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FUTURE OF EU OIL AND GAS SUPPLIERS IN A LOW-CARBON WORLD

RISKS OF AN UNMANAGED TRANSITION

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The sharp decline in European oil and gas demand over the next 25 years will deprive many of the EU's key fossil fuel suppliers of significant income and foreign currency flow. Without sufficient support for an equitable transition, countries heavily reliant on oil and gas revenues will face economic and political turmoil, creating new security risks for the EU. The EU needs to redefine its relationships with its vulnerable suppliers to mitigate these risks in this crucial decade.

At COP28 in Dubai last year, nearly 200 countries committed to transitioning away from fossil fuels. The "UAE consensus" provided a political framing to the real economy trend: renewable energy is growing at unprecedent rates, and fossil fuel use is set to peak by 2030, according to the International Energy Agency.[1] This peak may even occur within the next couple of years if the world's largest economies meet their existing climate and energy targets.

Oil and gas demand in the EU is already in structural decline, according to the bloc's own projections.[2] By 2030, demand will fall by a quarter and half, respectively, compared to 2019 levels. By 2050, demand for both fuels will reduce by at least 80%. EU's oil and gas suppliers stand to lose their most crucial export market and revenue as the transition progresses, and few will be able to find alternative buyers in the medium term. If they don't succeed in diversifying

[1] International Energy Agency, 2023**, The Oil and Gas Industry in Net Zero Transitions**

[2] European Commission, February 2024, **Commission Staff Working Document Impact Assessment Report**

their economy, falling oil and gas revenues will compromise economic, social and political stability.

In this briefing, E3G identifies Libya, Algeria and Azerbaijan as particularly vulnerable to the declining EU oil and gas demand due to their reliance on the EU for export revenues ("exposure") and their ability to adapt and diversify their economies ("resilience"), as well as underlying political, social, and demographic tensions.

Recommendations to the EU and member states

The EU and its member states must redefine their relationships with producing countries to support their transition. Failure to do so will jeopardise global decarbonisation efforts and the EU's priorities beyond climate, including security, migration and neighbourhood stability.

Moreover, reducing dependency on gas imports is the EU's only route to long-term energy security. In the wake of Russia's invasion of Ukraine, the EU sought to diversify its gas supplies in the medium term, but continued dependence on gas and exposure to volatility in global gas prices has left the EU with a soaring gas import bill and vulnerable to sabotage of pipeline infrastructure and supply interruptions.

There is growing awareness of the risks among EU policymakers. In March, the EU's Foreign Affairs Council affirmed its commitment to working with partners to support the transition away from fossil fuels in a "just, orderly and equitable manner".[3] The council also recognised the need to engage with partners to address the shifting geopolitical dynamics of the global energy transition and decline in EU fossil fuel demand.

In light of these commitments, the EU and member states should:

> **Communicate the EU's demand reduction trajectories to key suppliers** in a transparent and timely manner, so they understand the risks, avoid creating stranded assets and ensure money is better invested elsewhere.

> **Ensure the EU's resilience to global oil and gas market volatility** by focusing on faster decarbonisation, reducing fossil fuels demand, and resilience of critical energy infrastructure, rather than diversifying fossil fuel suppliers.

[3] European Council, March 2024, **Green diplomacy: Council conclusions reaffirm the EU's commitment to work closely with partners to accelerate a global just and inclusive green transition**

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> **Ensure long-term stability in the EU's neighbourhood** by initiating transition dialogues with key suppliers Algeria, Libya and Azerbaijan towards a jointly developed mechanism that supports countries to reduce their dependence on fossil fuel revenue and uses energy and trade relationships to develop new supply and value chains.

> **Rethink partnerships with key suppliers** in the context of existing and emerging regulatory climate mechanisms including the Carbon Border Adjustment Mechanism (CBAM) and the EU Methane Strategy.

> **Offer support to international initiatives** such as the Beyond Oil and Gas Alliance, working to enable an equitable phase-out of oil and gas production, to help establish first transition success cases and create confidence for other suppliers.

> **Leverage wider investment and technical support needed to unlock clean growth** in producer regions of common interest (e.g. North and West Africa) as part of the dialogue with China, EU-Gulf Cooperation Council partnership, and bilateral relations with Gulf countries and other partners.

EU's oil and gas market in structural decline

EU fossil fuel demand peaked in 2006 and has declined by 22% since then, driven by government policies, long-term market trends and climate commitments.[4] Russia's invasion of Ukraine in 2022 accelerated this trend, as the EU now aims to completely phase out the use of Russian gas by 2027 – a target that implies further gas demand reduction in the coming years.

The EU's gas demand peaked in 2010[5] and is projected to fall by more than 50% by 2030 compared to 2019 levels if the EU implements existing polices to expand renewables, increase efficiency and implement market reforms set out in the European Climate Law, Fit for 55 programme and RePowerEU action plan (Figure 1).[6] The EU energy regulators' agency estimates that the EU has already signed contracts for almost twice as much LNG as it will need by 2030. EU buyers will

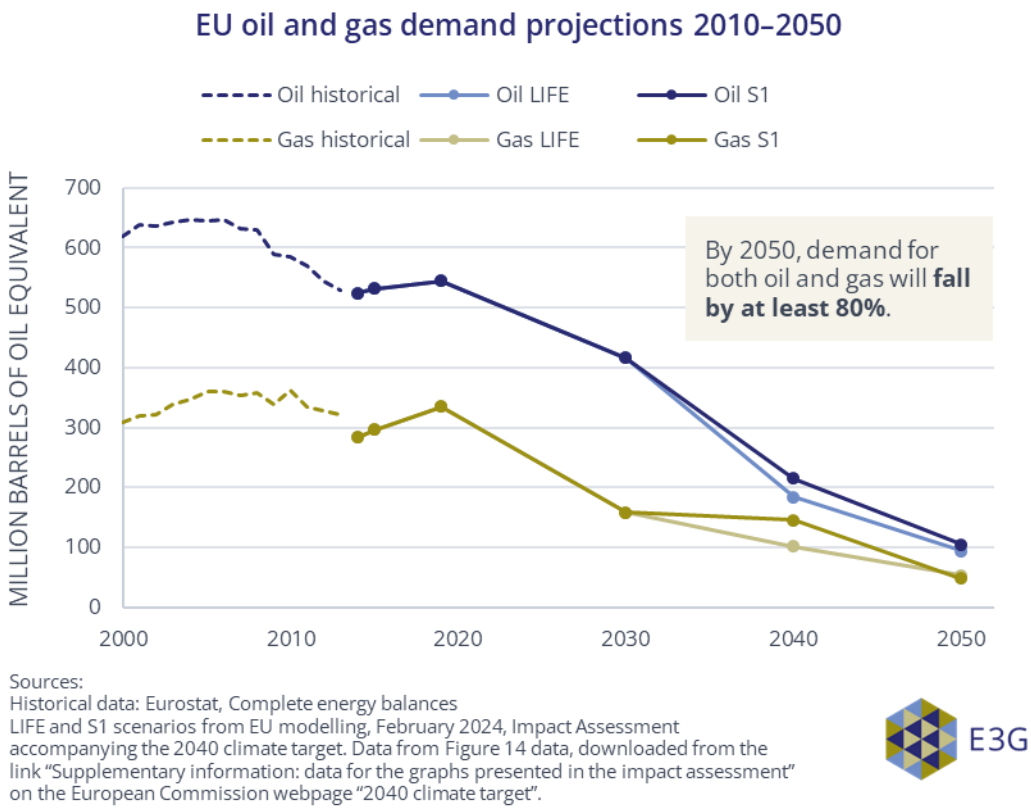
[4] Rocky Mountain Institute, 2023, **From Deep Crisis, Profound Change**

[5] EU gas demand peaked in 2010 and declined 19% until 2022. Source: **Eurostat, 2023**.

[6] E3G, 2024, **Declining EU gas demand diminishes need for US liquified natural gas**

have to resell this LNG – a clear sign that the "dash for gas" after Russia's invasion of Ukraine is over.[7,8]

The EU's oil demand peaked[9] in the early 2000s and is projected to drop by nearly a quarter by 2030 and 80% by 2050 (Figure 1).[10] Data from the IEA and Rystad shows that no new upstream oil projects are needed to meet the EU's future oil demand, if current policies are implemented. If the EU follows the IEA's more ambitious net zero pathway, there would be 60% overcapacity from existing fields by 2050.[11]



[7] Oil Change International (OCI), Transport & Environment, Zero Carbon Analytics, WWF Norway, Greenpeace Norway, February 2024, **On Thin Ice: Norway's Fossil Ambitions and the EU's Green Energy Future**

[8] European Union Agency for the Cooperation of Energy Regulators (ACER), April 2024, **Analysis of the European LNG market developments**

[9] Eurostat, **2024**

[10] EU modelling from Feb 2024 **Impact Assessment** accompanying **2040 climate target**

[11] OCI **2024.** While scenarios from OPEC and ExxonMobil project a continued rise in global oil and gas demand, the EU's fossil fuel demand falls in any scenario. Thus, the vulnerability of EU's key suppliers that can't diversify to other markets will remain an urgent issue even in the least ambitious global scenario.

Figure 1: EU modelling projects significant decreases in oil and gas demand by 2050 compared to recent decades.

While other scenarios, for example from OPEC and ExxonMobil, project a continued rise in global oil and gas demand, the EU's fossil fuel demand falls in any scenario. Thus, the vulnerability of EU's key suppliers that can't diversify to other markets will remain an urgent issue even in the least ambitious global scenario.

Suppliers left to compete over a shrinking and tighter regulated EU gas market

As the EU dramatically reduced its reliance on Russian energy (Figures 2 and 3), it has turned to other suppliers, presenting a range of new economic and security challenges.

Russia's share of EU oil imports has fallen from over 30% early 2022 to 3% in 2023 (Figure 2) – although research from NGOs has shown Russian oil is still reaching the EU via Turkey. This has been replaced largely by Norway and US oil – as well as a growth in exports from newer suppliers such as Brazil and Angola.

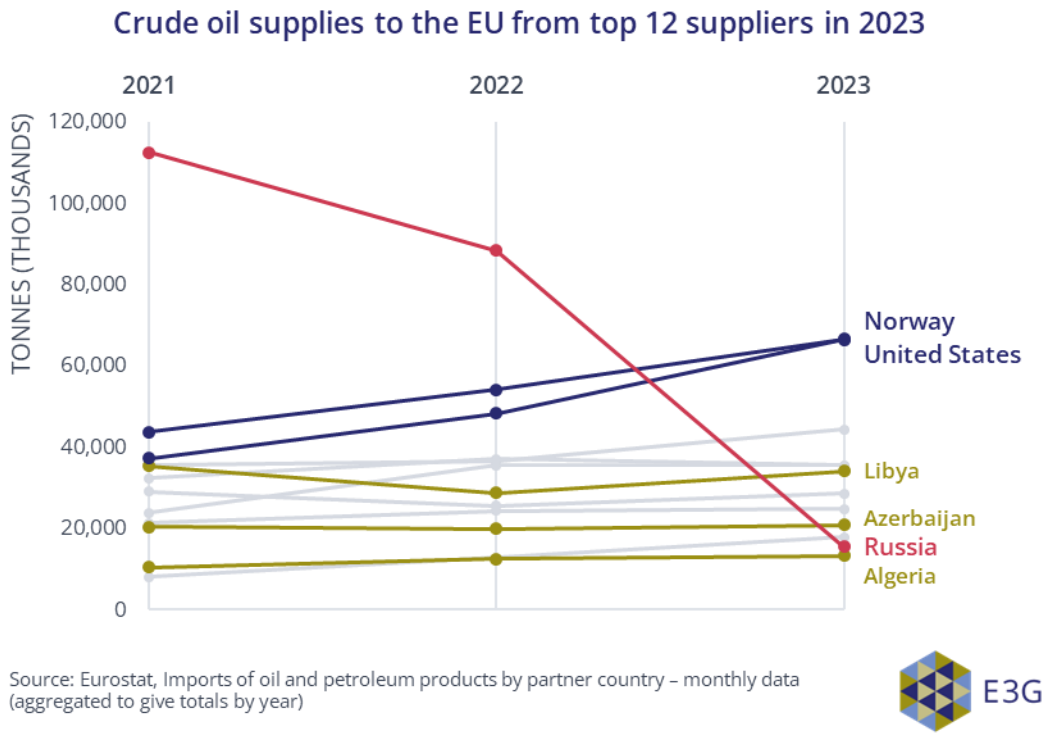
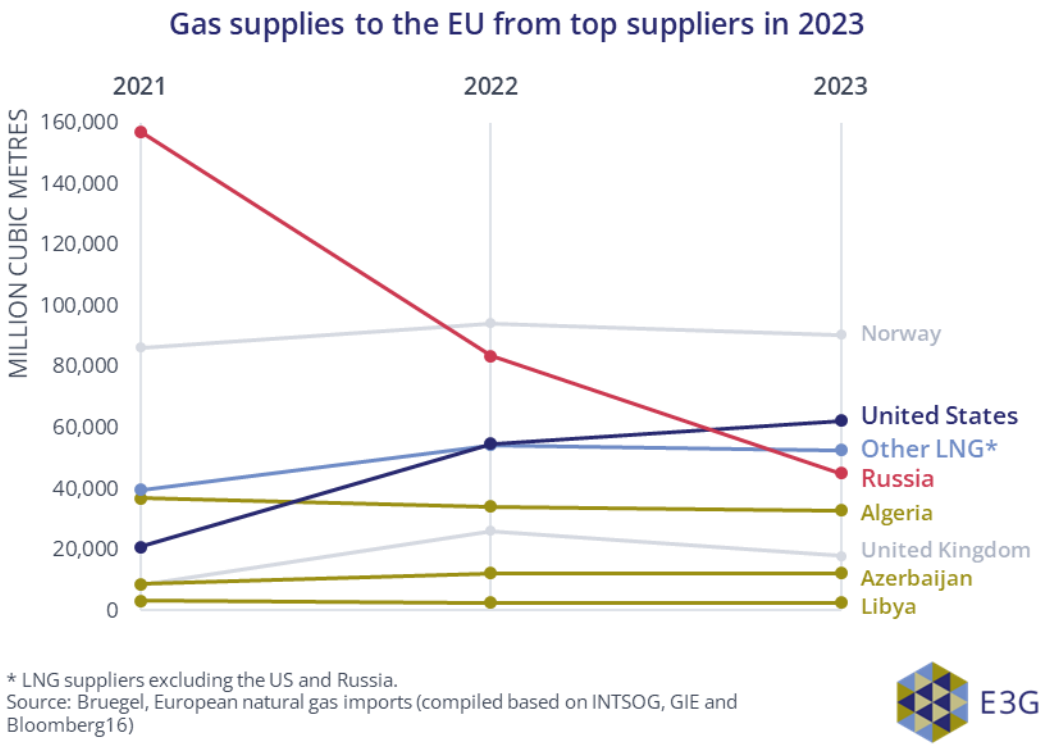


Figure 2: Norway and the US have overtaken Russia as the EU's top suppliers of oil since the Russia-Ukraine war.

Russian gas made up only 15% of EU supply in 2023, down from 45% in 2021. This has been achieved primarily through a drop in demand combined with a sharp rise in LNG imports, particularly from the US and Qatar (Figure 3).

The EU's diversification strategy secured gas supplies in the medium term, but continued dependence on gas and exposure to volatility in global gas prices has not boosted overall energy security. It has left the EU with a gas import bill of over €400 billion in 2022[12] – more than three times the level in 2021 – despite a historic drop in demand. Furthermore, dependency on gas imports leaves the EU vulnerable to sabotage of pipeline infrastructure, supply interruptions due to issues at maritime choke points, and planned or emergency maintenance of pipeline and LNG infrastructure, e.g. Norway's Aasta field[13] or the Freeport LNG in the US.[14]



* LNG suppliers excluding the US and Russia.
Source: Bruegel, European natural gas imports (compiled based on INTSOG, GIE and Bloomberg16)

[12] IEA, March 2023, **Europe's energy crisis: What factors drove the record fall in natural gas demand in 2022?**

[13] S&P Global, March 2024, **Unplanned maintenance work at Norway's Aasta Hansteen**

[14] Reuters, November 16 2022, US regulator releases report blaming Freeports LNG blast on inadequate processes.

Figure 3: Gas supplies to the EU from Russia have declined sharply since 2021. Imports of LNG from other countries, especially the US, have risen as a result.

Suppliers are now left to compete for a share of the EU's dwindling market. The EU is clearly moving into a "buyer's market" where it will be increasingly able, and indeed forced, to drop suppliers. This goes beyond price: the EU's methane regulations,[15] due to enter into force imminently, mark the first time the EU will pick and choose suppliers based on methane intensity, with a methane intensity ceiling for imports for new contracts concluded from 2030.

While some other markets, particularly in developing Asia, are showing short-term growth in LNG imports, they are not able to pay suppliers the high rates paid by the EU. Asia's demand has grown more modestly than predicted before the crisis and will not be sufficient to replace the EU's declining gas demand and predicted oversupply in the global system.[16]

Oil and gas market volatility and decline ahead

The IEA predicts per-capita income from oil and gas sales in established producer economies will fall by 70% to 2030 and by 90% to 2050 compared with the average level between 2010 and 2022 in a net zero scenario. This is based on the IEA's assumption that NZE-aligned demand reduction will bring about lower export volumes and a strong drop in prices, with oil prices plummeting fourfold down to $25/barrel and gas falling eightfold to $4/mBtu.[17] Oil and gas price volatility will also likely grow until 2050 as key markets enter terminal decline. This increases the likelihood of economic instability for oil and gas producers.

All this puts EU oil and gas suppliers in a difficult situation. Oil and gas often constitute a large share of government revenue, exports and GDP; a drop in demand will lead to a significant decline of all three. This will leave governments facing economic collapse, leading to new debt crises, draining foreign exchange reserves and inflation. Governments will not have the money to invest in health, education, or vital public services, to pay public sector workers, or to continue to support large subsidy programmes. They will also lack the resources to fund both their clean energy and broader economic transitions. Without institutional

[15] European Parliament, April 2024, Methane: **Parliament adopts new law to reduce emissions from energy sector**

[16] Institute for Energy Economics and Financial Analysis, April 2024, **Global LNG Outlooks 2024-2028**

[17] IEA, 2023, **The Oil and Gas Industry in Net Zero Transitions**

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reform, reduced capacity for patronage will weaken a government's political support, sparking an existential crisis.

This risks political and potentially regional instability in the EU's neighbourhood and an increase in migration to the EU as the labour market and security situation deteriorate. The rapid collapse of fossil fuel revenues will lead to civil unrest and conflict, radicalisation of political opposition to regimes, authoritarian turn of crony elites, deterioration of human rights, and potential regional wars over resources. Conflicts between regional powers over the control of oil and gas in the Libyan civil war and political unrest and violence in Algeria in the last decade show how local instability can have cascading impacts across the wider region.

So far, the EU and its member states are not adequately preparing their partners for these future shocks. Instead, supplier countries risk being left with increasing amounts of fossil-fuel-related infrastructure that could become stranded assets as exports decrease. This will also decrease motivation for suppliers to move away from fossil fuel exports, undermining efforts to limit warming to 1.5 °C.

Which suppliers are most at risk?

The decline in EU demand will not impact all energy suppliers equally; some countries are more vulnerable than others. Countries that export most of their oil and gas to the EU and depend on this revenue for a significant portion of their GDP and government spending are particularly exposed. Our analysis highlights that Libya, Algeria and Azerbaijan are most vulnerable to the decline in EU market demand (see the Annex for a more comprehensive overview).

To assess countries' exposure and resilience to declining EU fossil fuel demand, we first identified which countries export most of their oil and gas to the EU and rely on this revenue for a significant proportion of government income. We also considered overall dependence on revenue from fossil fuels (Figure 4).

Next, we considered which countries had the least resilience – that is, the ability for their economy and institutions to respond to the challenge. Countries with higher per capita GDP and government revenues, diversified economies, and export bases such as the US and Brazil, or lower-cost, more competitive oil and gas exports such as Saudi Arabia are better positioned to adapt. Countries that produce lower-emission fossil fuels, such as Norway or Saudi Arabia, are also more likely to find buyers in a shrinking, more carbon-conscious market.

On the other hand, countries with lower per capita GDP, less diversified economies and export base will be most exposed. Countries with piped connections to the EU (Algeria, Libya and Azerbaijan) will find it harder to find alternative markets – and those with high cost or high emissions intensity fossil fuels may drop out of the market first. Countries with limited fiscal buffers such as foreign currency reserves and sovereign wealth funds, coupled with high levels of debt or political and social instability will face even greater challenges. The physical impacts of climate change will exacerbate the strains facing all producer countries, making it more difficult to diversify away from oil and gas, particularly for those with weak institutions and limited resources.

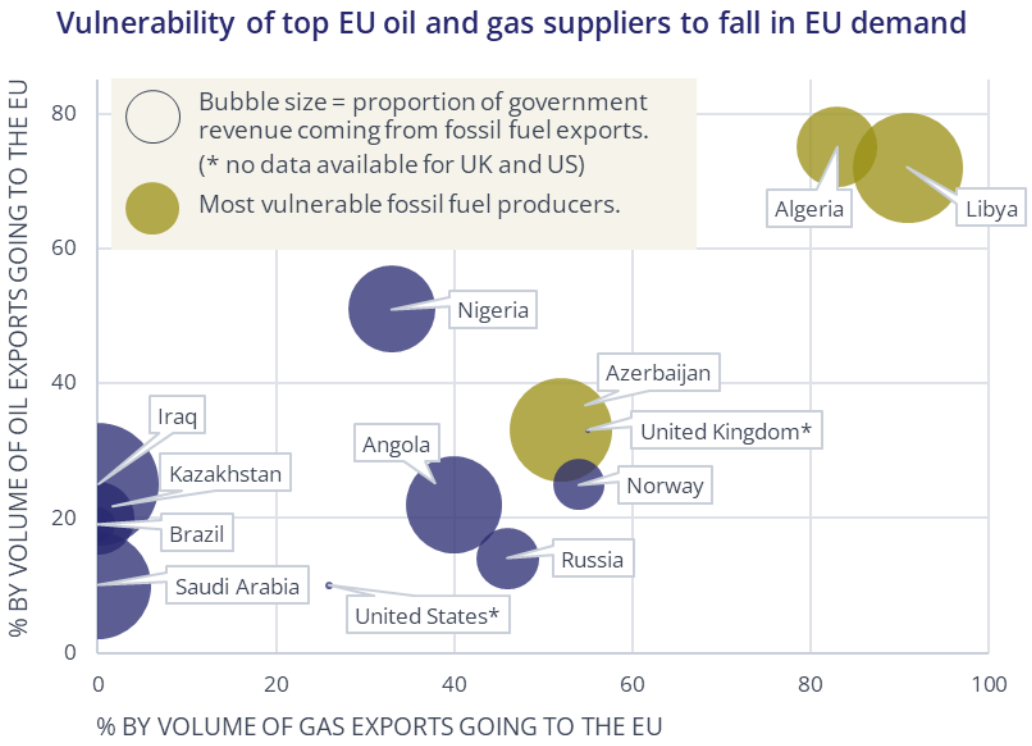

Figure 4: Of the top oil and gas suppliers to the EU, Libya, Algeria and Azerbaijan are most vulnerable to a fall in demand from the EU. While Nigeria is also a vulnerable supplier it is not connected to the EU by pipeline or as geographically close – and so it is better placed to find alternative markets.

In addition, Algeria, Libya, and Azerbaijan are collectively vulnerable to 262 potential legal claims through investment treaties with investor–state dispute settlement (ISDS) provisions from companies in the EU and its member states who own oil and gas fields in these countries.[18] The fear of high-value compensation claims can lock states into high-carbon pathways by diminishing their ability to an early phase-out of fossil fuel assets, further threatening the ability of these countries to diversify away from oil and gas.

The following section explores the various factors contributing to the vulnerability of Libya, Algeria and Azerbaijan.

Vulnerability snapshots

Libya

> 72% of oil exports and 91% of gas exports go to the EU.

> Oil and gas exports to the EU make up 49% and 7% of GDP.

> 51% youth unemployment rate; population projected to grow by 23% from 6.9 million to over 8.5 million by 2050.

> 0.03% of electricity from low-carbon sources.

> Climate change and ongoing conflict are expected to increase the number of displaced people, with over 700,000 migrants already in Libya.

> 86% of the total number of potential ISDS claims covering oil and gas fields in Libya could be made by companies in the EU and its member states.

Libya is highly dependent on fossil fuels, with oil and gas revenues accounting for more than 96% of the government's income. The primary market for Libyan oil is the EU, which imported 72% of Libya's crude oil in 2022. Italy is the main recipient of Libyan natural gas via the Greenstream pipeline, which supplies 5%

[18] ISDS allows foreign investors to bring claims against host governments in international arbitration tribunals if their business interests are undermined by government measures. See E3G, 2024, **Investment treaties are undermining the global energy transition**

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of Italy's domestic needs. Libya is tied to the EU through pipeline infrastructure, making it challenging for the country to pivot to alternative markets.

Libya holds Africa's largest proven oil reserves and significant gas deposits. However, protracted conflict since the country's 2011 civil war has disrupted production and exports.

Libya's oil production has fluctuated significantly, from over 3 million barrels per day (7% of the global market) at its peak in the 1970s to almost nothing after the 2011 revolution, creating volatility and economic instability. In 2020, GDP contracted by 30% due to an oil blockade by militia and a global decline in oil prices during the pandemic. The economy rebounded with the resumption of production and rising oil prices, but with EU exports accounting for nearly half of the country's GDP in 2023, the impacts of the EU dropping out of the market will have profound impacts.

Libya is both politically and economically fragile, emerging from over a decade of civil war which has devastated lives and brought infrastructure and public service to the point of collapse. The country is still divided between competing factions all vying for control over oil and gas. The government relies on oil and gas revenues to pay both public sector salaries (covering two-thirds of the population) and fuel subsidies which rose to over $8.5 billion in 2022. A drop in fossil fuel revenue would further destabilise the country.

Libya's political fragility is being exacerbated by external actors who are direct participants in the ongoing conflict, further aggravating the crisis for the country and the wider region. A stable and secure Libya could have immense positive spillovers, particularly given the country's strategic location and its political and economic relations with Europe, Africa, and the Middle East.

The Libyan authorities recognise the need to diversify away from oil and gas, but the ongoing political and security situation makes this challenging. Libya has made no progress on reducing its domestic reliance on fossil fuels, with the power system almost completely reliant on oil and gas.

The government's current economic strategy is to maximise oil output while it can. In 2023, Libya's National Oil Corporation (NOC) announced plans to almost double the country's crude production to 2 million b/d in the next three to five

years, with an investment of $4 billion.[19] While Eni and BP recently revoked their force majeure status on their exploration assets, ageing infrastructure, high levels of corruption and ongoing conflict between competing factions make Libya an inhospitable place for investors. The current strategy to boost production capacity, which will likely result in stranded assets and empty pipelines as demand dries up, only further deepens Libya's vulnerability.

The ongoing conflict has also intensified the country's vulnerability to climate change, with extreme weather events becoming more common. The devastating floods that hit eastern Libya in September 2023 left communities without infrastructure or essential services, according to the International Rescue Committee.[20] Drought and water shortages could also shut down oil and gas production in the long run, as these processes require large quantities of water. Libya relies almost entirely on groundwater aquifers under the Saharan desert, which the UN estimates will be over-extracted by 2030.[21] Libya, which overtook Nigeria to become Africa's largest oil producer in March 2024, is one of the few countries in the world not to have ratified the Paris Agreement.

While the political situation remains volatile, the EU continues to engage Libya through its Neighbourhood, Development and International Cooperation Instrument (NDICI). The EU could use this mechanism to start a dialogue with Libyan authorities on developing alternative ways to generate export revenue and make best use of fossil fuel revenues while they can. The EU, as Libya's biggest trade partner, will play an important role in supporting the country to carry out structural reforms and access international investment required to make its energy and economy-wide transition.

Algeria

> 83% of gas exports went to the EU in 2022.

> Fossil fuels make up 90% of all exports and 38% of government revenue.

[19] International Monetary Fund, 2023, **Libya: 2023 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for Libya in: IMF Staff Country Reports Volume 2023 Issue 201**

[20] International Resue Committee, 2023, **Flooding in Libya is emblematic of climate change and conflict on vulnerable communities**

[21] EU Commission, 2022, **Action Document for Support to climate change strategy and environment protection in Libya**,

- Gas production is high-emissions and relatively high-cost.
- High cost of capital for renewables, despite huge solar potential.
- Rainfall changes pose major climate risks for drought and desertification.
- 75% of the total number of potential ISDS claims against Algeria covering oil and gas fields could be made by companies in the EU and its member states.

Oil and gas exports are central to Algeria's economy, making up 93% of exports. Revenue from hydrocarbons, which provides 38% of the government's income, has significantly improved living standards while maintaining a relatively stable social contract between the government and citizens. But this model will be overturned in the coming years as EU demand for Algerian fossil fuel exports declines (Figure 5). While switching to LNG exports is an option that Algeria is already pursuing, this pits Algeria against global competitors, rather than relying on the privileged access to the EU market through pipelines. With relatively high production costs and emissions intensity compared to emerging LNG superpowers like the US and Qatar, Algeria is unlikely to be a preferred supplier as global demand decreases.

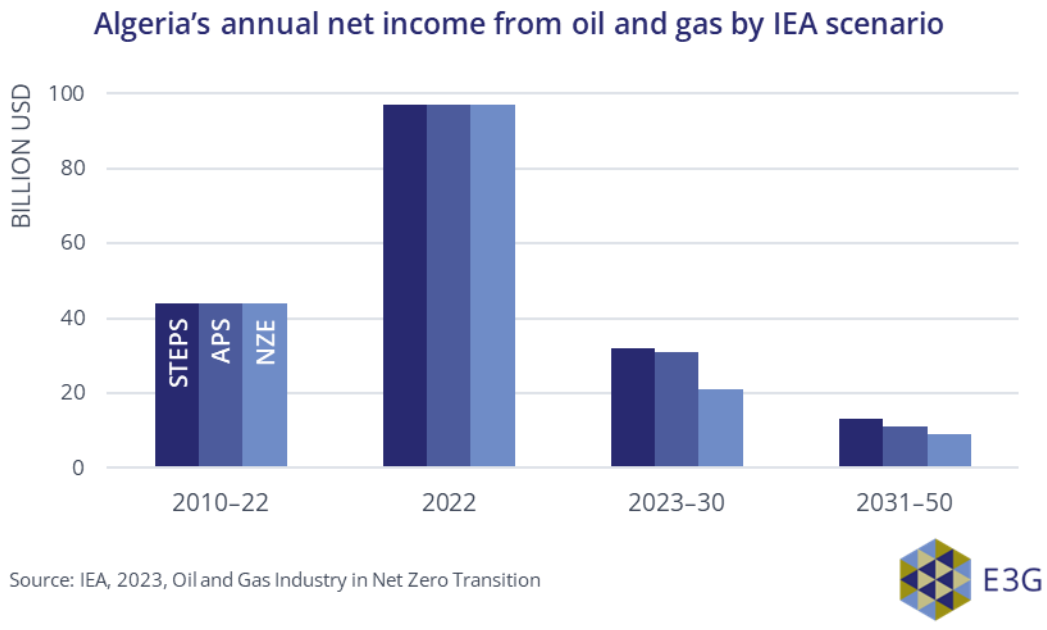

Figure 5: The IEA predicts that Algeria's annual net income could drop by as much as $35 billion compared to pre-2022 levels.

The Algerian government has begun to recognise this challenge and is exploring options for diversifying away from oil and gas exports, including introducing fiscal incentives to promote non-hydrocarbon exports in its 2024 Budget Law.[22] But progress has been slow so far, and with gas exports declining since 2003 due to growing domestic demand, the government's fiscal capacity to support this diversification is shrinking. With the 2022 gas crisis over, the EU now has the opportunity to reframe its relationship with Algeria to explore what its energy relationship will look like in the medium to long term.

The EU already has an ideal venue to discuss these issues through the annual High-Level Energy Dialogue with Algeria, and Germany's Energy Partnership with Algeria, which includes renewables components. In these fora, the EU could become a more effective partner in Algeria's renewable energy ambitions, which aim for a 27% renewables share of electricity production by 2035. Algeria's goal of high local content in its renewables rollout offers opportunities for cooperation on clean supply chains. Seizing these opportunities now will help mitigate the risks of a poorly managed energy transition as declining government revenues and economic instability create migration and security challenges.

Azerbaijan

> 75% of crude oil exports and 53% of gas exports went to the EU in 2022

> Fossil fuels make up more than 90% of exports and 60% of government revenue

> Plans to double gas exports to the EU by 2027 risk stranded assets

> High vulnerability to water scarcity, floods, and extreme heat affecting both energy production and agriculture

> Lagging rollout of renewables despite high wind and solar potential

Azerbaijan's economy is highly dependent on fossil fuels, with oil and gas revenues representing on average 60% of the government's budget and more than 90% of total exports. Oil and gas revenues have supported a rise in living standards since the late 1990s but have left the country vulnerable to volatile energy markets and external shocks.

[22] World Bank, 2024, **Algeria Economic Update**

The EU is Azerbaijan's major export market, with 75% of crude oil and 53% of gas exports going to the EU in 2022.[23] Azerbaijan earned €6.2bn (12.4 bcm) in 2023, with almost €5bn (9.3 bcm) exported to Italy.[24, 25] Italy represents the largest export market, accounting for 45% of Azerbaijan's export revenues.[26]

Azerbaijan's oil production is in decline as the country's oil fields deplete. Therefore, Azerbaijan is relying on increasing its gas exports to the EU to support its economy.[27] In 2022, Azerbaijan signed a Memorandum of Understanding with the EU to double gas exports to at least 20 bcm per year by 2027 via the Southern Gas Corridor.[28] However, this will require large-scale investment in new fields and pipeline infrastructure and long-term purchasing commitments which EU investors and buyers are no longer willing to provide.[29,30] Being dependent on the European market through hardwired pipeline infrastructure, Azerbaijan's current strategy risks creating stranded assets and slowing down urgent efforts to diversify its economy.

Azerbaijan's ability to access the EU market in the future will depend on its ability to achieve and report emissions reductions as required by the new European Methane Regulation coming into force.[31,32] So far, Azerbaijan's methane emissions have more than doubled since the early 2000s,[33] with oil and gas making up over a half of its methane emissions.[34]

The IMF estimates that Azerbaijan's fiscal revenue could drop from about 15% of GDP to just over 3% by 2030, and below 1% by 2040, as its total fossil fuel

[23] **Eurostat, 2023**

[24] Eurostat Comext statistics, **Result Extraction (europa.eu)**

[25] Bruegel, **European natural gas imports (bruegel.org)**

[26] Trading Economics, **Azerbaijan Exports by Country (tradingeconomics.com)**

[27] Organization of the Petroleum Exporting Countries, October 2023, **WOO 2023 - Home (opec.org)**

[28] European Commission Press Release, July 2022, **EU and Azerbaijan enhance bilateral relations (europa.eu)**

[29] The Economist Intelligence Unit, July 2023, **Azerbaijan's gas exports to the EU face challenges - Economist Intelligence Unit (eiu.com)**

[30] Financial Times, 21 July 2024, **Azerbaijan hits out at EU failing to agree long-term gas deals**

[31] European Commission, March 2024, **Speech by Commissioner Simson at inaugural session of the Southern Gas Corridor Advisory Council (SGC) and the 2nd Green Energy Advisory Council**

[32] European Parliament, November 2023, **Fit for 55: Deal to boost methane emission reductions from the energy sector**

[33] Our World in Data, 2024, **Annual methane emissions**

[34] IEA 2024, **Methane Tracker**

revenue falls, highlighting the urgency for Azerbaijan to diversify its economy.[35] Unless Azerbaijan does that, the loss of government revenue could reinforce existing risks to the country's political stability, including high levels of corruption, limited political freedom and territorial conflicts.[36] Ongoing tensions with Armenia in the Nagorno-Karabakh region, now under Azerbaijan's control, pose additional challenges. The government claims that its priority is to electrify the territory to establish a 100% emission free "Green Zone".[37]

The country has an opportunity to decarbonise its energy sector and transform its economy by building on its vast wind and solar power potential**.** Most of the country's limited green energy comes from hydropower.[38] There is growing interest from foreign investors in solar and wind projects – with 5.5 GW in the pipeline to be built by 2030. However, most projects are still small scale or at the MOU-stage. Azerbaijan will need to set up a regulatory framework to deliver these projects and incentivise the state-owned oil company SOCAR and the state oil fund (SOFAZ) to significantly increase their investments into renewables.

Current renewable projects are designed to free up more gas to export to the EU, rather than decarbonise the domestic system. Azerbaijan also plans to export green electricity from Caspian offshore wind farms to Europe via a proposed cable running almost 1,200 km under the Black Sea. The European Commission is supporting this project as part of their strategic energy partnership with Azerbaijan. However, the technical feasibility of this project is unclear, with studies due to be completed this year.[39] Azerbaijan also hopes to export green hydrogen to the EU. However, the distance from EU markets and slow rollout of renewables make these plans unfeasible.

The growing impacts of climate change pose further risks to the country's ability to diversify. The increased occurrence of extreme weather, heat waves, water scarcity, and floods pose a risk to Azerbaijan's energy infrastructure. Agriculture, which contributes 8% to GDP and employs about 40% of the population, is

[35] Assessment under a Net-Zero Emissions Scenario for global energy transition (see IEA WEO 2022). The GDP is held constant across scenarios, see IMF, October 2023, **Climate Crossroads: Fiscal Policies in a Warming World**, p.21

[36] Climate Diplomacy, February 2022, **Azerbaijan: Partnership potential beyond gas?**

[37] State Agency for Renewable Energy Resources of the Ministry of Energy of the Republic of Azerbaijan, **Green Energy Zone (YEZ) in liberated areas | State Agency for Reconstructed Energy Resources with the Ministry of Energy of the Republic of Azerbaijan**

[38] International Energy Agency, **Azerbaijan - Countries & Regions - IEA, last accessed 16 July 2024:** The share of capacity has even been falling by 0.5% between 2020 and 2022 to a total of 16.5% (and a share of only 6.3% of generation)

[39] European Commission, March 2024

projected to be significantly impacted. This threatens both economic diversification and the livelihood of the population.[40]

The EU should use its existing strategic partnership with Azerbaijan to support expansion of renewables and grid infrastructure for domestic decarbonisation, rather than encouraging gas expansion and green energy for export. The EU can also encourage Azerbaijan to set more ambitious domestic targets for renewables and emissions reduction, particularly for methane, and set out a clear economy-wide transition plan to replace fossil fuel revenues in the long term. In doing so Azerbaijan can show leadership to other fossil fuel producers during its COP29 presidency.

Recommendations

The EU's transition away from oil and gas poses significant risks for its major fossil fuel suppliers, such as Libya, Algeria and Azerbaijan. The EU should carefully assess the impacts of its declining demand on key producers and consider the wider geopolitical implications of the energy transition. The EU and member states urgently need to reform their engagement and partnerships with these countries. Partnerships should pivot away from securing oil and gas supplies and instead support producers in diversifying their economies and the EU's own transition, focusing on renewable energy supply chains and trading arrangements.

If the world is to limit dangerous warming to below 1.5 degrees Celsius, developed countries must provide substantial support to developing countries to reduce their reliance on oil and gas production. Since COP28, there has been a growing debate on how richer countries and international finance institutions can support oil- and gas-dependent countries in making this difficult economic transition. First-mover coalitions, such as the Danish-led Beyond Oil and Gas Alliance (BOGA), are mobilising willing national and subnational actors to start phasing out production. This includes a fund set up to support developing countries in planning their economic transition. The IMF has proposed international transfer schemes – including financial and capacity development – to reduce significant costs for less diversified and higher-cost fossil fuel exporters.[41]

[40] World Bank, November 2023, p.41, **Investments and Policy Reforms Towards Low-Carbon Transition and Resilience are in Azerbaijan's Economic Interest, says WBG Report (worldbank.org)**

[41] IMF, May 2024, **Key Challenges Faced by Fossil Fuel Exporters during the Energy Transition**

The EU and member states can play a key role working with progressive alliances to drive forward the global commitment to transition away from fossil fuels over the next crucial years. A dialogue between importers and vulnerable producers will be an effective first step and will also support energy security and stability in EU's wider neighbourhood.

For the European Commission

Recommendation 1: Proactively communicate the EU's oil and gas demand reduction trajectories to provide certainty and guidance to suppliers and avoid the risk of stranded assets.

> The EU should share its own projections for future oil and gas demand, as set out in its 2040 Climate Target Impact Assessment, with producer countries.

> The EU should interrogate member states' and companies' plans for new fossil fuel infrastructure investment against modelling for fossil fuel import needs for 2030, 2040 and 2050, to evaluate whether current and planned contracts align with 2050 net zero scenarios.

Recommendation 2: Ensure the EU's resilience to global oil and gas market volatility by prioritising faster decarbonisation, demand reduction and management, and resilience of critical energy infrastructure rather than diversification of fossil fuel suppliers.

> Analyse the EU's long-term contract structure and dependency on fossil fuel imports to develop a framework allowing the EU to make strategic decisions and stop supporting long-term gas contracts beyond those genuinely needed.

> Identify the choke points and weaknesses in the EU's current diversification strategy to help member states find alternative, more secure renewable energy supplies.

Recommendation 3: Ensure long-term stability in the neighbourhood by initiating transition dialogues with key suppliers Algeria, Libya and Azerbaijan towards a jointly developed support mechanism that enables these countries to reduce their dependence on fossil fuel revenue.

This should include a discussion on the appropriate role for the EU and could encompass:

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- Climate and development finance or debt relief to fund the clean energy transition, or at a minimum to reduce CO_2 and methane intensity of fossil fuel production and exports.
- An industrial diversification strategy linked to the EU's own industry decarbonisation goals, both to mitigate the impact of CBAM on exports and to move green value chains away from rival countries and into the EU's neighbourhood. For example, by identifying new clean energy supply chain opportunities and opportunities to access EU markets. More detailed recommendations on how the EU can strategically use partnerships with emerging economies can be found in E3G's earlier briefing.[42]

For EU member states

Recommendation 4: Review energy partnerships to ensure they enable rather than hinder the transition away from fossil fuels.

This means focusing on expanding renewables, clean energy supply chains and moving beyond gas to hydrogen and critical minerals trade to create economic opportunities and benefits for partner countries and EU member states. Partnerships should be embedded in wider economic and trade cooperation thinking and coordinate with energy, trade, and climate services.

- Consider how to use existing and emerging regulatory climate mechanisms including CBAM and EU Methane Strategy.
- Reform investment treaties with ISDS provisions to remove roadblocks to the transition away from fossil fuels.
- Expand the EU Energy Platform beyond gas storage to clean energy.

Recommendation 5: Offer support to the existing international initiatives (e.g. Beyond Oil and Gas Alliance) working to enable an equitable phase-out of oil and gas production, to help establish first transition success cases and create confidence for other suppliers.

[42] E3G, March 2024, **EU clean transition partnerships with emerging economies**

Recommendation 6: Leverage wider investment and technical support needed for the transition in producer regions of common interest (e.g. North and West Africa) as part of the GCC partnership and bilateral relations with Gulf countries and other partners.

The EU is neither the only nor the strongest external force shaping the future economic pathways of Algeria, Libya and Azerbaijan. Saudi Arabia, Turkey, China and many other countries from the MENA region are major sources of investments and key equipment supplies, with a significant share of finance going to the oil and gas sector. Leveraging existing partnerships with these countries, while considering national and security interests, will be key to maximising the impact the EU can have in supporting the transition of its most vulnerable suppliers.

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Annex: EU top suppliers vulnerability breakdown

Country	Reliance on oil & gas (% of gov. revenue)[43]	Dependence on EU market oil/gas (%)[44]	Demographic pressures (growth by 2050)[45]	Social and political instability	Emissions intensity oil/ gas (kg CO_2e / boe)[46]	GDP per capita (US$)[47]
Russia	23	14/46	–0.05%	Medium	—/59	13,817
Norway	15	25/54 pipeline	+11%	Low	36/26	87,961
US	0.03	10/26	+0.01%	Low	83/57	81,693
Libya	72	72/91 pipeline	+23%	High	183/—	7,330
Nigeria	45	51/33	+51%	High	170/93	1,612
UK	0.02	33/55 pipeline	+0.07%	Low	21	48,866
Azerbaijan	64	33/52 pipeline	+0.04	Medium		7,155
Algeria	39	75/83 pipeline	+40%	Medium	173 /65	5,260
Angola	56	22/40	+149%	Medium	95	2,309
Kazakhstan	32	20 pipeline	+37%	Low	131/—	13,136
S. Arabia	69	10	+23%	Low	66/51	28,895
Brazil	6.8	19	+0.02%	Low	82/—	8,802
Iraq	89	25	+50%	High	60	5,512

Red = high vulnerability; Beige = medium vulnerability; Blue = low vulnerability

[43] Data source: Carbon Tracker Initiative 2015–18 average; Brazil: **Beyond Fossil fuels in BRICS** 2017; UK Office of Budget Responsibility

[44] Pipeline connections to EU is another factor of dependency – Azerbaijan, Libya and Algeria are connected to EU markets by pipelines while Nigeria is not and thus is categorised as medium risk

[45] Based on predicted population growth rates to 2050, (youth) unemployment rates

[46] This includes for extraction, processing and refining, transport and methane. 'International Energy Agency (2023), The Oil and Gas Industry in Net Zero Transitions 2023, IEA, Paris

[47] World Bank clarification of income levels used here (high, upper-middle, lower-middle & low)

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About E3G

E3G is an independent climate change think tank with a global outlook. We work on the frontier of the climate landscape, tackling the barriers and advancing the solutions to a safe climate. Our goal is to translate climate politics, economics and policies into action.

E3G builds broad-based coalitions to deliver a safe climate, working closely with like-minded partners in government, politics, civil society, science, the media, public interest foundations and elsewhere to leverage change.

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