

Enhancing Global Methane Diplomacy

Evaluating its Opportunities and Implications for Azerbaijan in the COP29 Year

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“Our cooperation on gas has to be consistent with our responsibilities on climate. Our MoU sets out commitments to reduce methane emissions throughout the entire gas supply chain. And, as we have discussed, Mr. President, I strongly encourage Azerbaijan to join the Global Methane Pledge, which is now supported by 119 countries. Azerbaijan has made enormous progress and has a lot to deliver.”

– Ursula von der Leyen, 18 July 2022, Baku,
Press Conference with President Aliyev

“Reducing methane emissions from the energy sector is one of the best—and most affordable—opportunities to limit global warming in the near term.”

– Fatih Birol, IEA Executive Director

Unveiling Global Methane Diplomacy: Navigating the Impact of Methane Emissions as a Usual Suspect in Climate Change

While ‘climate diplomacy’ is commonly employed in discussions related to climate negotiations, this IDD Analytical Policy Brief introduces the term ‘methane diplomacy’ to underscore the significance of addressing emissions from this specific greenhouse gas (GHG).

According to scientists, more than 25 percent of the global warming that has occurred since the preindustrial era is caused by methane. Present scientific consensus indicates that one of the main sources of atmospheric methane is the fossil fuel sector, mostly as

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a result of leaks from the extraction of gas and oil. When burning, coal emits 75 percent more CO₂ (carbon dioxide) per unit of energy than gas. Additionally, we can single out [coalmining](#), which is a relatively bigger contributor to methane emissions. In a nutshell, at the global level, the energy industry accounts for over 40 percent of all human-induced methane emissions. Methane is released into the atmosphere from pipelines, drill sites, and storage facilities. If we look into the total global methane emissions, [agriculture](#) is the predominant source of global methane emissions. The cost of capturing methane emissions in the energy industry is relatively affordable, and captured methane itself has commercial value. For this reason, there are numerous policy suggestions about focusing on the reduction of methane emissions in the energy sector. According to [IEA data](#) available for 2022, [Azerbaijan emits just 0.2 percent of global methane emissions](#) whilst its [share of global GDP](#) is around 0.1 percent.

In terms of global warming potential, methane is considered to be 84 times more powerful than carbon dioxide over a 20-year timeframe. Thus, cutting methane emissions is seen as a shortcut for mitigating global warming (the World Meteorological Organization (WMO) announced that [2023 was the hottest year](#) in recorded history). According to [Climate Watch](#), methane is only second to carbon dioxide in the overall global GHG emissions (their shares are 18 percent and 72 percent, respectively).

This important yet often overlooked fact has served as a catalyst for establishing the [Global Methane Pledge](#) (GMP), which was launched at COP26. GMP now has over 150 participant countries or jurisdictions and represents a collective effort to reduce global methane emissions by at least 30 percent by 2030 (relative to 2020 emission levels). Rather than being a national emission reduction target, it is a global target.

China, India, and Russia collectively make up 31 percent of overall methane emissions; unfortunately, they are not (yet) participants in GMP. Our initial estimates show that, in these three countries, methane emissions are expected to rise until 2030, rather than decrease. Overall, global methane emissions will go up, not down, unless one of two things happen: either other GMP participants agree to further reduce their respective methane emissions, or the aforementioned three countries will need to be incentivized in various ways to come to the negotiating table. If we add Iran's 2.1 percent share in global methane emissions, we almost get a new block of countries underestimating or ignoring the gravity of methane in global warming (76 percent of Iranian emissions come from its energy sector). The point is that in all these countries, reducing methane emissions will require considerable economic sacrifice. Methane diplomacy can primarily institute additional wiggle room for countries to keep dialogue channels open whilst generating spillover effects for other strands of diplomatic negotiations.

Methane diplomacy will gain additional steam once we approach 2030 and rising global average temperatures keep generating undesirable impacts for an increasing number of countries. Otherwise, the 30 percent methane emission reduction target by 2030 (relative to 2020) will almost certainly fail. China, India, and Russia are

likely to shoulder most of the blame for this outcome, although a finger could also be pointed at various other non-participating GMP countries, including Azerbaijan, for its part in yet another climate change-related failure.

Extreme heat brings about productivity losses and costs the global economy untold billions of dollars. The agriculture, construction, manufacturing, and service sectors lose billions of labor hours due to heat exposure. In [174 years](#) of scientific observations, the last nine years have been the warmest on record. The worldwide urgency for policymakers to adopt solid climate diplomacy for the sake of our planet is imposed by the ever-growing macroeconomic costs associated with the ongoing climate crisis. These costs are predicted to be made manifest through a diminishing economic growth rate and heightened inflationary pressures.

Because of all these factors, lowering methane emissions can have a near-immediate impact on climate change. As a result of current methane diplomacy efforts, Chinese officials have agreed to add methane to their 2035 [climate action plan](#). This is better than nothing, but its effects in the short term will be practically nil.

To provide some perspective on the opportunity cost of reducing methane emissions, recent policy adoptions in the United States may provide some insights. As a part of its commitments coming from GMP to curb the release of methane from oil and gas facilities, the U.S. plans to [impose a \\$900 fee](#) starting in 2024 for every ton of methane emissions that exceed levels set by the U.S. federal government. The fee would increase to \$1,200 in 2025 and plateau in 2026 at 1,500 per ton. On the other side of the Atlantic, the EU's Methane Strategy is focusing on reducing methane emissions from the [energy, agriculture, and waste sectors](#).

Adopted in October 2020, the EU's Methane Strategy is predicated on the realization that more than 50 percent of methane emissions come from its agriculture sector, with its [energy sector](#) being responsible for another 19 percent of total methane emissions. The EU accounts for 4-5 percent of global methane emissions, and seemingly, it will be a huge challenge for the EU to [decrease](#) methane emissions in its agricultural sector. There is even a chance that the EU will not be able to fulfill its methane emission commitments because of the agriculture sector's considerable political weight and influence in intra-EU politics. The EU's Methane Strategy calls for the establishment of a [methane intensity standard](#) for fossil fuels that are produced locally and imported, with an initial emphasis on emissions from natural gas and LNG imports. The laws related to methane strategy require the measurement, reporting, and verification of methane emissions in the energy sector. In accordance with its methane strategy, the EU planned to enter into methane diplomacy with the countries [producing fossil fuels](#). The average methane emission intensity of EU gas imports is three times higher than that of the EU's production. Currently, there is still [substantial uncertainty](#) about how the EU's legislation (its Methane Strategy) will work in practice.

Furthermore, the EU's Carbon Border Adjustment Mechanism (CBAM), which was adopted in 2023, is literally a carbon tax (technically, it's a custom tariff based on the carbon content of imports—effectually a distinction without a difference), which will be imposed by Brussels on imports into the EU starting on 1 January 2026. The following sectors will be subject to CBAM: cement, iron and steel, aluminum, fertilizers, electricity, and hydrogen. That kind of carbon border tax intends to protect manufacturers based in the EU from the countries that have not regulated their CO₂ emissions according to criteria deemed acceptable to the EU.

For example, as of December 2022, for Chinese power-generating firms, the release of a ton of CO₂ has been priced at less than \$9 on average, whereas in the EU the price was \$85. Thus, this difference (i.e., \$76) is being charged by the EU as a carbon tariff, which is imposed against imports coming from China. This is (or shortly will be) the case for all other countries that do not impose explicit carbon pricing at their national level. If developing countries start to impose retaliatory tariffs against the EU's CBAM (which would be reasonable, if only for competition reasons), then this is likely to undermine progress on emissions. India's [metal industry](#) is a good example: iron, steel, and aluminum exports, valued at \$8.2 billion in 2022, entered the European Union.

Methane diplomacy is currently being supported by advancing technological power which lays an objective ground for negotiations. In this manner, satellites will be launched into orbit by groups like the Environmental Defense Fund (EDF) to track methane pollution throughout the world. This NGO's initiative's primary goal is to gather emissions data and make it available as [open-source content](#). This is not without precedent: it actually happened in 2021 in the case of Turkmenistan, when a Canadian satellite company that monitors methane emitters, GHGSat Inc., identified [Turkmenistan](#) as one of the world's top methane emitters. Methane diplomacy, led by private interests, worked in this case: Turkmenistan took care of some of these methane emissions and the country eventually ended up being pressured to participate in GMP. GHGSat Inc.'s first satellite, named "Claire," produced enough data to draw the conclusion that, in 2021, methane leaks from tanks, pipes, and flares equaled the emissions of about ten million cars. The conclusion to be drawn is that hiding or underreporting methane emissions is a politically and potentially economically damaging endeavor.

Methane Emissions in Azerbaijan's Current Economic Structure

Azerbaijan holds around 2.5 tcm in proven natural gas reserves. At the current production rate, these reserves are anticipated to last for approximately 96 years. Natural gas is often introduced as a "transitional fuel" or a "greener fossil fuel" because burning natural gas instead of coal to generate electricity emits only half of the carbon dioxide rate of coal.

For example, by prioritizing gas over coal, [carbon emissions](#) from power plants in the United States have been reduced by 40 percent since 2005. The same trend holds true in the case of Azerbaijan. Approximately 17 percent of the country's electricity was produced by natural gas-fired power facilities in 1995. Today, the figure is 93 percent. Put differently, Azerbaijan has managed to replace all oil-fired power plants with gas-fired ones gradually, with one estimate showing that the amount of CO₂ emissions per capita falls by about 0.14 percent when natural gas in the country's [total energy mix increases](#) by just 1 percent. On the other hand, the primary component of natural gas is methane: when methane escapes into the atmosphere [unburned](#), it has a significantly greater short-term global warming potential than carbon dioxide. According to a [recent study](#), natural gas consumption could be just as harmful to the environment as coal until companies can more properly manage the leaks that are associated with it. Lastly, methane is reportedly responsible for 1 million premature deaths every year at the global level; it has also been linked to crop losses and lost labor due to extreme heat. Considering these multiple negative impacts and the economic costs of methane emissions, *it should be in the interest of Azerbaijani policymakers to take firm and immediate action to reduce methane emissions significantly.*

Doing so would not be entirely novel, however. SOCAR is already a [signatory](#) of what is called the [Methane Guiding Principles](#), which was launched in 2017 to facilitate government and industry action to cut methane emissions from the natural gas supply chain. In 2023, SOCAR made a voluntary commitment to reduce methane emissions to zero by 2035. Following this commitment, SOCAR and bp initiated a [collaborative partnership](#) to reduce methane emissions in the oil and gas sector in Azerbaijan. Since 52 percent of [national methane emissions](#) are generated by the country's oil and gas sector, this is a significant development for Azerbaijan (note that the [agriculture](#) and waste sector's respective shares in Azerbaijan's total methane emissions are 24 and 23 percent). *It would be politically prudent for Azerbaijan to join GMP before it hosts COP29 in November 2024.*

Eight Reasons for Baku to Embrace Global Methane Diplomacy

There are eight geopolitical and geoeconomic reasons for Azerbaijan to embrace global methane diplomacy more fully.

First, GMP participants take voluntary actions, and the target is a global, not a national, one. Whatever Azerbaijan contributes voluntarily to this goal will bring Azerbaijan into the international mainstream on this issue. Globally, the main source of methane emissions is the agriculture sector. The fossil fuel industry is being targeted for political reasons, largely because it has huge potential to capture and sell this gas. Thus, methane abatement in the oil and gas industry is considered to be one of the cheapest (and most politically opportune) options to reduce GHG emissions anywhere in the economy.

Azerbaijan needs to invest just [\\$200 million](#) by 2030 to achieve net zero methane emissions by 2030.

Second, 93 percent of electricity generation in Azerbaijan is produced by natural gas-fired power plants. In this manner, energy security and electricity security can be used interchangeably. Since Azerbaijan targets to produce 30 percent of its electricity from renewable energy sources by 2030, reducing methane emissions will overlap with this existing target. Azerbaijan has declared 2024 to be “Green World Solidarity Year,” as part of its COP29 hosting campaign. Azerbaijan currently is preparing its [Action Plan](#) regarding “Green World Solidarity Year,” and joining GMP would fit seamlessly into this endeavor.

Third, the MoU on a Strategic Partnership in the Field of Energy signed in Baku between the presidents of Azerbaijan and the EU Commission in July 2022 contains language on reducing methane emissions “throughout the entire supply chain, and in particular advance projects to measure methane emissions within the scope of an internationally accepted measurement, reporting, and verification standard in line with the UN Oil and Gas Methane Partnership [OGMP], examin[ing] new technologies for reducing venting and flaring, and explor[ing] possibilities for the utilisation of methane captured throughout the entire supply chain.” Since this document was signed, a growing number of countries have joined GMP, including Australia, Kazakhstan, Turkmenistan, and Saudi Arabia. There will be growing international political pressure on Azerbaijan to add its signature to GMP, under the (implicit) threat of being penalized through various carbon tax schemes for not doing so. Moreover, joining GMP would give Azerbaijan moral and political standing to raise this issue as a climate justice topic within the framework of its COP29 presidency. In this context, Azerbaijan could link this advocacy to water diplomacy issues, which has been the subject of various other IDD Analytical Policy Briefs and will not be repeated here except to note that [the EU is also focusing on this topic](#) at a regional level. As early as COP26, it was noted that the Caucasus region (including Azerbaijan) has lost 40 percent of its [glaciers](#) due to climate change. Methane diplomacy and water diplomacy can go hand in hand.

Fourth, Azerbaijan has the potential to grow into a significant supplier of low-carbon hydrogen to the EU, according to the [Boston Consulting Group](#). This could bring in between \$230 and \$500 million per year. A green hydrogen production experience exchange program is currently in progress with international corporations, namely Masdar, ACWA Power, bp, and Fortescue Future Industries. Considering that the EU—which is one of Azerbaijan’s primary natural gas export destinations—is very concerned about methane intensity and carbon footprint, it would be beneficial for Baku to prioritize methane emissions reduction policies.

Fifth, the UN Environment Program’s [OGMP](#), which requires participants to submit their emissions data for independent verification, is supported by 120 companies from

70 countries. Were SOCAR to join this campaign, it would result in domestic benefits, too. In 2023, Azerbaijan's total natural gas consumption was 13.4 bcm. Only 3.5 bcm of this total was [processed in the natural gas processing plant](#) (Qaradağ), which operates under the structure of the SOCAR and was established 63 years ago. OGMP membership would provide an opportunity to reduce methane emissions in the Qaradağ natural gas processing plant and open the way for building a new facility with cutting-edge technology. Around 10 bcm of natural gas goes to domestic consumption unprocessed, which represents a public health hazard (in addition to environmental concerns). According to the World Bank, Azerbaijan's [fugitive emissions](#) from the production and distribution of fossil fuels remain high. And it represents more than 50 percent of the country's total methane emissions.

Sixth, global methane diplomacy stimulates funding opportunities, too. The U.S. has allocated \$1 billion in [grant funding](#) to help developing states reduce methane emissions generated by the oil and gas industry. After this funding announcement was made by U.S. Special Presidential Envoy for Climate John Kerry in early December 2023 at COP28, Kazakhstan and Turkmenistan also agreed to join GMP. Reportedly, the U.S. will work [directly with Kazakhstan](#) on this issue. The oil and gas industry in Kazakhstan is expected to need at least \$1.4 billion in total expenditure by 2030 to achieve a significant decrease in methane emissions, according to IEA projections. This should be viewed in light of what was noted earlier, namely that Azerbaijan's oil and gas sector would need just \$200 million of investment to achieve net zero methane emissions by 2030.

Seventh, the EU's Global Gateway initiative—which comes in belated response to the China-led Belt and Road Initiative and is presently focused on Central Asia as opposed to the South Caucasus—has a component that supports the Black Sea electricity cable project (this is also addressed in the July 2022 MoU between Azerbaijan and the EU and has gained substance on the basis of the December 2022 Agreement on Strategic Partnership in the Field of Green Energy Development and Transmission signed by Azerbaijan, Georgia, Hungary, and Romania). On this basis, Azerbaijan will soon supply [renewable electricity](#) to the European Union (the country's tremendous renewable energy potential has been explicitly stressed by the [EU Commission president](#)). This speaks to the point that the EU is interested in [deepening collaboration](#) with Azerbaijan in the export of green hydrogen and renewable energy (in addition to importing greater quantities of natural gas). One of the important factors in this context is to do everything possible to ensure that the EU's CBAM policy does not negatively impact upon Azerbaijan's economic relations with this large market.

Eighth, the issue of climate finance will be front and center at COP29, as will the related issue of energy transition and the extent (and duration) of the role that natural gas will play in this regard. As a developing country vulnerable to the effects of climate change and a hydrocarbon-producing state, it is in Azerbaijan's interest to serve as an honest broker between the various factions in the debate on these issues with the developed world. Azerbaijan is well-positioned to champion the full funding of the “loss and damage

fund,” without which the developing world will be unable to fully cope with the effects of climate change. Developed nations have already committed \$100 billion annually to be given to developing countries for tackling the undesirable impacts of climate change and engendering a smooth energy transition. Unfortunately, not only do the pledges by developed countries fall short of this amount, but the amount itself seems to be insufficient, as indicated by two successive reports ([here](#) and [here](#)) by the Independent High-Level Expert Group on Climate Finance. According to its estimates, the developed world will need to provide \$2.4 trillion of support a year by 2030 to the developing world (not including China). Sadly, at COP28, there was “[no progress](#)” on the issue of climate finance, despite the UAE Presidency’s best efforts. Azerbaijan’s COP29 Presidency will need to work overtime to lead diplomatic efforts to break this impasse during the climate negotiations that will be held in Baku later this year. As outlined above, methane diplomacy needs to be seen as a multiplier effect in this regard.