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ENERGY RELATIONS BETWEEN ITALY AND AZERBAIJAN

Risks of gas dependency in the energy transition

ANALYSIS

NOVEMBER 2024

ABSTRACT

COP29 is an opportunity for Baku to show responsibility in providing a clear vision and direction to the negotiations, especially in raising the ambition on climate finance and giving momentum to the COP28 commitment on the need to transition away from fossil fuels. The analysis confirms that intensifying dependence on gas from Azerbaijan, an economy heavily dependent on oil and gas exports, is not supported by stable European demand conditions to justify new infrastructure investments. Betting on gas based on a European market with a gas demand set to decline over the next five years is not only at odds with Paris Agreement goals, but also exposes Italy and Azerbaijan to the risk of stranded assets. For this reason, Italy should support Azerbaijan in embarking on a path of economic diversification, promoting renewable energy projects and long-term industrial planning that ensures economic and environmental stability also in view of global climate commitments, thus demonstrating how the path of decarbonisation coincides with that of creating resilience and security in global economies.

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EXECUTIVE SUMMARY

Azerbaijan COP29's Presidency has a key role to play in relaunching the ambition of the commitments signed at COP28 in Dubai, including tripling renewable energy capacity and doubling energy efficiency by 2030, but above all, it needs to be decisive in giving a concrete follow-up to the decision to transition away from fossil fuels in energy systems in a fair, orderly and equitable manner. However, the priorities on the agenda outlined by Baku do not include elements to advance the phase out of fossil fuels.

Azerbaijan can be defined as a 'petrostate', whose economic development is strongly linked to oil and gas exports. Today, fossil fuels account for more than 90% of export earnings, 60% of government revenue and 35% of gross domestic product (GDP). 95% of Azerbaijan's exports are made up of oil and gas, and EU countries - primarily Italy - account for more than half of the country's total exports. To support its economy, **Azerbaijan is increasingly selling its gas to European countries, including Italy, by establishing political and economic relations that hinge on energy cooperation.** But while bilateral relations between the EU and Azerbaijan have mostly stuck to a consolidated framework focused on energy and trade, leaving aside any prospect of political association, over the past four years Italian-Azerbaijani relations have strengthened beyond the energy dimension, favouring the creation of a multidimensional strategic partnership.

The focus of the Rome-Baku axis is fossil energy. Azerbaijan exports 57% of its oil to Italy, the latter being Azerbaijan's top oil destination market. By the same token, Azerbaijan is among the top oil suppliers to Italy, averaging about 15% of total imports. Similarly, the country has proved to be an essential partner within Italy's strategy of diversification from Russian gas. As of today, Baku exports around 20% of its gas production to Italy. Azerbaijan is Italy's second largest gas supplier after Algeria, accounting for about 16% of Italy's total gas imports. The desire to expand energy cooperation between the two countries passes through the intention to double the Trans Adriatic Pipeline (TAP) gas pipeline from a capacity of 10 to 20 billion cubic metres per year (bcm/y). This project, which is at the heart of the memorandum of understanding (MoU) signed in 2022 between the European Commission and Baku, is of particular importance both from an energy and political point of view.

Strengthening the partnership was, in fact, a key political element in light of the Azerbaijani-Armenian conflict. **The position that Italy maintained on the conflict between Azerbaijan and Armenia over Nagorno-Karabakh is the diplomatic outcome of the strengthening of relations between Rome and Baku on the basis of economic interests, especially of energy nature**.

This study highlights the economic and political risks for Italy and Azerbaijan related to a further intensification of gas dependence. Indeed, on the one hand, the analysis of European gas market fundamentals does not reveal stable demand conditions that would justify new infrastructure investments and, on the other hand, a limited availability of Azerbaijani gas supply volume.

As far as gas demand is concerned, in spite of Baku's importance in the process of diversification of gas supplies from Russia, it has been shown that the increase in TAP's transport capacity is not justified by scenarios that see Italy and Europe pursuing a path consistent with national and European climate objectives to 2030, as well as with the international commitments of the Paris Agreement. **The scenarios included in 'The State of Gas', and specifically the Fit-for-55 decarbonisation scenario, built on a gas demand as given by Italy' s National Energy and Climate**

Plan (NECP), show how the existing infrastructure[1] **is already able to cover the required volumes of consumption and even ensure Italy's export volume of over 7 billion cubic metres per year**.

As far as supply is concerned, according to a study by the Oxford Institute for Energy Studies (OIES), assuming the lowest plausible level of Azerbaijani gas production[2] **and faced with a domestic demand that remains stable, by 2030 there would be no residual volumes of gas available for export to Turkey and European partners**. Assuming the maximum plausible level of production, a maximum of 15 bcm/y of incremental gas could be available by 2030 in addition to the volumes already contracted. This estimate could decrease again by 2035 due to the natural decline of the field.

The guarantee of sufficient and stable European demand for gas is a necessary condition for financial support for the development of new fields that would be needed to fuel the expansion of export infrastructure. Such guarantees, however, are not compatible with decarbonisation scenarios of the policies already in place. The market, indeed, already shows little interest in increasing supplies. The non-renewal of the contract for gas supplies to Turkey from the Shah Deniz field and the binding requests reached of only 1.2 bcm/y compared to the 10 bcm/y foreseen in the agreements between Italy and Azerbaijan are in fact a reconfirmation that **the current market conditions are not adequate to support the investments needed for the development of new fields and the upgrading of infrastructure.**

Betting on gas based on a European market with a gas demand set to decline over the next five years risks exposing Italy and Azerbaijan to stranded assets. According to the International Energy Agency (IEA), if we are to remain within a trajectory that achieves net-zero by 2050 and limits the global average temperature rise to 1.5°C, there is no more room for new fossil fuel exploration and production. With a reduction in global demand for oil and gas resulting from a moderate pace transition, which reflects the *Announced Pledges Scenario (APS*), 50% of Baku's revenues from oil and gas sales would be at risk. Consequently, given Azerbaijani economy's heavy reliance on oil revenues, **70% of Azerbaijan's public revenues would be at risk if no risk mitigation and reform strategy supporting a process of economic diversification were to be implemented.**

The priority for Azerbaijan within a context such as COP should not be to increase its fossil fuel export contracts, which thus represent a financial risk, but, within broader partnership agreements, to build a pathway that supports the country's financial stability in a context of progressive decarbonisation of global energy markets.

COP is therefore an opportunity for Azerbaijan to openly acknowledge the challenges associated with its fossil fuel economy and, together with the other Troika members - the United Arab Emirates and Brazil - outline a viable path towards decarbonisation for producing countries, fostering a shared climate ambition. The nature of a fossil fuel-producing country and its non-alignment in defined geopolitical blocs could engage other hydrocarbon-rich nations in a

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[1] The existing infrastructure considers the regasification terminal in Ravenna but not the one in Piombino (only authorised until 2026)

[2] Where 'low' estimates indicate a more cautious view of the rate at which new fields will come on stream and 'high' estimates are given based on the assumption that the most optimistic forecasts will be realised, such as a field coming on stream and reaching the production plateau in the years under consideration

constructive debate on fossil fuel transition dilemmas in a way that has never been achieved before at COP.

Given the great importance of Italy for the Azerbaijani market - and vice versa - it is essential for Italy to take the following points into consideration when deepening political and economic relations with Azerbaijan:

1. **Plans to increase gas exports from Azerbaijan to Italy are part of a framework where betting on gas exposes to many risks. If Italy wants to pursue a path consistent with national and European 2030 climate goals as well as the international commitments of the Paris Agreement, it is not necessary to invest in new gas capacity.** Betting on gas, therefore, means risking generating *stranded assets*, i.e. investments that will be lost as they are no longer profitable. In this regard, the investments of the main companies involved would also put public capital at risk.
2. **Deepening an already gas-focused relationship without foreseeing measures to support economic diversification means condemning the country to a future of uncertain and risky revenues**, with repercussions for the exporter's budgetary sustainability and economic health.
3. **Italy, as Baku's first trading partner, should promote measures that can support the process of economic diversification in Azerbaijan,** for example through the activation of new forms of economic and industrial diplomacy to identify zero-emission projects that can foster the development of alternative non-oil sectors and long-term planning.

1 AZERBAIJAN IN THE REGIONAL CONTEXT

Azerbaijan occupies an area along the southern slopes of the Caucasus Mountains, bordered to the north by Russia, to the east by the Caspian Sea, to the south by Iran, to the west by Armenia, and to the northwest by Georgia. It is the largest country in the Caucasus both in terms of area and population, surpassing 10 million inhabitants in 2019. The territory of Azerbaijan includes the exclave of Nakhchivan to the southwest of the country, bordering Armenia, Iran, and Turkey. Within its borders, Azerbaijan includes the Armenian-majority enclave of Nagorno-Karabakh, which has been the center of an intense conflict between Azerbaijan and Armenia since 1988, culminating in a final operation by Azerbaijan that officially controls the enclave since September 2023.

Since 2003, Azerbaijan, formally a semi-presidential republic after declaring its independence from the Soviet Union in August 1991, has been led by President Ilham Aliyev, son of former President Heydar Aliyev.

Azerbaijan is the most populous and richest country in the Caucasus, with a GDP close to USD 80 billion in 2022, almost twice the GDP of Georgia and about four times that of Armenia. Turkey is its main and historical ally, united by the same Turkish ethnicity and Muslim religion. The political, social, economic and military ties between Turkey and Azerbaijan have grown steadily since Ankara's official recognition of the Caucasian republic in 1992, and the two countries have invested considerably in the partnership both diplomatically and strategically over the past decade. Turkey's contribution, especially in terms of military cooperation, has been decisive in the Nagorno-Karabakh conflict in the face of Russian disengagement and European inability to mediate.

Despite the deep historical ties between Azerbaijan and Russia, their relations have always been strained. However, although Baku has always perceived Russia as Armenia's main ally, Azerbaijan's foreign policy has been characterised by a 'balanced policy', which in fact resulted in a refusal to take sides between the West and Russia.

Despite being a Muslim state and embracing the Palestinian cause, Azerbaijan has forged close relations with Israel over the years. The pattern of energy and political relationship between the two countries is based on a relevant share of trade in oil - Baku meets over 60 per cent of Israel's demand for crude - and arms, which played a crucial role in Armenia's defeat in the Nagorno-Karabakh war of 2020.

2 THE PRIORITIES OF THE AZERBAIJANI PRESIDENCY AT COP29

Azerbaijan will host COP29 in Baku this year. The Azerbaijani presidency has a key role to play in relaunching the ambition of the commitments signed at COP28 in Dubai, including tripling renewable energy capacity and doubling energy efficiency by 2030, but above all it will have to be decisive in following up the decision to transition away from fossil fuels in energy systems in a fair, orderly and equitable manner.

In March 2024, United Arab Emirates's COP28 Presidency, Azerbaijan's COP29 Presidency and Brazil's COP30 Presidency formed the Troika of COP Presidencies and launched the 'Roadmap to Mission 1.5°C', affirming the Troika's goal to raise the ambition for the next round of *Nationally* Determined *Contributions (NDCs*) so that they are aligned with the 1.5 target set by the Paris Agreement and the UAE Consensus, i.e. what was agreed in the COP28 Global Stocktake.

The 'Action Agenda' presented in September 2024 by Azerbaijan's Minister of Ecology and Natural Resources Mukhtar Babayev, appointed to chair COP29, announces climate finance funds, investments and business platforms that promote sustainability and clean energy. However, the agenda lacks any reference to initiatives to implement the transition away from fossil fuels as called for by the Global Stocktake.

The only mention of fossil fuels was in the Climate Finance Action Fund (CFAF). The fund is supposed to raise from a minimum of USD 500 million to USD 1 billion for green investments in developing countries by fossil fuel companies that can contribute with shares of their revenues or lump sums. However, this initiative has already raised several concerns related to the voluntary nature of the contribution by companies and the lack of a mechanism to ensure that the countries and companies most responsible for greenhouse gas emissions pay their contributions. This initiative has been criticised as it could act as a free pass for oil companies that would continue to extract fossil fuels, in exchange for a very limited contribution to the financing needed, especially when compared to their billion-dollar extra-profits in recent years. In fact, the planned endowment for this fund is largely insufficient compared to what was stated in the conclusions of the G7 2024 Climate, Energy and Environment ministerial meeting in Turin, which calculated the real needs for investment in the global transition in trillions.

Among the main negotiating priorities of the Azerbaijani Presidency is the definition of a new climate finance target, which translates into the 'New Collective Quantified Goal (NCQG)', which is expected to start from a minimum threshold of USD 100 billion. However, according to a study by Oil Change International, the success of COP29 will depend on countries agreeing on an NCQG of at least USD 1 trillion per year in subsidies and equivalent financing for mitigation, adaptation, loss and damage.

Another priority in Baku is the completion of negotiations under Article 6 of the Paris Agreement on international carbon trading. However, at the pre-COP in October, the new Supervisory Body for Art.

6.4 adopted a set of measures to be presented to the Parties as a 'take it or leave it' option in order to avoid detailed line-by-line negotiations in Baku.

3 AN ECONOMY DRIVEN BY FOSSIL FUELS

Azerbaijan is the world's 23rd largest exporter of fossil fuels and holds an estimated 0.4% of global oil reserves and 1.3% of global gas reserves. In 2023, crude oil exports amounted to 520,000 barrels per day (bpd), of which about 75% was exported to Europe. In the same year, Azerbaijan exported 23.9 bcm of gas, most of it to Europe.

Azerbaijan's economic development has been linked to oil and gas export revenues. To date, fossil fuels account for over 90% of export earnings, 60% of government revenue and 35% of GDP.

A member of the OPEC+ organisation, the country is a modest oil producer, with production standing at around 500,000 barrels of oil per day. However, oil production has been steadily declining since 2009 - when it stood at around 1 million barrels of oil per day. The huge Azeri-Chirag-Guneshli (ACG) oil field, located in the Azerbaijani sector of the Caspian Sea and from which most of the oil production is derived, is experiencing a natural decline in production, to which no further investments are being made.

Over the past two decades, oil prices have been a constant factor in Azerbaijan's economic performance and will continue to weigh on the pace of recovery. The collapse of global energy demand in 2010-2014 impacted Azerbaijan's main export market, the OECD countries, slowing growth to 3.2% on average per year. However, even with the return of favourable trade conditions in 2017, the economy could only sustain an average growth of 0.4% per year between 2015 and 2019. Over the past two decades, Azerbaijan has managed to sustain oil production and develop an emerging gas sector, which has supported a modest acceleration in domestic demand. Azerbaijan's economy grew by 2.2% in 2019, its best performance since 2014, before the COVID-19 pandemic and falling oil prices caused another economic contraction of 4.3% in 2020.

Between 1995 and 2007, oil and gas production increased from 10% to 54% of GDP. The extractive industry (crude and refined oil, gas and other oil products) was the dominant export category, rising from 50% of exports in the late 1990s to over 90% in the 2000s. Over the same period, however, the share of agriculture in GDP fell from 25% to 6.5%, while the share of manufacturing halved and services fell from 50% to less than 33% of total GDP. It is thus clear that over the years, the oil sector has become the predominant sector in the Azerbaijani economy. **However, on the one hand, the growth of this sector has led to an increase in overall GDP, on the other hand, the growing importance of the oil sector for the state budget has come at the expense of the development of non-oil sectors, blocking any attempt to diversify the economy. This has exposed the country not only to the volatility of the energy market, but also to dependence on imports of goods and services that the country has not developed.**

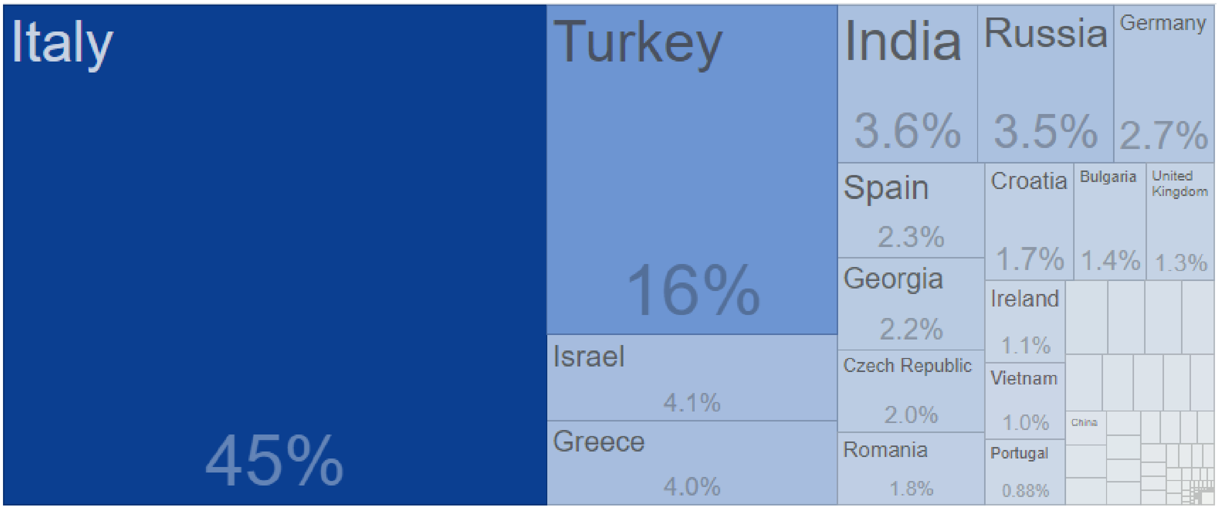
To support its economy, Azerbaijan is increasingly relying on gas. Between 2018 and 2023, the ratio of oil to gas production dropped from 70:30 to 50:50, and gas production will increase by a third over the next decade. In 2018, crude oil accounted for 84% of export revenues, falling to 46% by 2023, while gas exports grew from 9% to 30%.

Its natural gas production has more than doubled compared to the quantities recorded in 2010, reaching 35 billion cubic metres in 2022. Azerbaijan exported around 23 billion cubic metres in 2022 (of of which just over 11 to EU countries). The bulk of gas production comes from the Shah Deniz field operated by BP, with proven reserves estimated at 1.2 trillion cubic metres of gas.

4 RELATIONS BETWEEN AZERBAIJAN AND THE EUROPEAN UNION

The EU is Azerbaijan's largest trading partner, followed by Russia and Turkey, as well as its largest export and import market and the largest investor in the country (with almost EUR 7 billion of direct investment per year). 95% of Azerbaijan's exports are oil and natural gas, and EU countries, primarily Italy, account for more than half of the country's total exports (fig.1). In contrast, Azerbaijan's imports are mainly machinery, vehicles and equipment, pharmaceuticals, iron and steel and related products, cereals and plastics. China, Germany, Japan, Russia, Turkey, Ukraine and the United States are Azerbaijan's main import trading partners.

Figure 1 – Azerbaijan's exports by country. Source: Trading economics



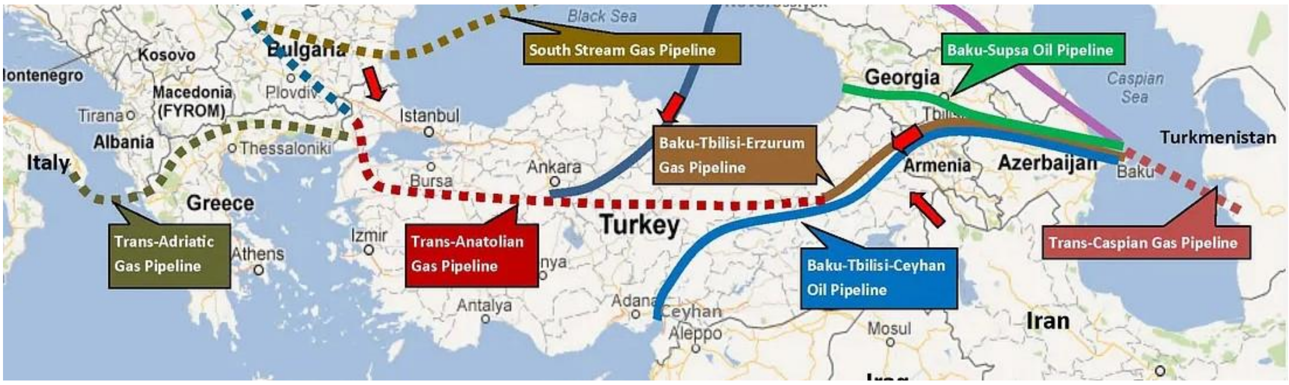
Bilateral relations between the EU and Azerbaijan have mostly stuck to a consolidated framework focused on energy and trade. Since the country gained independence, political association has remained elusive, with the only political agreement between Azerbaijan and the EU being the Partnership and Cooperation Agreement, which established a general framework for strengthening bilateral cooperation, dating back to 1999. Among the Caucasus states, Azerbaijan has maintained the greatest distance from the EU. This was true even after 2014, when many of the post-Soviet states, including Ukraine, Georgia and Moldova, ratified the Association Agreement (AA) with the EU[3] following the Russian invasion of Crimea. In that case, Azerbaijan refused to associate further with the EU, due to the EU's insistence on a partnership that included a safeguard of democracy and human rights. The latter, along with the rule of law, are mentioned within the Partnership Priorities, a document signed in 2019 instead of the renewal of the Eastern Partnership (EaP), which defines the priority areas for the partnership, among which trade and energy feature as privileged areas of the partnership.

[3] An agreement that constitutes a new state in the development of contractual relations between EU and ex-EU states, aiming at political association and economic integration.

The one area of cooperation in which both sides agree on a broader collaboration is energy. Azerbaijan broke into the European energy market in the mid-2000s, signing a series of strategic partnership agreements with about a third of EU member states, including Italy.

4.1 OIL AND GAS: THE PILLARS OF COOPERATION WITH THE EUROPEAN UNION

Figure 2 – Gas and oil pipelines between Azerbaijan and Europe. Source: Medium



Oil

Azerbaijan exports oil to Europe via the Baku-Tbilisi-Ceyhan pipeline, operational since 2006 and managed by a consortium in which Italy's oil&gas company Eni is also a shareholder (5%), which connects the Azerbaijani capital to the Turkish Mediterranean coast.

While remaining a relatively marginal supplier compared to other countries, over the past three years Azerbaijan's oil supplies to Europe have increased from a few million tonnes in 2000 to 20 million in 2021 and 2022, reaching more than 33 million in 2023. This increase can be attributed to the European Union's need to replace oil supplies from Russia, following the imposition of sanctions prohibiting the sea transport of crude oil and oil products to third countries from December 2022 and a price ceiling of $60 per barrel for crude oil delivered by pipeline.

Natural gas

Azerbaijan has become increasingly important as an energy partner of the European Union thanks to the Southern Gas Corridor (SGC), a pipeline linking energy resources from the Caspian Sea and Middle Eastern countries.
The Southern Gas Corridor (Fig.3) comprises the following four projects:

(i) the Shah Deniz natural gas condensate field ('SD1') and its full development ('SD2'),
(ii) the South Caucasus Pipeline ('SCP') with a total capacity of approximately 24 billion cubic metres per year and its expansion ('SCPX'),
(iii) the Trans-Anatolian Natural Gas Pipeline ('TANAP'), with a total capacity of 16 billion cubic metres per year,
(iv) the Trans Adriatic Pipeline ('TAP') with a current capacity of 10 billion cubic metres per year

Figure 3 – Southern Gas Corridor (SGC). Source: Southern Gas Corridor

While the individual pipeline projects associated with the SGC had already been developed by the respective companies in the early 2000s, it was only later that the corridor project began to be discussed. In fact, it was first described as a 'project of European interest' in a decision of the European Parliament and the Council of September 2006, codified as 'NG3'. Finally, in a second revision of the energy strategy, the European Commission classified the SGC as a Community priority. At the time, the SGC was considered the rival pipeline to another project, the South Stream, which would have transported gas from Russia through the Black Sea to Bulgaria, and on to Serbia, Hungary, Slovenia, and Austria, ending in north-eastern Italy. The pipeline project, strongly supported by the former CEO of Eni, Paolo Scaroni, and the main Russian state oil company Gazprom, was later abandoned because it did not comply with the Third Energy Package legislation[4]. The European decision to favour the SGC was driven by the need of a diversification of gas supplies from Russia, which became a central component in the European debate following the 2008 Russia-Georgia war and the 2009 Russia-Ukraine gas crisis[5]. Following this crisis, the word 'diversification' was introduced into the EU energy vocabulary, referring to both sources and routes, with south-eastern Europe placed at the epicentre of the new European energy architecture.

The SGC pipeline officially went into operation in 2020 and, since then, Azerbaijan's steady supplies have enabled the European Union to diversify its gas import portfolio. The contribution of the SGC and Azerbaijan has also been decisive in the context of the diversification of Europe's gas supplies following Russia's invasion of Ukraine. If, one year after the pipeline's commissioning and before the invasion of Ukraine, Azerbaijan accounted for 2% of the EU's total natural gas supplies in 2021, by 2023 the country's supply almost doubled, from 8 bcm to 12 bcm, to account for 4% of the total.

in June 2022 , the European Commission and Azerbaijan signed signing of a memorandum of understanding envisaging the doubling of Azeri supplies to the European Union within a broad strategic partnership. Energy lies at the heart of the MoU, in particular Azerbaijani gas as an alternative to Russian gas. The protocol includes the doubling of the capacity of the SGC to supply at least 20 billion cubic metres per year to the EU by 2027, thus confirming the strategic nature of the infrastructure to ensure the EU's energy security. However, this agreement was not followed by binding commitments for the expansion of the pipeline.

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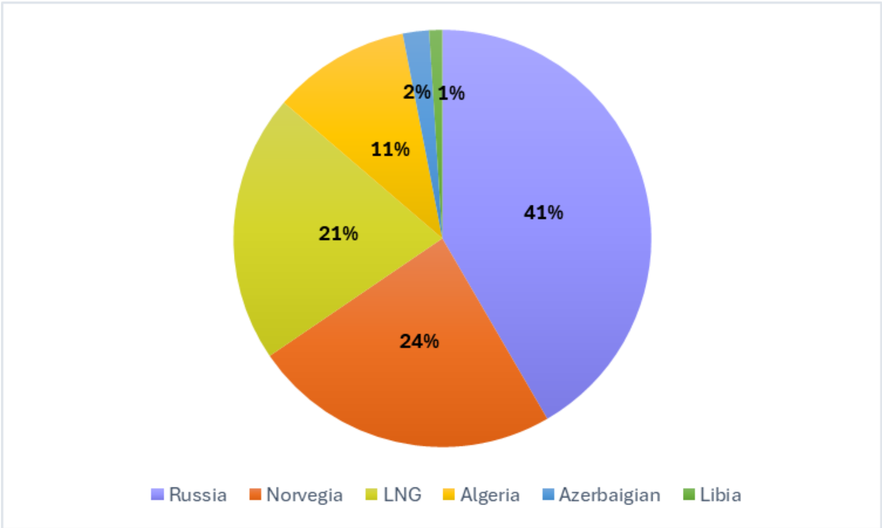
[4] The Third Energy Package includes the principle of 'ownership unbundling', unbundling the generation and sales operations of companies from their transmission networks

[5] In 2009, the Russian natural gas company Gazprom refused to conclude a supply contract if the Ukrainian company Naftogaz did not pay its accumulated debts for previous gas supplies. On 1 January 2009, Russia cut off gas supplies to Ukraine, completely cutting off supplies to south-eastern Europe.

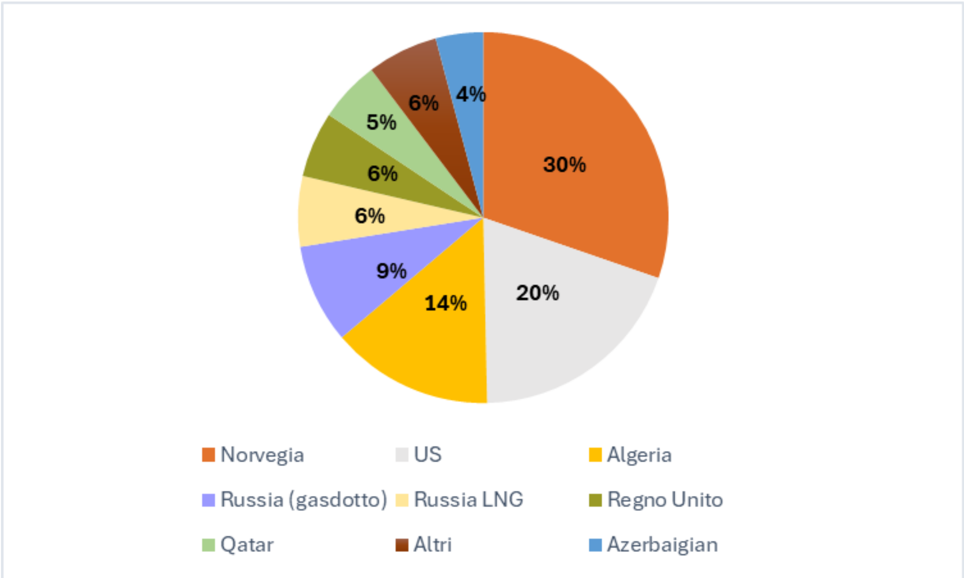
The MoU also supports arrangements for the collection of natural gas that would otherwise be flared or released into the atmosphere (i.e. *flaring* and *venting* practices), as well as supporting Azerbaijan's adherence to the Global Methane Pledge, a voluntary initiative that aims to reduce global methane emissions by 30% by 2030 compared to 2020 levels.

Figure 4 – Share of Azerbaijani gas in total EU gas imports – 2021 and 2023. Source: European Commission data

2021:



2023:

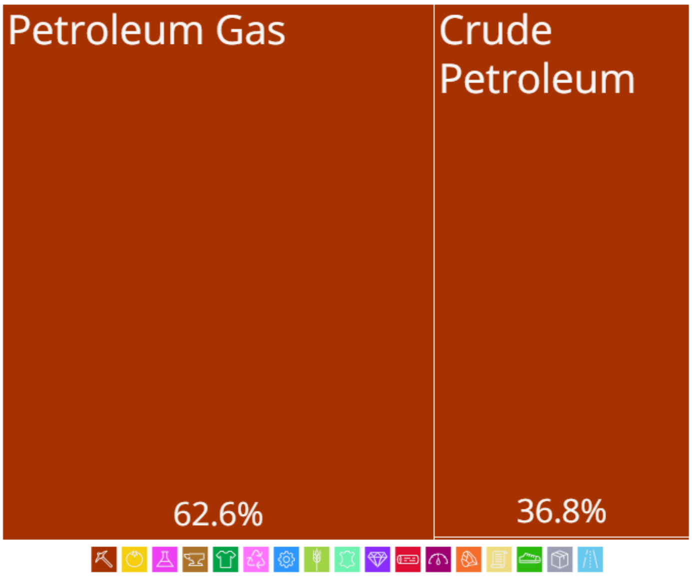


Although to date Azerbaijan meets only a fraction of Europe's total gas demand, its importance is amplified for individual EU member states, including Bulgaria, Italy and Greece. These have recently been joined by Romania and Hungary, and a probable further expansion of Azerbaijani gas supplies to Croatia, Slovakia and even Austria.

5 THE EVOLUTION OF RELATIONS WITH ITALY

Italy is the world's largest importer of Azerbaijani exports, with over 99% of imports being mineral fuels, oil and distillation products worth USD 9.1 billion. Similarly, Italy is an essential partner for Azerbaijan, especially for the export of machinery, equipment (electrical and non-electrical), clothing, chemicals and foodstuffs. Italian exports to the country are on the rise: from 2021 to 2023, the value of Italian exports to the Caucasian country increased by about 45%.

Figure 5 – Composition of Azerbaijan's exports to Italy. Source: OEC



Azerbaijan exports 57% of its oil to Italy, making Italy the first destination market for Azerbaijani oil. Unlike gas, Azerbaijan's relevance as an oil supplier to Italy has not changed much following the EU sanctions against Russia. In fact, while in the year prior to the Russian invasion of Ukraine, Azerbaijan was the leading supplier of oil to Italy, accounting on average for about 20% of total imports, its share slightly decreased in the months to follow, thanks to a more diversified portfolio.[6] Data dating back to early 2024, in fact, indicate that oil supplies from Azerbaijan represent an average of approximately 15% of total oil imports.

On the contrary, Azerbaijan proved to be an essential partner for Italy's strategy of diversification from Russian gas. Azerbaijani gas imports to Italy increased from 11 million cubic metres in 2020, when TAP pipeline came into operation, to 10 billion cubic metres in 2023, an increase agreed in April 2022 between the then Foreign Minister di Maio and Azerbaijani Energy Minister Shakhbazov. To date, it is Italy's second largest gas supplier after Algeria (around 16% of total gas imports).

The relevance of the energy dimension for the bilateral relationship is reflected in the composition of the Italian companies present in Baku, mainly consisting of companies active in the energy sector, in particular Eni, Saipem, Marie Tecnimont, Technip Italia, Drillmec and Ansaldo and Snam involved in gas transport infrastructure from Azerbaijan to Italy.

[6] Thanks to an increase by Kazakhstan, the United States, Iraq and the entry of Brazil

BOX 1 – OVERVIEW OF THE ACTIVITIES OF THE MAIN COMPANIES OPERATING IN AZERBAIJAN

Eni

Italy's presence in the energy field dates back to 1999 with the discovery of the Shah Deniz field by Eni, through LukAgip (a company set up as a joint venture with Russian oil company Lukoil). In addition to LukAgip, Eni was present in Azerbaijan through Agip Azerbaijan, which held upstream concessions in the Kurdasi-Araz Daniz and Kirqan Daniz fields offshore the Caspian. However, in 2002, following the failure of the drilling of two wells in the area, Agip withdrew from the two concessions and transferred its shares to Saipem, at the time a wholly owned subsidiary of Eni. Two years later, Eni sold its 50% share in the joint venture, exiting the country's upstream sector.

After 20 years, Eni announced its return to Azerbaijan at the end of July 2024. The Memorandum of Understanding signed between Eni and SOCAR (State Oil Company of the Republic of Azerbaijan) in Baku aims to assess potential opportunities for cooperation in the fields of hydrocarbon exploration and production, energy security and efficiency, reduction of greenhouse gas emissions, as well as possible areas of cooperation and synergies related to (national and international) gas transportation infrastructure. The protocol also plans activities in the run-up to COP29.

In September 2024, during the visit of the President of Azerbaijan in Italy, three Memoranda of Understanding were signed on energy security, reduction of greenhouse gas emissions and biofuel production chain. In detail, both national oil companies, Eni and SOCAR, include an explicit reference to strengthening their collaboration to expand hydrocarbon production. In fact, one of the three memoranda of understanding is aimed at expanding cooperation in the areas of hydrocarbon exploration and production, as well as in national and international gas transportation infrastructure in order to strengthen Europe and Italy's energy security.

Saipem

Saipem, one of the world's largest multinational oil services companies, is represented in Azerbaijan by Saipem Asia Azerbaijan Branch and BOS Shelf Llc, a company between SOCAR and Star Gulf (a Saipem Group company). The two companies have been involved in the Azeri-Chirag-Gunashli (ACG) project - an oil field complex offshore the Caspian Sea - since 2001. In 2007, Saipem Asia Azerbaijan Branch formed an alliance with SOCAR, leveraging Saipem's world-class experience in the management and implementation of offshore assignments related to oil and gas exploration and development projects. The transfer of asset management from Agip to Saipem was also instrumental in the latter's participation in the construction of the Baku-Tiblisi-Ceyhan oil pipeline and the Baku-Tbilisi-Erzurum gas pipeline.

In 2016, Saipem signed an agreement with BP entrusting it with the operational management of the offshore activities of the Shah Deniz field. In June 2024, the contract was renewed, strengthening the company's activities in the Caspian offshore.

Snam
As of today, Snam holds a 20% stake in the Trans Adriatic Pipeline (TAP), bringing Azeri gas to Italy. It has a transport capacity of 10 billion cubic metres and is operational from 2020. Together with Snam, the pipeline is operated by a Swiss joint venture and owned by BP (20%), SOCAR (20%), Fluxys (20%) and Enagás (20%).

In 2020, during Azerbaijani President Ilham Aliyev's first official visit to Italy, Snam signed an agreement with oil major SOCAR. The collaboration aims at finding more efficient solutions for the use of renewable gas, including the prospect of using new technologies in the TAP pipeline. The agreement is articulated on three fronts: 1) research on biogas and biomethane, with the possible construction of anaerobic digestion plants, 2) promotion of sustainable mobility using compressed natural gas (CNG), liquefied natural gas (LNG) and hydrogen, 3) launching partnerships with car manufacturers and developing the retrofit market.

SACE, Cassa Depositi e Prestiti (CDP) and Simest
In 2016, Italy's National Promotional Bank CDP and ECA's SACE expressed interest in financing the GPC Project, which envisages the construction of a petrochemical plant in the country to supply the European, Turkish and Chinese markets. In this regard, an agreement was signed between SACE, SOCAR and Exiar (Russia's export credit agency).

In 2020, during Azerbaijani President's visit to Italy, CDP, SACE and Simest signed a memorandum with Azerbaijan Investment Company, an Azerbaijani state fund whose objective is to promote the diversification of the economy of the Caucasian country. The aim of the agreement is "to strengthen cooperation and business opportunities between Italian companies and their Azerbaijani counterparts, sharing know-how in their respective fields of interest and useful information for conducting business activities in Italy and Azerbaijan. Under the agreement, CDP will also be able to provide the fund with technical assistance for export credit and financing of investments.

6 STRENGTHENING ITALY-AZERBAIJAN POLITICAL RELATIONS

Italian-Azerbaijani relations have been strengthened over the past four years, going beyond the purely energy-related dimension.

In February 2020, President Ilham Aliyev landed in Italy for the first official visit of an Azerbaijani Head of State to our country. At the Rome Business Forum, 28 new partnership agreements[7] were signed

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[7]
1. Joint Declaration between the Republic of Italy and the Republic of Azerbaijan on Strengthening the Multidimensional Strategic Partnership
2. Memorandum of Understanding between the Ministry of Economic Development of the Republic of Italy and the Ministry of Energy of the Republic of Azerbaijan on Cooperation in the Field of Energy
3. Memorandum of Understanding in the field of culture between the Ministry of Cultural Heritage and Activities of the Italian Republic and the Ministry of Culture of the Republic of Azerbaijan
4. Memorandum of Understanding between the Ministry of Cultural Heritage and Activities of the Republic of Italy and the State Tourism Agency of the Republic of Azerbaijan on Cooperation in the Field of Tourism
5. Memorandum of Understanding between the Ministry of Foreign Affairs and International Cooperation of the Italian Republic and the Ministry of Foreign Affairs of the Republic of Azerbaijan
6. Memorandum of Understanding on Cooperation in Quarantine and Plant Protection between the Ministry of Agricultural Food and Forestry Policy of the Republic of Italy and the Food Safety Agency of the Republic of Azerbaijan
7. Declaration of Agreement between Leonardo Spa and the Ministry of Defence of the Republic of Azerbaijan
8. Memorandum of Understanding between the Italian National Olympic Committee (CONI) and the Azerbaijan National Olympic Committee
9. Memorandum of Understanding between the Italian Space Agency and 'Azercosmos
10. Memorandum of Understanding between CDP, SACE, SIMEST and the Azerbaijan Investment Company
11. Memorandum of Understanding between the ICE Agency and the Foundation for the Promotion of Azerbaijani Exports and Investments (Azpromo)
12. Cooperation Agreement between SNAM and SOCAR
13. Partnership agreement between SIMEST SpA and Azerbaijan Export and Investment Promotion Foundation (Azpromo)
14. Memorandum of Understanding between Ansaldo Energia and the Ministry of Energy of the Republic of Azerbaijan
15. Memorandum of Understanding between Ansaldo Energia and AzerEnerji
16. Sale and Purchase Agreement between I.M.A. and Azerbaijan Railways
17. Memorandum of Understanding between LUISS University and ADA (Diplomatic Academy of Azerbaijan)
18. Memorandum of Understanding between the Baku International Naval Commercial Port and the Eastern Adriatic Sea Port System Authority
19. Memorandum of Understanding between the Baku International Naval Trade Port and the Western Ligurian Sea Port Authority
20. Memorandum of Understanding between Ente Nazionale per il Microcredito Italiano and Central Bank of the Republic of Azerbaijan
21. Memorandum of Understanding between the Ente Nazionale per il Microcredito Italiano and the Agency for the Development of Small and Medium Enterprises of the Republic of Azerbaijan
22. Memorandum of Understanding between K-BEK Sport and Azerbaijan Export and Investment Promotion Foundation (Azpromo)
23. Sale and Purchase Agreement between Lucchini RS and 'Azerbaijan Railways'.
24. Sale and Purchase Agreement between 'Garbellotto' and 'Aspi-Agro'
25. Memorandum of Understanding between the Agency for the Development of Small and Medium-sized Enterprises of the Republic of Azerbaijan and Promos Srl
26. Memorandum of Understanding between INSME (International network for small and medium enterprises) and the SME Development Agency of the Republic of Azerbaijan
27. Declaration between the Municipality of Rome and the Administration of the State Historical and Architectural Reserve 'Icherisheher' of the Republic of Azerbaijan

between the two states. A 'Joint Declaration on Strengthening the Multidimensional Strategic Partnership' was also signed, which includes other areas of cooperation such as tourism, sports and education.

Beyond energy cooperation with Baku - which has become a priority following the diversification of supply sources from Russia - some decision-makers in Italy wish to leverage Azerbaijan in order to strengthen the country's relations with China, despite Rome's withdrawal from the Belt and Road Initiative in 2023. Azerbaijan is indeed a pivot of the emerging East-West trade routes and could represent an outpost of Italian influence within the Belt and Road and Middle Corridor projects[8] .
On the industry side, Azerbaijan, through the Baku Steel Company (BSC), recently expressed its interest in acquiring Acciaierie d'Italia as a whole. BSC, the main steel company established to meet the steel demand of the country's oil and gas projects, is currently involved in the reconstruction of Karabakh.

The Rome-Baku axis also includes the education sector, as demonstrated by the agreement signed in 2021 on academic cooperation for the establishment of the Italy-Azerbaijan University, based in Baku and hosted in the Ada University campus. The aim of the initiative, which involves Luiss 'Guido Carli', Sapienza, Alma Mater Studiorum - University of Bologna, Politecnico di Torino and Politecnico di Milano, is to represent a centre for the transfer of research, technology, skills and innovation between the two countries.

Last but not least, Italy-Azerbaijan cooperation includes the defence sector. Leonardo signed a contract to supply the C-27J tactical transport aircraft to the Azerbaijan Air Force, as part of a broader modernisation programme for the Azerbaijani Armed Forces that sees increasing support from Italian industry.

The 28 partnership agreements come on the eve of the second Nagorno-Karabakh war - which broke out in September 2020 - and are of great political importance in light of the Azerbaijani-Armenian issue. **The strengthening of energy and trade interests with Azerbaijan has in fact revealed a more passive foreign policy of Italy on the conflict, resulting in an Italian detachment from the OSCE Minsk Group[9]** .

According to some analysts, 'Azerbaijan would have leveraged the prolonged political and economic instability of Italy, considered the least politically stable country in Europe, to forge a relationship of interdependence, based not only on energy and trade, but also including a cultural dimension. Baku's objective was to obtain a higher profile for Italy within the European Union's efforts to mediate a lasting peace in order to mitigate France's unconditional support for Armenia'.

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28. Memorandum of Understanding between the Ministry of Foreign Affairs of the Republic of Azerbaijan and the Ministry of Foreign Affairs and International Cooperation of the Republic of Italy concerning the performance of paid employment by cohabiting family members of staff of diplomatic missions, consular offices and permanent representations

[8] The Middle Corridor is a trade route connecting South-East Asia and China to Europe via Kazakhstan, the Caspian Sea, Azerbaijan, Georgia and Turkey, considered an alternative to the Northern Corridor to the north, via Russia, and the Oceanic Route to the south, via the Suez Canal.
[9] The Minsk Group (or Process) formed by the US, France and Russia aimed to encourage a peaceful and negotiated settlement after the first Nagorno Karabakh war.

Italy's foreign policy priority given to protecting its energy and economic interests in Azerbaijan was reconfirmed following the 'anti-terrorist operation' launched by Azerbaijan in Nagorno-Karabakh in September 2023. While regional and international leaders condemned Azerbaijan's military offensive, Italian Foreign Minister Antonio Tajani took a different approach, extending an offer of mediation by proposing the "Alto-Adige model" to manage the situation - a model that supports Azerbaijan's strategy for the integration of Nagorno-Karabakh.

The position Italy has maintained in the conflict between Azerbaijan and Armenia over Nagorno-Karabakh is the proof of how much economic interests, especially energy interests, have influenced and are influencing leader's choices.

President Aliyev's most recent visit to Italy and his speech during the Cernobbio Forum in September 2024 reconfirmed the centrality of fossil energy in bilateral relations to the detriment of building a dialogue on cooperation priorities at European level, such as the defence of human rights, the rule of law and respect for international law and territorial integrity.

7 INCREASING ITALY'S DEPENDENCE ON AZERI GAS – FEASIBILITY AND RISKS

At the heart of the memorandum of understanding signed in 2022 between the European Commission and Azerbaijan to double the capacity of the pipeline linking Azerbaijan's gas fields with Italy and the European Union is the intention to expand the capacity of the TAP pipeline, which, as shown above, runs from the Greek-Turkish border through Greece and Albania and ends in Italy, on the Adriatic coast in the province of Lecce.

Italy started importing gas from Azerbaijan through the TAP from 2021, for a total of 7.2 billion cubic metres, rising to more than 10 in 2022 and about 10 in 2023, surpassing 9.5 billion agreed in April 2022 to be reached by the end of the year. To date, Azerbaijani gas accounts for about 16% of Italy's total imports and gross domestic gas consumption.

In the final version sent to Brussels in July 2024, the National Energy and Climate Plan (NECP) envisages the doubling of TAP's capacity, which, according to the Ministry of the Environment and Energy Security, will allow for greater gas import capacity from 2026 (up to about 18 billion cubic metres per year from Azerbaijan), supplies that will be used to satisfy both Italy's domestic demand and, eventually, exports to other European countries. The doubling of TAP's capacity would be achieved through an upgrade of the compressors that would increase the gas pressure inside the pipeline. In order to improve the national connection of the transport network, the NECP also envisages the construction of the Matagiola Massafra pipeline, which in the original project would join the TAP and Linea Adriatica pipelines[10].

However, various analyses have shown that an increase in pipeline capacity and thus in gas supplies for Italy and Europe are not necessary to guarantee energy security, as well as the

[10] Project already authorized as considered essential for overcoming bottlenecks in the transport network on the south-north route and to guarantee the transport of additional supplies from the entry points to the south

economic sustainability of the investments in view of scenarios that foresee a decline in gas demand in Italy and Europe already in the short term.

ECCO's analysis 'State of the Gas' shows that **if Italy wants to pursue a path consistent with national and European climate targets to 2030 as well as with Paris Agreement objectives, it is not necessary to invest in new gas capacity**.

In fact, within a gas demand scenario for Italy that corresponds to the Fit-for-55 scenario, and therefore to the 2023 NECP, and the G7 scenario, which responds to the undersigned commitment to achieve a predominantly decarbonised power sector by 2035, **the increase in TAP's transport capacity does not appear to be justified by any of the simulations carried out.** In detail, in the Fit-for-55 scenario, the existing infrastructure [11] is already able to cover the required consumption volumes and ensure an export volume of more than 7 billion cubic metres per year. **In the case of the G7 scenario, the existing infrastructure alone not only meets climate objectives, but is also able to guarantee the security of the energy system even in the event of a total interruption of Russian supplies and the disruption of imports from Algeria**.

On the contrary, the expansion of TAP, coupled with further investment in the Linea Adriatica[12], is necessary to ensure national and European security of supply only in a *Late Transition* scenario, in which gas demand in 2030 is higher than in 2023, primarily to cover demand from Austria, Slovakia and Switzerland rather than national demand. However, the *Late Transition* scenario, which incorporates estimates developed by TSO Snam and Terna, does not meet the medium- and long-term climate targets.

In accordance with ENTSOG's assessment[13], REPowerEU identifies the extension of TAP as a possible project to be evaluated in order to subsitute Russian gas in Central and South Eastern Europe. However, the project is not included in the final list of Projects of Common Interest (PCI) approved and adopted by the Member States in April 2024.

Following the 2021 Market Test, TAP received binding offers for only 1.2 bcm, considerably less than the 10 bcm needed for doubling. In the additional round of binding requests launched in October 2023**, the market showed no interest in doubling the capacity of the TAP pipeline**. The pipeline company announced that it will only proceed with the increase of 1.2 bcm/y from 2026. **It will be necessary to wait until 2025 for the final market tests to decide over the additional 8.8 billion cubic meters per year. Only at that time will it be possible to determine if there will be buyers for the additional volumes, a prerequisite for the doubling. There is also no evidence of interventions to increase the transport capacity of the SCP and TANAP, the other two sections of the SGC.**

In order to cope with the additional 1.2 bcm/y in the short term, Azerbaijan concluded gas import agreements with Russia between November 2022 and March 2023, thus indicating the possibility

[11] The existing infrastructure considers the regasification terminal in Ravenna but not the one in Piombino (only authorised until 2026)

[12] Linea Adriatica is a gas pipeline set to Increase transport capacity towards north from 45 bcm/y to 55 bcm/y: Two of the three sections between Sulmona and Minerbio are already authorised, including a gas compressor station in Sulmona

[13] Association of European Transmission System Operators (TSOs)

that Russian gas could transit indirectly to European countries through Azerbaijan or be used by Baku to free up domestic resources for export. Moreover, in 2021 a swap agreement[14] was reached with Turkmenistan, via Iran, under which 1.5-2 billion cubic metres would be supplied to Iran from Turkmenistan and an equivalent volume from Iran to Azerbaijan. In June 2024, Azerbaijan and Turkey signed a cooperation agreement increasing Central Asian and Azerbaijani gas exports to Turkey, with Turkmenistan as the main exporter. However, it was stated that the trade agreement is likely to be limited to the transit of only 2 billion cubic metres of Turkmen gas per year.

On the supply side, a study by the Oxford Institute for Energy Studies (OIES) investigated the issue of a potential increase in Azerbaijani gas production and the resulting impact on available export capacity. According to OIES projections**, in both 2025 and 2030, assuming the lowest plausible level of production and a stable domestic demand until 2030, there would be no remaining volumes of gas available for export to Turkey and European partners**.

Assuming the maximum plausible level of production, 15 bcm/year of incremental gas (i.e. in addition to the volumes already contracted) could be technically available for Turkey and Europe by 2030, although this number could decrease again by 2035 due to the natural decline of the Shah Deniz fields. The scenario takes into account the development of fields whose final investment decisions are still uncertain. This is for instance the case of the Absheron field, whose phase one already produces 1.5 bcm/y for the domestic market only, whose final investment decision (FID) for the second 5 bcm/y phase has not yet been made and which should serve export markets. At the same time, Azerbaijan faces the barrier of increasing domestic natural gas consumption, which will limit spare capacity to increase exports. Indeed, domestic gas consumption grew at an average annual rate of about 3.5% in 2017-21, which leads to an estimate of consumption in 2022 at about 13.5 bcm and consumption at about 15 bcm in 2026.

The author of the above-mentioned study primarily argues that Azerbaijani gas production would only reach the necessary level, at best, at the end of this decade. **A sufficient and stable gas demand from Europe is a necessary condition for financial support for the development of new fields and the expansion of export infrastructure. Such a guarantee, however, is not compatible with the decarbonisation scenarios of the policies already in place**. **Current market trends, highlighted by the non-renewal of the Shah Deniz contract[15] as well as declining European and Italian demand according to most scenarios[16], will add to the difficulties in upgrading the SGC**. **Even the most optimistic assumptions on upstream development do not suggest that substantial amounts of additional gas will be available in the 2030s**. Finally, there are also no plausible scenarios in which the upgrading of the transport infrastructure can be completed in this decade. **Any significant expansion of Azerbaijani gas extraction, in fact, will depend on the signing of**

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[14] The agreement was originally signed at the end of 2021, now it has been temporarily suspended until the parties find a further agreement

[15] In 2021, following the expiry of the gas supply contract between Azerbaijan and Turkey, BOTAS, the Turkish oil company, made it known that it would not renew the contract in order to increase the volumes of spot LNG in its import portfolio and thus reduce dependence on imported pipeline gas with long-term contracts

[16] IEA, BP Energy Outlook 2024. The European Commission estimates a drop of 42% to 2030 and 69% to 2040 compared to 2021. Snam projects Italian gas demand in 2030 at between 42 and 59 billion cubic metres, i.e. down 15% to 40% compared to 2022. The Piano Nazionale Integrato per l'Energia e il Clima (PNIEC) 2023 forecasts Italian gas demand in 2030 to fall by 26% compared to 2022. Source: ECCO elaboration on Snam data, PNIEC 2023 and European Commission.

long-term contracts, something that European countries are hesitant to accept as they are at odds with European decarbonisation goals and the energy dynamics taking place in Europe.

Moreover, the impact that the recent European regulation on methane emissions will have on importers of fossil fuels to EU countries must be taken into account. The regulation will require EU gas importers to provide detailed information on methane emissions from their external sources of natural gas supply. Failure to meet a methane intensity standard, yet to be defined by the European Commission, for natural gas placed on the EU market will be penalised. Azerbaijani methane emissions have more than doubled since the early 2000s. By 2022, Azerbaijan's exported emissions were almost double the domestic ones. Although Baku has not yet disclosed the methane intensity[17] associated with its oil and gas production, some sources indicate that it is currently greater than 0.2%, a target set by the Oil and Gas Climate Initiative that has become the industry standard on a path to near-zero methane emissions.

The imposition by European countries of stringent targets on methane emissions from gas supplies will not only represent additional costs for gas exporters, but above all a long-term challenge in dealing with EU regulatory reporting requirements and standards in which exporters may also risk losing access to a European market that will already be in great decline by 2030[18].

Azerbaijan cannot continue to depend on fossil fuel exports to Europe. Projections show that current policies will lead to a significant reduction in global oil demand in the coming years, with OECD countries' oil demand expected to peak by 2025**. According to the International Energy Agency (IEA), if we want to stay within a trajectory that achieves net-zero emissions by 2050 and limits the global average temperature rise to 1.5°C, there is no more room for new fossil fuel exploration and production, as the existing one is sufficient to meet current and future energy demand. Any new investment in new oil and gas projects, therefore, may risk no longer being recoverable within a world aligned to 1.5°C.**

In addition, there is a political risk connected to it: after the takeover of Nagorno Karabakh, Azerbaijan has not yet reached a final peace agreement with Armenia, leaving the door open to possible new hostilities. Moreover, the new gas import agreements from Azerbaijan present a further risk in terms of decoupling from Russia, highlighting how Baku's ties with Moscow remain solid. A significant diplomatic factor is further complicating the situation: as a result of the lack of Russian assistance in the war against Azerbaijan, Armenia is moving closer to the EU, even withdrawing from the OSTC[19]. The intensification of European energy dependence with Azerbaijan could undermine these dynamics, as Baku may use the leverage of gas supplies to hinder this rapprochement, thereby undermining EU policies towards the Eastern Neighbourhood.

Italy is therefore unlikely to benefit from increased gas supplies from Azerbaijan beyond those already planned from 2026. In fact, it has been estimated that Azerbaijani production in the best case scenario could increase to a maximum of 15 billion cubic metres per year with new investments. However, an increase in production is not only not compatible with the climate

[17] Methane intensity is defined as the amount of methane emitted by upstream oil activities per unit of methane gas produced

[18] The European Commission estimates a decrease of 42% by 2030 and 69% by 2040 compared to 2021.

[19] Military alliance with Russia, Kazakhstan, Belarus, Tajikistan, Turkmenistan and Kyrgyzstan

goals of the Paris Agreement, but the binding demands achieved of only 1.2 bcm/y compared to the agreed 10 bcm/y are an additional confirmation that the current market conditions are not adequate to support the necessary investments in the development of new fields and infrastructure expansion.

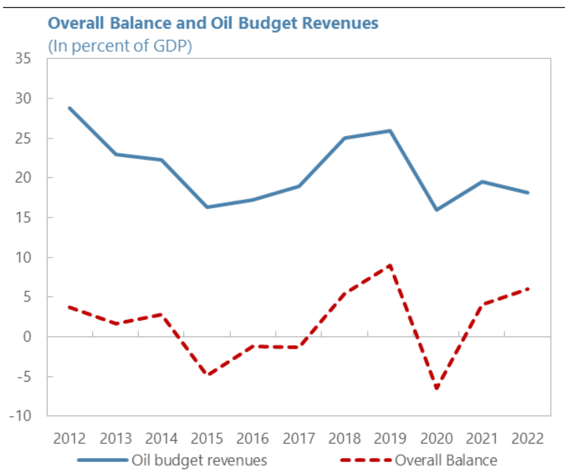
8 RISKS OF A MISSED OR DELAYED TRANSITION FOR AZERBAIJAN

Doubling infrastructure capacity requires large-scale investments in both fields and pipeline infrastructure, as well as long-term commitments from EU Member States. **Betting on gas based on a European market with a declining gas demand over the next five years therefore risks creating *stranded* assets, i.e. investments destined to lose value**.

With a transition from fossil fuels to clean energies underway, oil and gas producers and countries heavily dependent on these resources will necessarily have to take into account the impact of reduced demand and commodity prices on future revenues when assessing the profitability of new developments. However, many producing countries are not prepared for the peak, as oil and gas account for a large share of government revenues, which in turn are dependent on fluctuating prices of these commodities.

Azerbaijan can be defined as a petrostate, i.e. a country whose economy is heavily dependent on the extraction and export of oil or natural gas. Today, **oil and gas revenues account for about 70 per cent of total state revenues** - a direct way to measure the importance of the sector for national fiscal sustainability. To understand how crucial oil revenues are to the overall state budget, one has to compare their respective trends over the past ten years. As depicted in Figure 6, it can be seen that the overall budget balance moves in line with oil budget revenues.

Figure 6 – Overall balance and revenue from Azerbaijan's oil sector. Source: IMF



A further measure of the country's vulnerability to transition is the fiscal breakeven price, i.e. the price of oil that governments rely on to balance their budgets. An analysis revealed that in 2024, Azerbaijan's fiscal breakeven price stands at $88 per barrel, higher than the average Brent price for the current year (around $80 per barrel). This implies that in the event of a scenario in which oil and gas sales prices fall, government revenues would be lower than estimated and budgeted, with significant direct consequences for government spending. A not-too-remote scenario: in the IEA's net-zero scenario, oil prices fall to around $35 per barrel in 2030 and then settle around $25 per barrel in 2050; similarly, gas demand, LNG trade and gas prices fall rapidly already by the end of this decade. To date, however, Azerbaijan does not seem to be willing to reduce its dependence on fossil fuels. In fact, the 2023 update of its Nationally Determined Contribution (NDC) shows the Azerbaijani government's intention to increase fossil gas extraction by more than 30% over the next decade, resulting in an increase in total GHG emissions of around 20% to 2030, in stark contrast to the reductions needed to meet its climate commitments.

Warnings of the risks facing Azerbaijan in view of falling hydrocarbon demand and prices have been highlighted by the International Monetary Fund (IMF). Its latest report on Azerbaijan, published in February 2024, announces that hydrocarbon GDP has shrunk by 2.7%, with oil production facing technical challenges only partially offset by increased gas production. Overall, the report predicts that hydrocarbon production will continue to contract gradually, as the expected structural decline in oil production will only be partially offset by the increase in gas production. The IMF also warns that due to the continued structural decline in oil production, growth is expected to slow to 2.3% in the medium term. Looking at the estimates made by the fund, the oil sector's contribution to GDP falls by 0.5% each year until 2028[20], due to the decline in oil and gas exports, which fall by an average of about 5% per year until 2028.

An analysis by Carbon Tracker explored the impact that energy transition without economic diversification measures could have on the production plans of state-owned oil companies, such as Azerbaijan's SOCAR, and thus of major producing countries, as well as on the governments' oil revenues[21]. The analysis assumed two scenarios:

1) A moderate pace transition scenario - calculated from the World Energy Outlook's (WEO) Announced Pledges Scenario (APS), according to which oil demand falls to around 70 million barrels per day (Mb/d) by 2040. Furthermore, the analysis would show how the trajectory of this scenario would lead to a warming of 1.8°C by 2100.
2) Business-as-usual (BAU) scenario under a slow pace transition - calculated based on the WEO's Stated Policies Scenario (STEPS), which shows a steadily increasing demand until 2030, before reaching a plateau. The trajectory of this scenario would lead to a warming of 2.4°C by the end of the century.

Under the moderate pace transition scenario, with a reference price calculated at around $40 per barrel, production shows a decline of 20% by 2040. This decline would consequently have a direct impact on state revenues. **It has been estimated that under the moderate pace transition scenario, the petrostates[22] will face a potential revenue reduction of USD 8 trillion in the period 2023-2040. Compared to the slow pace transition scenario, the losses are even greater - over the same period, the loss would be around USD 17 trillion.**

Therefore, when calculating the magnitude of the impact of a moderate pace transition on the fiscal sustainability and economic health of the petrostates, it appears that the economic vulnerability of the Azerbaijani government is very high, ranking 4 out of 5. In detail, **50% of Azerbaijan's**

[20] The IMF has made its estimates up to 2028
[21] The analysis takes into account both direct investments in extraction projects by state-owned oil companies and fees from exploration and production licences
[22] The analysis considers petrostates 40 countries whose economies are highly dependent on hydrocarbon production. Among them is Azerbaijan.

government revenues from oil and gas would be at risk under a process of reduced oil and gas demand resulting from a moderate pace transition (scenario 1). **Consequently, given the Azerbaijani economy's heavy reliance on oil revenues, within a trajectory indicated by the APS scenario, 70% of Azerbaijan's state revenues would be at risk if no risk mitigation strategy and economic diversification reform were to be implemented.**

The future lower oil and gas revenues of the petrostates will impact their fiscal sustainability in several ways, which will be reflected in lowered credit ratings, as was the case for Venezuela.

9 WHAT AZERBAIJAN'S RESPONSIBILITIES WITH REGARD TO CLIMATE AND COP29

Azerbaijan, a country heavily dependent on oil and gas, has propelled itself into an international climate leadership role, whose responsibility will be to guide nearly 200 governments towards common positions in highly contentious negotiations. As chair of COP29, Azerbaijan is therefore responsible for providing clear direction and vision to the negotiations, mediating the agreements that will form the formal outcome of the summit.

However, given the country's weak climate action commitments and the limitations of its political economy anchored to fossil fuel performance, Baku may struggle to provide credible and effective leadership. Looking at its energy diplomacy, Azerbaijan has clearly expressed its ambition to be among the "last man standing" among fossil fuel producers. Baku took the opportunity offered by COP29 to solicit financial support from the EU, aimed at doubling Azerbaijan's gas exports to the bloc and securing stable long-term demand. By positioning itself at the centre of the multilateral climate debate, the Azerbaijani government could influence discussions on the global energy transition in order to preserve the economic sustainability of its oil and gas reserves for as long as possible.

On the contrary**, the nature of a fossil-fuel producing country and its non-alignment in defined geopolitical blocs could lead to engaging other hydrocarbon-rich nations in a constructive and explicit debate on fossil fuel transition dilemmas in a way which was never achieved at COP**.

According to a recent report by Chatham House**, to get the most out of COP29 and support Azerbaijan's long-term climate leadership and action, the Azerbaijani government should**:

- Openly recognise the challenges of fossil fuel dependency and climate vulnerability and solicit the support of the global climate community to address them.
- Together with the UAE and Brazilian governments - the Troika – Baku should draw a viable path towards a decarbonised future for fossil fuel producers. This would create the conditions for greater ambition, currently limited by those who have the most to lose from the transition.

10 RECOMMENDATIONS FOR ITALY

Fossil energy has played a driving role in trade and political relations between Italy and Azerbaijan. Over the past four years, energy interests have been key elements in building a comprehensive partnership between the two countries, playing a major political role in Italy's positioning on the Azerbaijani-Armenian issue. To date, Baku allocates 57% of its oil exports to Italy, which is thus the main outlet market for Azerbaijani oil. At the same time, Azerbaijan has established itself as a key partner in Italy's strategy of diversification from Russian gas. Currently, Baku exports around 20% of its gas production to Italy, positioning itself as Italy's second largest gas supplier after Algeria.

Within a transition path driven by falling gas demand at Italian and European level, and given Italy's relevance to the Azerbaijani market, it is therefore essential that, in deepening political and economic relations with Azerbaijan, Italy takes the following points into consideration:

- **Plans to increase gas exports from Azerbaijan to Italy are part of a framework where betting on gas exposes to many risks**. The global market is, in fact, increasingly projected towards the adoption of renewable energy on a large scale and sees European and Italian demand for gas falling already by the end of this decade. As shown, if Italy wants to pursue a path consistent with national and European 2030 climate objectives as well as Paris Agreement commitments, it is not necessary to invest in new gas capacity, as the existing infrastructure is already able to cover the required volumes of consumption and ensure an export volume of over 7 billion cubic metres per year. **Betting on gas, therefore, may risk generating *stranded assets*, i.e. investments that will be lost as they are no longer profitable. In this regard, the investments of the main companies involved would also put public capital at risk**.
- **Deepening an already gas-focused relationship without foreseeing some measures to support the economic diversification of a petrostate like Azerbaijan is to condemn the country to a future of uncertain and risky revenues, with repercussions on its fiscal sustainability and economic health.** Given Azerbaijani economy's heavy reliance on oil revenues, within a trajectory indicated by the APS scenario, 70% of Azerbaijan's government revenues would be at risk if no risk mitigation strategy and economic diversification reform were to be implemented.
- **Italy, as its first trading partner, should promote measures that can support Azerbaijan's process of economic diversification**, for example through the activation of new forms of economic and industrial diplomacy to identify zero-emission projects **that can foster the development of non-oil sectors and long-term planning.**

THE ITALIAN CLIMATE CHANGE THINK TANK

The opinions expressed in this document are solely those of ECCO think tank, the author of the research.

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