

U.S.-Iran Tensions and the Waiver Renewal for Iranian Gas Exports to Iraq

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Following the assassination of Iranian General Qasem Soleimani in Baghdad on January 3, as a result of a United States (U.S.) airstrike, the Iraqi Parliament passed a resolution stating that it “must work to end the presence of any foreign troops on Iraqi soil and prohibit them from using its land, airspace or water for any reason.” (Reuters 2020)

While Iraqi parliamentary resolutions are non-binding, Prime Minister Adel Abdul Mahdi has again called for the country to banish foreign troops, reiterating a statement he made earlier in 2019. In response, U.S. President Donald Trump claimed that the exit of American troops would lead to U.S. “sanctions [on Iraq] like they’ve never seen before” (WSJ 2020). The U.S. had previously planned to maintain a presence in the country by repositioning troops from north-eastern Syria into western Iraq. According to U.S. Secretary of Defense Mark Esper, this was to “help defend Iraq” (BBC News 2019).

While tensions have seemingly been subdued since the death of General Soleimani, the risk of reescalation remains. It is therefore worth looking into the impact of potential U.S. sanctions on Iraq.

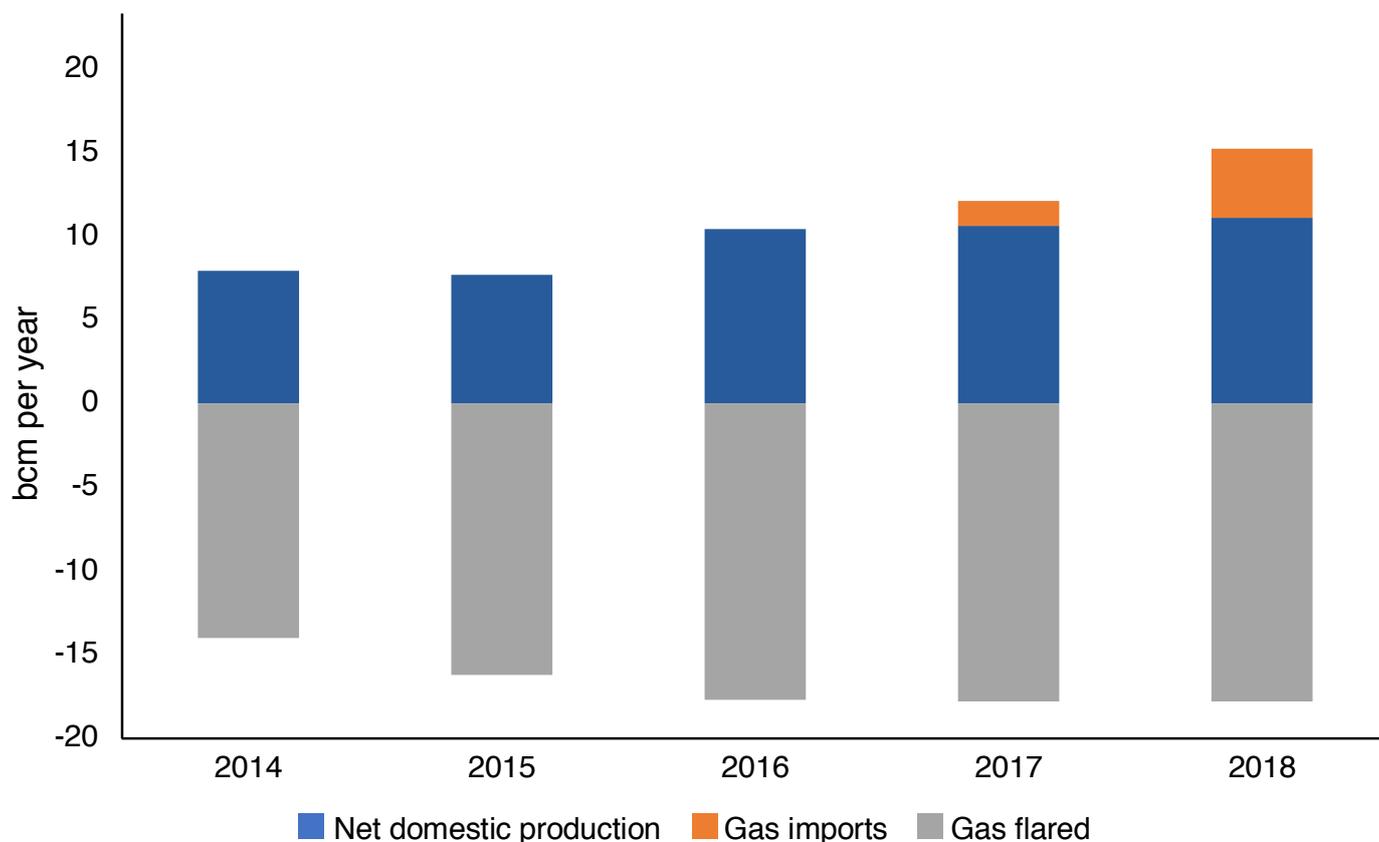
There are multiple ways in which the U.S. can impose sanctions on the Iraqi government, including restricting existing international oil companies from operating in the country and blocking the Iraqi central bank from accessing its funds held in U.S. accounts. But an immediate first step would likely be for the U.S. to not renew a sanctions waiver on imports of natural gas from Iran. This would jeopardize Iraq’s energy ecosystem, specifically its power sector. First granted in 2018, the latest extension was approved October 16, 2019, and is set to expire in mid-February 2020. In 2018, gas imports from Iran made up about a quarter of Iraq’s total gas consumption. Iraq started importing gas in mid-2017. In 2018 it imported 4.1 billion cubic meters (bcm) of gas (Figure 1).

Iraq’s gas flaring problem and its reliance on imports

Despite its reliance on Iranian gas, Iraq is not short of natural gas deposits. Its gross natural gas production is more than seven times what it imported from Iran in 2018. In fact, the country used to export natural gas to Kuwait from its southern oil field, with volumes reaching as high as 4 bcm per year. However, exports were halted following Iraq’s invasion of Kuwait (Reuters 2017).

Currently, 60% of the natural gas produced in Iraq is flared, most of which is associated gas (Figure 1). Most of the available gas is used to generate electricity, and the remainder is either used in the marginal petrochemical industry or recycled into reservoirs to provide reservoir pressure support or to enhance oil recovery.

Figure 1. Natural gas supply and imports in Iraq, 2014-2018.



Sources: World Bank; OPEC (flaring represented as losses).

According to the World Bank, Iraq is the world’s second-biggest flarer of gas after Russia. The Iraqi government signed up to the World Bank’s “Zero Routine Flaring by 2030” initiative in May 2017 (World Bank 2017). Nevertheless, plans to end flaring in southern Iraq have been postponed from 2016 to 2022 (IEA 2019b). Some progress has been made by the Basra Gas Company to capture the associated gas production from Rumaila, Zubair, and West Qurna oil fields, but it is highly unlikely Iraq will achieve the targets set by the World Bank (IEA 2019a).

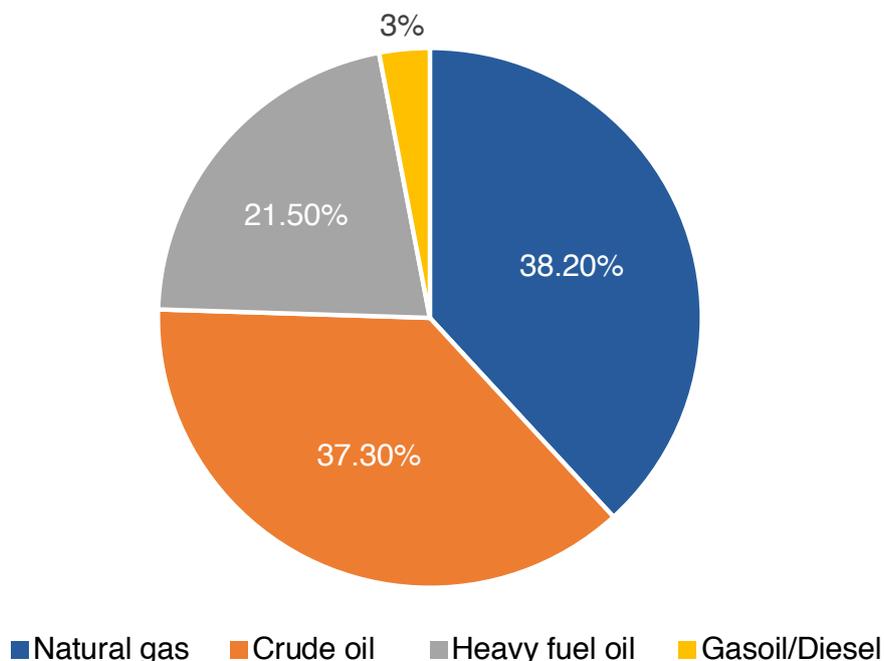
Many of the delays to Iraq’s plans to end flaring have been linked to the priority the country has given to maximizing its oil production where markets and profits are more immediately realized. Meanwhile the country’s development of the infrastructure needed to capture associated gas has lagged. Between 2014 and 2018, oil production in Iraq rose from 3.2 million barrels per day (MMb/d) to 4.5 MMb/d. This resulted in increasing volumes of flared gas, from 14 bcm in 2014 to 17.8 bcm in 2018 (Figure 1).

The service contracts signed between the government of Iraq and international oil companies provide little to no incentive for these companies to invest in capturing the associated gas and utilizing it, or to invest in Iraq’s aging midstream infrastructure. In many instances the terms of these contracts are non-binding (IEA 2019a). Iraq’s increased reliance on gas imports from Iran may also have contributed to the delays in developing gas infrastructure in the country.

The impact of not renewing gas import waivers

A halt in gas imports from Iran implies that Iraq may need to use more liquid fuels for power generation. The latest statistics from Iraq's Ministry of Electricity show that about 40% of the country's power generation was met by natural gas in 2017, while the remaining 60% was generated by liquid fuels (Figure 2).

Figure 2. Iraq's fuel power mix (2017).

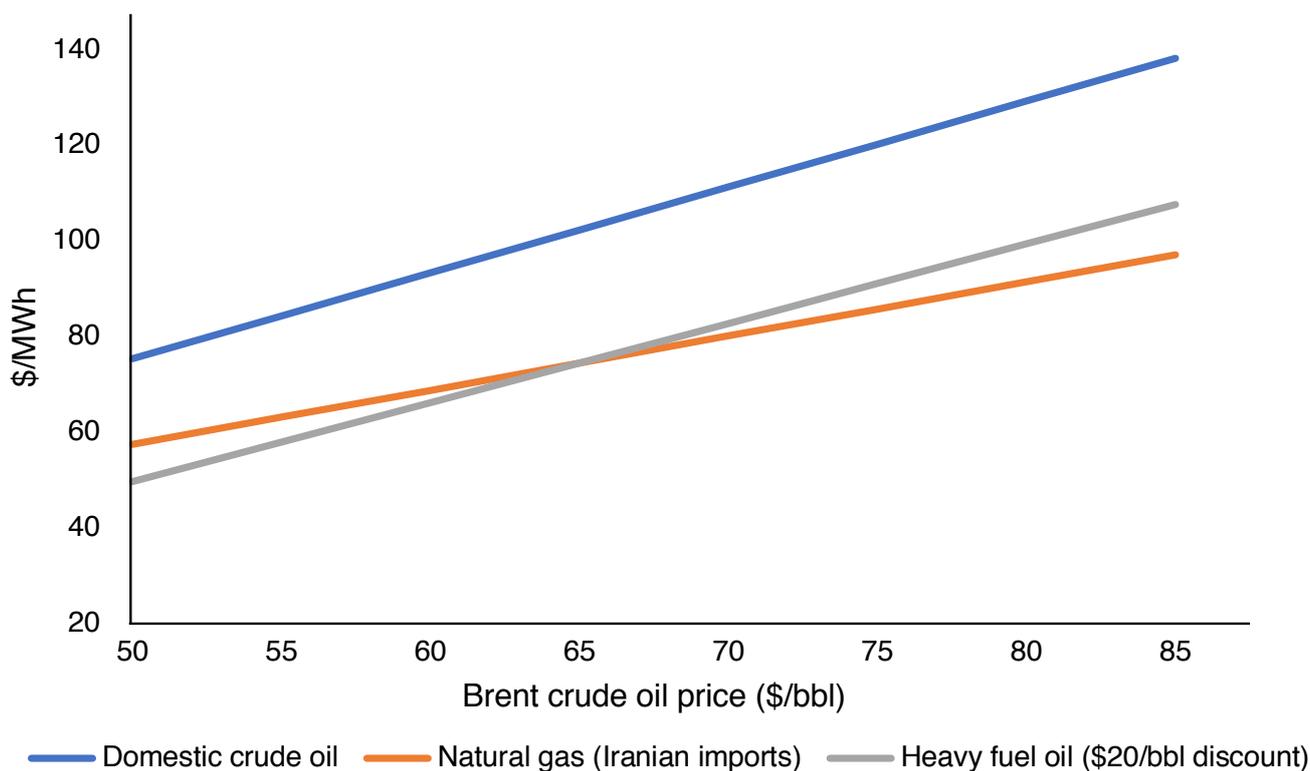


Source: Ministry of Electricity, Iraq.

Iraq's power supply, including electricity imports, grew at an average rate of 7% annually between 2011 and 2018. However, the power losses from both technical and non-technical aspects were substantial, reaching about 62% in 2018. Fuel shortages and weak infrastructure have caused frequent blackouts in some regions of Iraq. This is especially the case during the summer, as the load increases substantially to meet the demand for air conditioning. Despite significantly increasing its power capacity between 2012 and 2018, improvements to the country's transmission and distribution networks are still required (IEA 2019a). Gas imports from Iran have boosted the volumes of gas available for power generation, but the reliance on liquid fuels is still significant: In 2017, Iraq burned about 263,000 barrels (bbl) per day. Resorting to liquid fuels will also likely raise the cost of electricity generation and put a further financial burden on the government. Currently the cost of Iranian gas imports into Iraq is linked to the price of Brent crude (Jafar 2018).

The price of producing power from Iranian gas is much lower than from burning domestic crude oil (or even distillates such as gasoil or diesel), even if gas is used in a less efficient power plant (33% efficiency). If Iraq were to substitute its 2018 gas import volumes from Iran (~4 bcm) with domestic crude oil – assuming Iraqi crude oil is sold at an \$8/bbl discount to Brent (Jafar 2018) – it would increase the costs for the government by approximately \$375 million. Should the pipeline run at full capacity (10 bcm), substituting out natural gas for crude oil would raise these costs to around \$910 million.

Figure 3. Variable cost of power generation in Iraq by fuel (33% conversion efficiency).



Sources: KAPSARC; Jafar (2018).

Note: MWh= megawatthour.

However, the prices of high sulfur fuel oil (HSFO) have dropped considerably, in anticipation of the International Maritime Organization’s sulfur emissions cap on the maritime sector from January 2020. HSFO is therefore an increasingly attractive option for power generators. In December 2019, the average European price of HSFO was around \$29/bbl less than Brent crude oil. Assuming a \$20/bbl discount to Brent, derived from forward price contracts, the cost of HSFO can break even with gas imports at \$65/bbl (Figure 3). Heavy fuel oil could be a suitable alternative to gas if the U.S. waivers are not renewed and the Iraqi government stops importing natural gas from Iran. The fragility of Iraq’s electricity and gas infrastructure limits the country’s options.

Conclusion

Whether or not the U.S. waivers are renewed, Iraq will continue to rely on liquid fuels to satisfy its growing electricity demand. Recent events may encourage the Iraqi government to accelerate gas infrastructure investment to ensure it meets its zero-flaring commitments. However, as international oil companies pull their oil workers from Iraq in light of the recent tensions, these commitments are unlikely to be met, increasing its reliance on gas imports. Given the significant costs that Iraq may face from the non-renewal of waivers, in addition to its aging infrastructure in dire need of investment, the country has found itself dependent on Iranian imports for its energy security. Further complicating the matter, Iraq is also dependent on the capabilities and the expertise of international oil companies to maintain its current oil production, meaning that the threat of American sanctions creates a nightmare scenario for the Iraqi government.

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