe is still many years away.
- Instability in North Africa, rising power of Islamic terrorist groups throughout the area, breakdown of functioning of most of the state institutions in Libya as well rising domestic consumption of gas in Algeria create a large question mark over the future stability of gas supplies to Europe from North Africa.
- Europe needs to formulate coherent policy on natural gas consumption. The E.U and member governments have sent conflicting policy signals related to natural gas use.
- Europe should also make a fundamental decision on whether it wants Russia to be a significant supplier of gas to its markets.
- Europe may consider challenging its prevailing policy paradigm for addressing energy security of supply. There are a number of policy tools available for improving gas security of supply, that do not entail adding additional gas suppliers. In fact, some of them are state driven policies that even inhibit market forces activity in the gas sector.

2016 has opened with several major geopolitical developments and shifts of alliances in Europe and its periphery. These developments create opportunities and challenges for Europe's energy security, especially for natural gas supplies. A number of the events are taking place in states that are natural gas supply and transit states to Europe. The new developments have not led at this point to any concrete energy supply disruptions. However, the fast moving changes and their intensity give reason to form policies and take steps to insure Europe's continued security of energy supply. In addition, some of the changes present opportunities that can be harnessed to enhance Europe's energy supplies.

States tend to address energy security concerns during crisis periods, such as when facing supply disruptions or price spikes. However, energy supply glitches are inevitable: technical malfunctions, extreme weather, natural disasters, and more are bound to occur in the course of time. The current geopolitical instability in and around Europe heightens the probability of energy supply disruption on top of the built-in challenges.

This working paper will examine the new challenges that have emerged in Europe's periphery that can impact its energy security, present an update on the status of new potential and actual supply sources for Europe to diversity its gas supplies (Eastern Mediterranean, Southern Gas Corridor, Kurdish Regional Government (KRG), North

Africa), analyze policy tools that can help Europe mitigate their impact, and suggest ways that the United States can support these policies.

## The Moving Pieces

In multiple locations in Europe's periphery, significant geopolitical shifts and developments have taken place that can affect the security of supply of energy, with special emphasis on natural gas to Europe, as well as present opportunities to enhance Europe's energy security of supply. The most significant changes are:

- Removal of sanctions on Iran
- Conflict between Saudi Arabia and Iran
- Extended low oil price
- Russia—Turkey conflict
- Turkish-Israel reconciliation
- Continued war in Syria and subsequent re-erection of borders in Europe that can influence the development of the common internal energy market
- Rise in terror attacks on energy production and transport infrastructure
- Economic crisis and potential renewal of conflict in the South Caucasus
- Lack of resolution of the Russia-Ukraine conflict and pending decision on renewal of sanctions on Russia

## Removal of Iran sanctions

International sanctions on Iran related to its nuclear program were removed on January 16. This creates both security and energy opportunities and challenges. Sanctions removal and the potential for cooperation with Europe and the US, will create new dynamics for Iranian foreign policy, regional Gulf stability and in the Iranian domestic arena.

In the sphere of alliances, sanctions removal and the nascent cooperation with Europe and the United States related to the nuclear deal creates new options for Iran, including changing the nature of its alliance with Russia. Russia is clearly aware of this challenge and in order to preserve its senior alliance status, Moscow most likely is undertaking policies to illustrate to Iran the benefits of staying allied. This most likely is taking the form of commitments or actual delivery of sophisticated arms shipments, including of systems that in the past Moscow has declined to provide to Iran. Provision of arms is an alliance benefit, which Moscow, unlike Europe or the United States, can offer Iran. New Russian arms deliveries to Iran and anticipated responses from Europe and the United States will add an additional factor of tension in the Gulf region and greater Middle East.

In parallel, as Iran's isolation ends, the adjustment process with neighboring powers will add elements of instability (see below Saudi-Iran conflict) in the Middle East and South

Caucasus. Iran is already fostering instability through support and activation of domestic Islamist movements, ethnic minorities and other groups to punish neighboring states that had ardently supported the US and European led sanctions regime on Iran. This activity, for instance, could lead to instability in Iran's neighbor, Azerbaijan, an important emerging supplier of natural gas to Europe.

The removal of sanctions will impact the domestic arena in Iran as well. As new trade opportunities arise and the government receives a massive cash influx with the release of Iran's foreign assets (estimated at close to 50 billion dollars), competition over control of these new contracts and assets is growing in Iran. In addition, the direction of the emerging economic situation in Iran will also have significant influence on domestic stability: There are high public expectations in Iran that sanctions removal will bring immediate, concrete economic benefit to the wider public. If there is no meaningful manifestation of improvement within a relatively short time, this disappointment will spur domestic protests that could snow ball into domestic instability. In contrast, manifestation of tangible benefits to the wider public will strengthen the regime.

The current low oil price trend will work as headwinds inhibiting the recovery of the Iranian economy. Iran is reentering the global oil market at the most inopportune time and in fact the more oil Tehran exports, the more the price will go down. In addition, Iran's economic growth potential is also limited by the fact that Iran's debts are larger than the foreign reserves that it now has access to. In addition, there is a public

perception in Iran (encouraged by the Iranian leadership) that all the foreign sanctions will be removed from Iran in light of the nuclear deal. However, the nuclear deal entails only partial removal of US sanctions. The bulk of US sanctions, relate to the spheres of Iran's support for terrorism, democracy and human rights and other arms and these will not be removed at this stage. Thus, there will still be significant constraints on Iranian economic activity. The non-nuclear sanctions still prohibit US companies from investing in Iran. At this stage, non-American companies will also be wary of returning to Iran with major investments when there is still uncertainty on the direction of future US sanctions toward Iran. In addition, further hampering Iran's return to global markets is that fact many of the limitations on Iran's banking sector will stay in place, regardless of US and other policies, due to Iran's status as a high risk state for money-laundering.<sup>1</sup>

The February 26<sup>th</sup> parliamentary elections in Iran could serve as a trigger point for domestic instability. [The regime's vetting process for the upcoming parliamentary elections of reformist candidates has already led to controversy in Iran weeks before the election.](#) Among the domestic issues to watch is the response of Iran's ethnic minorities to the recent events in Iran. Iran is a multi-ethnic country in which fifty percent of its population is comprised of non-Persian minorities. Also on the horizon is a potential secession process in Iran due to the advanced illness of spiritual leader Ali Khamenei.

---

<sup>1</sup> <http://www.fatf-gafi.org/countries/#high-risk>

## **Saudi-Iran conflict**

The end of Iran's isolation also has set off regional power reshuffling in the Persian/Arab Gulf and Middle East. This factor has heightened existing tensions and conflicting interests between Iran and Saudi Arabia. The two sides are already fighting a proxy war in neighboring Yemen. The conflict between Iran and Saudi Arabia will most likely intensify and can have larger security implications as well as affect energy infrastructure in the region and potentially affect the global oil price.

Iran may advance its interests by moving the conflict to Saudi Arabia's domestic arena and sponsor attacks through surrogates there (such as Saudi Shiites or Houthis from Yemen and thus non-attributable to Tehran). Attacks in Saudi Arabia, especially on major oil production and processing infrastructure, could serve two goals at once for Iran: weaken Saudi Arabia and at the same time put upward pressure on the global oil price, at the time that Iranian oil is returning to the market.

## **Extended low oil price setting the stage for the next spike**

The global oil price works in cycles: extended periods of a relatively low oil price, lead to a drop in investments in new oil production and to increase demand, setting the stage

for the next price spike. The current period is no different than the past: According to the International Energy Agency, 2015 witnessed *the largest percentage drop ever* of investment in new oil production. Thus, without new investment in oil production, we can anticipate a quick return to the high point in the oil price cycle.

The current low oil price trend is a result of extra production on the market of a million and half of to two million barrels of day of oil. That gap can easily be wiped out: terrorist groups have focused in the past year on destroying energy infrastructure or capturing it for their use. A number of major producers are involved in wars and insurgencies and these could affect their oil production and export. Even one cyber-attack on a major oil field or processing plant could easily wipe out the global oil market's spare capacity. In the current oil price environment, it is difficult for policy makers to imagine a need to prepare for high oil prices, but the cyclical nature of oil prices will bring them back up.

### **Russia—Turkish conflict**

One of the most significant moving pieces on Europe's periphery is the emergence of conflict between Russia and Turkey, triggered by Turkey's November 24 downing of a Russian fighter plane deployed in Syria which Ankara claims violated Turkish air space. For most of the post-Soviet period, Russia and Turkey have enjoyed excellent relations that included extensive trade, mutual investments, cooperation on security and significant energy trade. Continued conflict and potential escalation threaten to create

significant new regional security problems, complicate current security challenges, such as ISIS and stabilization of Syria, and undermine Turkey's role as an energy transit state to Europe.

Turkey is Russia's second largest gas export market and Russia is Turkey's largest supplier of natural gas. Turkey was set to become a transit state of Russia gas supplies to Europe, circumventing Ukraine through establishment of the Turkish Stream natural gas export project. Due to the crisis, the Turkish Stream project is now on hold. While Russian gas supplies have not been disrupted to Turkey, there is insecurity about the future reliability of these supplies. In order to minimize its vulnerability, Turkey is looking to increase its gas imports from alternative suppliers, such as Azerbaijan as well as increase liquefied natural gas (LNG) supplies, and is courting potential new gas suppliers such as the Kurdistan Regional Government (KRG) in Iraq, and Israel. Turkey is also keen to expand its gas storage infrastructure in light of the crisis with Russia.

The crisis in relations between Russia and Turkey has wide security implications. First of all, the conflict significantly complicates the prospects for cooperation in the region aimed at stabilizing Syria. Next, Turkey and Russia's renewed contact and cooperation with militant and secessionist forces in each other's territory, increases the likelihood of terrorism in both countries and can cause spillover into surrounding areas, including in Europe as well as create new sources of refugee flows into Europe. During the early 1990s, both Moscow and Ankara took steps against terrorist movements that operated

against the other in order to facilitate better relations. In the early post-Soviet period, Moscow shut down the office and operations of the militant Kurdish PKK based in Russia in order to improve cooperation with Turkey. Ankara, as part of this security cooperation, stopped official support and that of Turkish civil society organizations on behalf of Chechens and other Muslim minorities in Russia's North Caucasus.

However, in light of the conflict between Turkey and Russia, it seems that both have reactivated their ties with militant groups that operate against each other. The conflict has already led to increased activation of Kurdish militants against Turkey and more broadly. It seems that Russia has renewed its ties and support with the PKK and other militant Kurdish groups. In addition, Ankara most likely has renewed its ties with Muslim groups in Russia's north Caucasus. In Turkey, there are significant ethnic diaspora communities, such as Circassians, that share co-ethnic ties with residents of the North Caucasus and long-standing links with their co-ethnics there. Turkey can support Muslim groups in the North Caucasus in order to gain leverage against Moscow.

Despite the current intensity of tensions, Ankara and Moscow most likely will find a way back to cooperation. Russia and Turkey share an overwhelming number of common economic, security and political interests. Turkey has been shifting its alliances in recent years on the basis of changing threats and tactics and relations with Russia can shift back as well.

## Turkish-Israel reconciliation

Turkey and Israel seem poised to return their ambassadors and renew regular diplomatic relations and cooperation.<sup>2</sup> The rise in a number of commonly shared security threats has facilitated their cooperation. It should be pointed out that despite political conflict beginning in 2010 trade between Turkey and Israel has increased each year since and Tel Aviv is one of the top foreign destinations of Turkish Airlines. Moreover, security cooperation –albeit not at pre-crises levels—continued during the conflict.

The return of regular relations between Turkey and Israel will be a positive factor in improving regional security and can help facilitate export of Eastern Mediterranean natural gas resources to Europe.

## Continued war in Syria and subsequent re-erection of borders in Europe

The civil war continues to rage in Syria and will continue to create security challenges. With the presence of four major air forces—US, Russia, Turkey and Israel in a small area, together with Syrian planes and terrorist forces armed with ground-to-air missiles, an additional mishap like the downing of a Russian military plane by Turkey is highly likely

---

<sup>2</sup> <http://turkishpolicy.com/blog/8/turkey-and-israel-on-the-way-back-to-normal>

and we may see additional instances, and resulting new regional and global security challenges.

The large refugee flow in the last year from Syria, other places in the Middle East, and Africa has led to the re-erection of border regimes and physical borders between some of Europe's states. This renewal of borders may slow down the development of the pace of Europe's planned internal energy market. States may feel less trust to have gas supplies or storage contingent on their neighbors and may take more steps to boost nationally based energy supplies.

### **Energy infrastructure targeted by terrorists**

In the last year and a half, there has been an upsurge in violent attacks on energy infrastructure in Turkey and the Middle East. Oil and natural gas pipelines in Eastern Turkey have been especially targeted. The targeting of energy infrastructure by terrorists is likely to spread to additional geographic locations. It can be anticipated that targeting of energy production and transport infrastructure will increase in Russia as well in the coming months, as militants responds to Russia's deployment in Syria.

## Economic crisis in Azerbaijan and Georgia and the potential re-ignition of the Nagorno—Karabakh conflict

In the South Caucasus, an emerging economic crisis and heightened conditions for renewal of conflict have raised the prospects for instability in the region. If instability rises, it will demand policy attention from Europe's already full foreign policy agenda and add a threat to the planned new gas supplies to Europe. Azerbaijan is posed to become a major supplier of natural gas to Europe in 2020 through inauguration of the Southern Gas Corridor. These new gas supplies will reach Georgia and Turkey in 2018 and transit this region before entering markets in Europe.

On the economic front, Azerbaijan is experiencing a deep economic crisis in light of the steep decline in the value of the Azerbaijani currency and slashed revenue due to the drop in the oil price. Neighboring Georgia is also experiencing an economic crisis as a result of the Azerbaijani economic crisis as Azerbaijan is Georgia's top foreign investor. All three of the states of the South Caucasus—Azerbaijan, Georgia and Armenia—are experiencing economic fallout from Russia's economic crisis and the Russian-Turkish crisis is also affecting trade and labor flows to and from the South Caucasus.

The Nagorno—Karabakh conflict between Azerbaijan and Armenia has also intensified since mid-2014. Exchange of fire in the border regions is commonplace and military casualties to both sides are at their highest point since a ceasefire was agreed between

the sides in 1994. In fact, in light of the escalation, Armenia on December 22 declared the ceasefire between the sides as void.

Georgia's reliability as a cornerstone of the Caspian energy and transportation corridors and a link to the West is also challenged. Formally, Georgia is highly committed to a trans-Atlantic security, foreign policy and economic orientation that include the aspiration to join NATO and increase the level of its integration with the European Union. It is also formally a partner in the major infrastructure projects to link the South Caucasus to Europe. However, Georgia has experienced recently a string of government turnovers raising questions as to the degree in which the elected government is in control of the state. In addition, Tbilisi's recent negotiations with Gazprom for import of gas supplies from Russia have raised suspicions that Georgia's Western foreign policy orientation may be eroding. Alternatively, elements in the Georgian government may be using the negotiation with Gazprom as a tactic in hopes of extracting additional price concessions from Azerbaijan. Georgian officials have also promoted import of Iranian gas to Georgia (via Armenia), evidently aimed to fuel the tension with Baku over gas volumes and price. All this adds an additional challenge to managing the risks to the Southern Gas Corridor and attempts to expand its to bring additional gas supplies to Europe.

### **Lack of resolution of the Russia- Ukraine conflict, delinked from gas supply disruptions**

The Ukrainian crisis and war shows no signs of resolution. However, in contrast to previous Ukraine centered crisis, Moscow has successfully delinked natural gas disruptions to Europe from the conflict. This policy serves Moscow's aims because it lowers Europe's priority in resolving the conflict.

### **European sanctions on Russia—June decision**

Development of new Russian gas supplies for the European market will require a strong policy signal from Europe. Low gas prices in Europe due to the linkage of gas prices to oil prices are discouraging investment in new Russian gas development. Gazprom Chairman Viktor Zubkov recently remarked that Gazprom needs a clear message from Europe on “security of demand” in order to develop new resources and gas transport infrastructure.

Europe will make a number of decisions in coming months that may affect Russia's role as the major gas supplier to the continent. A major milestone in Russia—EU relations, will be Europe's decision on renewal of sanctions on Russia in June. There are signs that key European states will not support renewal. The sanctions have not been effective in coercing Russia to change its policies. While they may impact the Russian economy, the

blocks to trade with Russia are also having significant impact on European economies. The European Commission has estimated that in 2015 the sanctions cut European GDP growth by 0.3 percent.<sup>3</sup> Russia's largest trade partner in Europe, Germany, is especially feeling the brunt of the sanctions. Removal of European sanctions on Russia would facilitate increased gas production and cooperation on future gas trade.

An additional milestone is European policy on the potential establishment of the Nord Stream II pipeline. This project would route additional gas volumes from Russia directly to Germany without the use of transit states, such as Ukraine. The Government of Germany and leading European energy companies support this project. It is opposed by a number of Eastern European states—led by Poland and Lithuania—that view that this project would endow Russia with even more power of coercion over Ukraine, if Moscow was no longer dependent on Ukraine as a transit state. The US government seems to oppose the Nord Stream II. EU representatives seem to oppose the project, but EU institutions are still studying the legal aspects, such as compliance with the Third Energy Package. Europe's official decision on whether to allow this project to be built or not will affect future gas trade with Russia.

---

<sup>3</sup> [http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/569020/EPRS\\_BRI\(2015\)569020\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/569020/EPRS_BRI(2015)569020_EN.pdf)

## **Update on Europe's new gas supply options and European policies**

The moving pieces in and around Europe affect its natural gas supply options. To follow is an appraisal of Europe's new and potential natural gas supply options. This analysis includes important upcoming milestones and issues of special concern and opportunity.

### **Southern Gas Corridor**

In 2020, the Southern Gas Corridor project is scheduled to begin major gas deliveries to Europe (Italy, Greece and Albania) from Azerbaijan. The Southern Gas Corridor will bring the first new volumes to gas to Europe in decades. The project is currently ahead of schedule in almost all of its components and even below budget. The contracted gas to Europe stands at this stage at 10 BCMa (in addition to 6 BCMa to Turkey). The pipeline has spare capacity of another 14 BCMa and can be expanded to deliver additional volumes.

In its first stage, the Southern Gas Corridor will bring gas in Europe to Greece, Italy and Albania by way of the TAP pipeline. The project can be used as a base to bring natural gas to additional markets in Europe. Establishment of interconnectors would enable gas

to reach Bulgaria, Rumania, Croatia, and other markets in the Balkans. Two specific interconnectors with the most likely prospects for development are the Interconnector-Greece-Bulgaria (IGB) and the Ionian-Adriatic Pipeline (IAP). The IGB between Greece and Bulgaria would enable gas supplies from the Southern Gas Corridor as well as LNG supplies via Greece's Revithoussa LNG regasification terminal. The investing companies in the Interconnector-Greece-Bulgaria sanctioned the project with a conditional FID on December 10. The project benefits from high level EU and U.S. government support. It has also been declared a EU Project of Common Interest (PCI) and thus will receive partial EU funding.

The IAP is still on the drawing board but there is strong commercial and political interest in implementing the project. The proposed IAP pipeline could bring natural gas to markets that have not add yet access in the Balkans and contribute to diversification of gas supplies for countries that rely on Russian supplies, such as Croatia.

The Shah Deniz Consortium members have begun to examine options for Shah Deniz III development of additional gas resources and thus the current period is a good opportunity for potential buyers, interested governments and EU institutions to engage the Shah Deniz Consortium and shape the next stage of development of gas volumes into Europe. European buyers developed Shah Deniz II on the basis of firm contracted gas. Most likely, Shah Deniz III will demand the same firm commitment.

As gas development in the Caspian moves forward, Azerbaijan and the investing companies should take into account that with population and GNP grown in the South Caucasus, the region has become not only a gas export and transit region, but also a gas consuming region. Azerbaijan's recent gas imports from Russia and Georgia's exploration of gas imports from Russia are indicative of the shortages in the region. Rising regional demand needs to be factored into development schemes. Security of supply infrastructure, such as the planned establishment of gas storage in Georgia, needs to be established. Also, gas energy efficiency measures, such as raising of consumer prices, should be examined in light of the growing demand in the region.

### **Eastern Mediterranean**

In recent months a number of developments have taken place that contribute to the prospects of development and potential export of Eastern Mediterranean gas resources (Egypt, Israel and Cyprus). However, the prospects of export from this region of new gas volumes to Europe, especially via pipeline, still remain quite limited at this stage. Encouraging new developments that weigh in favor of new development of Eastern Mediterranean gas resources are discoveries of significant new volumes in Egypt and the reconciliation process emerging between Turkey and Israel.

Egypt's natural gas reserves in August 2015 received a significant boost with the discovery of the Zohr gas field. Zohr is estimated to contain approximately 400 BCM of natural gas. Egypt's proven gas reserves today stand at 77 TCF (approximately 2 trillion BCM). Zohr will be utilized to serve Egypt's domestic gas market. However there are high prospects for new discoveries in Egypt that would be designated primarily for export. A number of major companies continue exploration in Egypt, including BP's 12 billion dollar exploration project in the Nile Delta region.

The impending reestablishment of cooperation between Turkey and Israel will give impetus to discussions on the development of export schemes for Eastern Mediterranean gas resources to Turkey and via Turkey to markets in Europe. This vector of energy diplomacy will positively support the return of normal relations and cooperation between Turkey and Israel. At the same time, prospects for export to Turkey and onward to Europe of gas resources via pipeline from the region are still minimal at this point. The greatest impediment is actually the size of the volumes available for export that at this time do not seem to commercially justify a major international export pipeline. However, exploration in the region is continuing and additional discoveries will augment the likelihood of export from the region to Turkey and Europe.

## Iran

With the removal of sanctions on Iran related to its nuclear program, expectations have increased that Iran could serve as a future natural gas supplier to Europe. Iran possesses the second largest natural gas reserves in the globe and its physical proximity to Europe endows it with the capacity to reach markets there by pipeline. In fact, EU policy documents reflect this anticipation. In April, the EU's foreign policy arm -- the Directorate-General for External Policies -- published a study of the EU's natural gas import options in light of the Ukraine crisis and concluded "Iran is a credible alternative to Russia."

While indeed sanctions removal will facilitate Iran increasing its gas production and export prospects, significant export to Europe is still many years away. The main obstacle slowing Iran's entry into Europe's gas markets is the need to produce more gas. Iran is a significant natural gas producer, generating 160 billion cubic meters a year, third globally behind just Russia and the United States. Its output constitutes about 35 percent of annual EU gas consumption. However, despite its vast production, Iran is a net gas importer, importing gas from Turkmenistan and Azerbaijan, while it exports a bit less to Turkey and Armenia. And, these existing exports are not stable. Iran frequently cuts gas supplies to Turkey, often creating shortages there, due to domestic gas shortages, especially during winter. The most recent extended gas disruption from Iran to Turkey was on December 9, when Iran halved its gas supplies to Turkey.<sup>4</sup>

---

<sup>4</sup> <http://uk.reuters.com/article/uk-turkey-iran-gas-idUKKBN0TS0MB20151209>

Iran's export prospects are hindered by its domestic consumption. Iran's energy fuel mix is unique: natural gas comprises a larger proportion of its total fuel mix than any other country in the world. Iran's high natural gas consumption rate is due in part to its very low domestic gas prices and thus low energy efficiency. But, in part the high gas consumption is a reflection of policy that encourages utilization of gas.

An additional further impediment to Iranian gas export to Europe is Moscow's anticipated response. Russia would take steps to block Tehran's entry into European markets, as it has done in the past. In 2007, when Tehran inaugurated gas supplies to neighboring Armenia, Russia's Gazprom immediately bought up the pipeline project within Armenia and built it with a small circumference to preempt its future use for transiting gas to European markets. Moscow and Tehran could also find themselves competing for gas market share in neighboring Turkey, further complicating their relations.

### **North Africa: just a matter of time**

North Africa is a source of significant volumes of natural gas to Europe. Algeria is Europe's third largest supplier of gas, providing 12 percent of Europe's gas supplies. Libya supplies close to 2 percent of Europe's gas, as Europe's sixth most important gas supplier. Algeria and Libya also hold extensive potential undeveloped gas resources and

can add volumes supplied to Europe. However, instability in North Africa, the rising power of Islamic terrorist groups throughout the area, and the breakdown of most state institutions in Libya, create a large question mark over the future stability of gas supplies from North Africa. Terrorist and militia attacks in both Libya and Algeria in recent years have focused on energy infrastructure and are likely to continue this trend. In addition, Algeria's rising domestic consumption of natural gas may threaten the amount of gas available for export.

Algeria's supplies gas to Europe by both LNG and pipeline. The pipeline gas reaches Spain. Consequently, while this gas is clearly important for Spain's security of supply, it has very limited impact on Europe's security of supply beyond Spain, since Spain has only a very small capacity pipeline that supplies gas to France. Thus, there is little impact of the Spanish gas imports on supply options in other gas markets in Europe. In contrast, while Libya's volumes supplied to Europe are significantly smaller than Algeria's, they are supplied to Italy and thus have wider impact, since Italy is emerging as an important gas transit state and its gas trading hub is slowly becoming increasingly more liquid.

### **What Europe can do**

In this period of major geopolitical turmoil, Europe can take a number of steps to minimize its vulnerability in addition to the already extensive security of supply policies it has enacted in recent decades. First, Europe needs to formulate its policy on natural gas consumption. The E.U. and member governments send highly conflicting policy signals related to natural gas use. The E.U. institutions responsible for energy policy invest many hours in promoting diversification of Europe's gas sources and development of Europe's internal gas market. At the same time, natural gas is still treated as a "fossil fuel" and something that should be replaced by renewable energy. This is despite the fact that replacement of coal in power generation by natural gas would be the quickest and cheapest way for Europe to lower its carbon emissions. Moreover, natural gas is still necessary as a baseload fuel for power generation, given the variability of most renewable energy. Europe's energy policies have led to a situation where natural gas consumption in the E.U. has fallen in recent years.<sup>5</sup> In addition, hand in hand with growth of consumption of renewable energy, European consumption of coal has increased.<sup>6</sup>

Europe should also make a fundamental decision on whether it wants Russia to be a significant supplier of gas to its markets. It is difficult to imagine a scenario where Russia is not a major gas supplier to Europe, without a major shift in LNG technology that would lower production prices. If Europe views Russia as the continued major source of

---

<sup>5</sup> <https://ec.europa.eu/energy/en/topics/markets-and-consumers/single-market-progress-report>

<sup>6</sup> Ibid p. 3.

its gas supplies, it is appropriate to improve the dialogue with Russia on this issue and plan for development of future supplies.

Europe may consider challenging its prevailing policy paradigm for addressing energy security of supply. In the last decade, the E.U. has promoted market “liberalization” (development of its internal gas markets, privatization, and unbundling) as the major tool for promoting energy security of supply. The potential impact in security of gas supply of greater use of market mechanisms and a reduced role for EU and national government institutions is still not clear. In fact, according to the EU’s own research reports, liberalization has not improved the main parameters of energy security: reliability, affordability and environmental sustainability.

There are a number of policy tools available for improving gas security of supply, that do not entail adding additional gas suppliers. In fact, some of them are state driven policies that even inhibit market forces activity in the gas sector. A number of E.U. member states—especially states that rely on Russia for all or a significant portion of their gas supplies-- have taken steps in recent years to increase their security of supply through state sponsored initiatives.<sup>7</sup> Many of these policies are state led initiatives to establish energy infrastructure, such as expansion of gas storage capacity; enactment of stringent emergency response policies; and enforcement of security of supply regulations, such as

---

<sup>7</sup> See [http://www.felj.org/sites/default/files/docs/elj362/17-179-201-Shaffer\\_FINAL%20%5B11.10%5D.pdf](http://www.felj.org/sites/default/files/docs/elj362/17-179-201-Shaffer_FINAL%20%5B11.10%5D.pdf)

stockpiling of alternative fuel sources at power plants. In fact, in some cases, states have not implemented EU directives on unbundling and market liberalization in order to conduct policies that they deemed necessary to ensure adequate energy security. As part of their strategy based on the assessment that the state needed to maintain control of its main natural gas infrastructure, some EU states in Eastern Europe have enacted laws that preserve state ownership of energy infrastructure that are considered of strategic importance in terms of national security and consequently ensure state dominance in the domestic energy sector. For instance in June 2012, Lithuania enacted the *Law on Enterprises and Facilities of Strategic Importance to National Security and Other Enterprises of Importance to Ensuring National Security*.<sup>8</sup> Vilnius enacted this law to bar investors in its energy and other strategic infrastructure that are not in line with promotion of Vilnius's "trans-Atlantic alliance." This law can be used accordingly to bar Russian ownership and investment in Lithuanian infrastructure. Essentially this violates the spirit of the market liberalization policies, but most likely improves Lithuanian's energy and national security through barring Russian companies from its energy sector.

E.U. policy makers tend to focus on the gas market structure of their member states instead of these state initiatives that can improve security of supply. In the next 2-4 years, the exemptions will expire of a number of E.U. members' states from the Third Energy Package. Some of these states, such as Latvia, are among Europe's most vulnerable in terms of security of supply In its approach to the energy security of these

---

8. Law on Enterprises and Facilities of Strategic Importance to Nat'l Security and Other Enterprises of Importance to Ensuring Nat'l Security, Nr. IX-1132, REP. OF LITHUANIA (Oct. 10, 2002), Amended No. XI-2087 (June 21, 2012), [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc\\_l?p\\_id=436571](http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=436571).

states, it would be best for the EU to integrate some of the state-led initiatives and infrastructure and not just emphasize market structure. Clearly, small markets in Europe's periphery, like the Baltic states, will not be commercially attractive to additional gas suppliers, regardless of their market structure. Therefore, these states need to take steps, including state led actions that improve their energy security of supply and prevent their energy sectors from being controlled or strongly influenced by foreign entities.

Not only may market liberalization play only a modest role in enhancing security of supply, especially in small markets in Europe, but it also creates new security challenges. The emerging gas trading hubs can be easily manipulated, with so few suppliers trading at these hubs. Gazprom is still the dominant supplier trading at the hubs in continental Europe and thus can manipulate prices there. Relevant EU institutions should devise a strategy for preventing price manipulation at hubs.

Europe should not get used to the low oil prices and grow complacent about fuel related policies. Oil prices are cyclical and periods of oil prices are followed by price rises. Current behavior sets the stage for the next price rise—2015 witnessed the largest drop in history in investment in new oil production and drivers are increasing their gasoline consumption and acquisition of larger vehicles in light of the current price trend.

In light of the increasing trend of terrorist attacks on energy infrastructure, Europe should increase its efforts to protect grids, pipelines, oil ports and energy infrastructure from attacks, with special emphasis on cyber attacks.

### **US support for European energy security policies**

The U.S. can contribute significantly to supporting EU efforts to improve security of supply. The US government for a number of decades has viewed promoting European energy security as an integral part of its own national security, foreign and energy policies. In this context, Washington has led efforts to bring diverse supplies of gas to Europe, such as the Southern Gas Corridor and promote development of Eastern Mediterranean gas.

Based on the current new challenges developing on Europe's periphery the US can take a number of steps to support Europe's energy security of supply First, the United States should accede to the EU's request for a robust energy chapter in TTIP. Such a chapter would advance energy security through reaffirming trans-Atlantic unity on open and competitive markets, give market clarity to encourage physical trade by inclusion of LNG export authorization from the U.S. to Europe, improve global norms on governance of energy markets, and, more controversially, give the U.S. standing to request enforcement of existing EU regulation on key issues contained in the third energy package.

Second, Washington should continue and increase its efforts to promote the establishment of the Interconnector-Greece-Bulgaria (IGB). This project is quite close to establishment and could greatly enhance the energy security of Bulgaria and the Balkans region, as well as reduce Russia's capacity to coerce Bulgaria.

Third, Washington should examine Georgia's recent overtures to Russia related to gas imports. If this were to advance, it would increase Georgia's vulnerability and thus its capacity to maintain its Euro-Atlantic foreign policy and security orientation. This would create a new challenge to the forthcoming gas supplies from the Caspian via Georgia to Europe along the Southern Gas Corridor. Recent statements of the US Ambassador to Georgia that seem to encourage these negotiations between Russia and Georgia are puzzling in light of the potential implications for Georgia's cooperation with Europe and the US.<sup>9</sup> Gas deficits could easily be offset at peak times through expansion of gas storage volumes in Georgia or running some of the power and heat plants on liquid fuels during these periods. This step would be less difficult and risky than importing gas from Russia. The US should work with Georgia on technical assistance such as on ways to ensure its power supplies during peak periods, without additional gas imports as well as to increase energy efficiency of the gas sector, such as through price increases.

Next, the US can provide technical assistance to a number of gas producers and transit states around Europe, such as Georgia, Azerbaijan and Algeria to improve their energy

---

<sup>9</sup> <http://www.civil.ge/eng/article.php?id=28920>

efficiency. Many gas producers go quickly from gas exporters to importers, due to their rising domestic consumption, often inadvertently encouraged by low domestic gas prices in the producing and transit countries. Increases export to Europe from the South Caucasus and Algeria could be hampered if domestic consumption continues to rise.