After the re-imposition of US sanctions in 2018 sparked a crash in its oil industry, Iran accelerated production of natural gas and gas condensates and expanded gas exports to neighbouring countries less vulnerable to sanctions. However, domestic obstacles and continued limits on its energy exports have prevented Iran from securing its place as a major gas provider to the region, and it now has another priority for its rising gas output: its downstream sector.

A fragile export market

Despite holding 17% of global proven gas reserves, Iran represents less than 1% of traded volumes internationally.[1]

Gas sector development is hamstrung by a mix of sanctions, a suboptimal business environment, extremely high and inefficient domestic gas usage and unsuccessful energy diplomacy. The result is slow output growth, limited regional gas pipeline export options, and no liquefied natural gas (LNG) plants to support international exports. Unable to get Islamabad, New Delhi, Muscat or Kuwait Tehran has relied on Baghdad and Ankara to support its gas exports, signing contacts through to 2026.

Despite unconfirmed reports in the local press of 26% year-on-year export growth in March 2020, bringing export levels to 47.9m cu metres per day, the reality on the ground does not bode so well for the future of Iran's gas export sector.[2]

Both Iraq and Turkey have shown signs of backtracking on their gas import agreements with Iran, with both countries receiving amounts far below contracted levels in recent years. In the case of Turkey, where exports between January 2019 and January 2020 reached just two-thirds of the contracted 10bn cu metres per year, Iranian gas is increasingly losing market share to Russian and Azeri gas shipments via the TurkStream and TANAP pipelines, and Qatar and US LNG.[3]

The Iranian gas file is also highly political in Iraq with added pressure from the US on Iraq to work toward energy self-sufficiency.

With $2bn of gas debt to Iran and uncertain US waivers, Baghdad is under pressure to find new supplies.In April a spokesman for Iraq's Ministry of Electricity claimed that the country was receiving only one-quarter of the 18bn cu metres per year of gas contracted from Iran, adding that negotiations were underway between the federal government and the Kurdistan Regional Government to develop

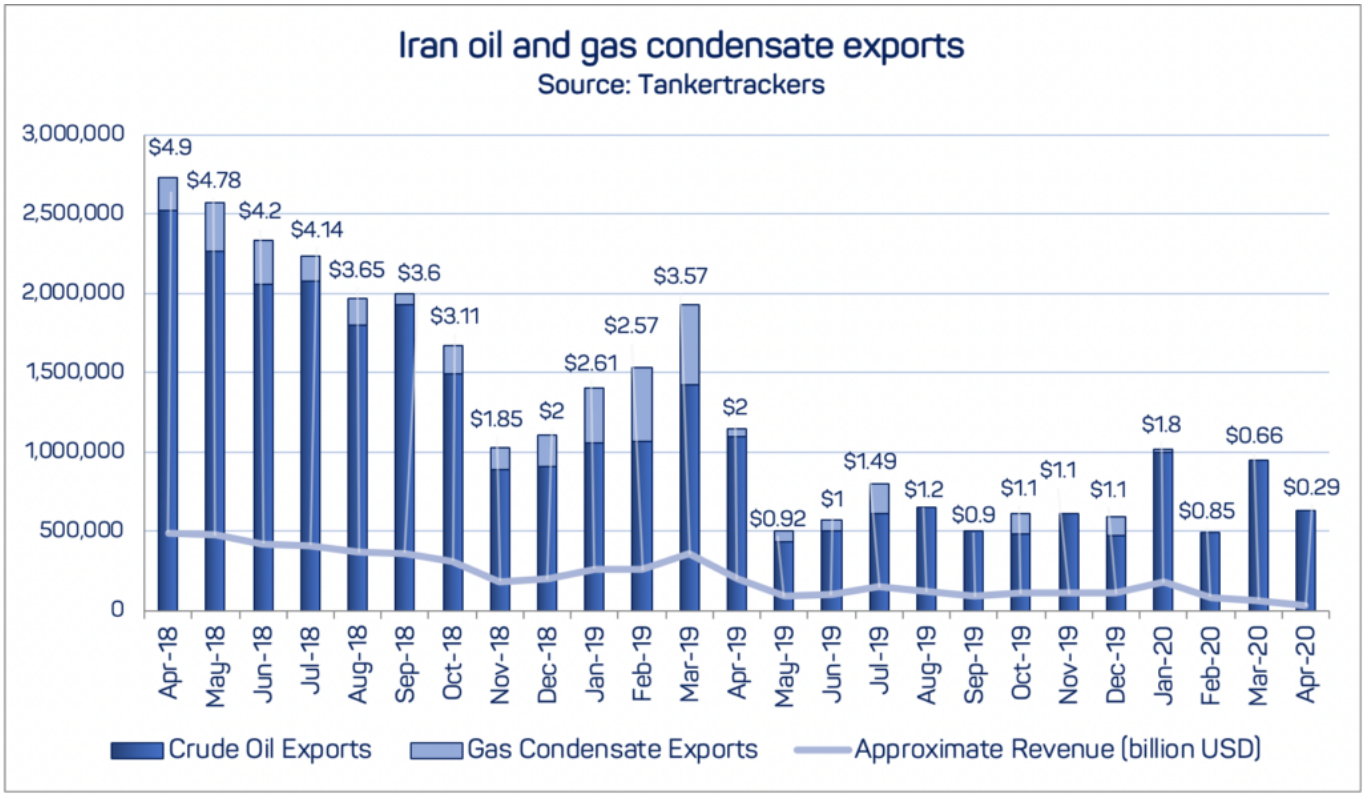
gas fields in the north.[4]

While Baghdad-Erbil tensions and political turmoil in Iraq ensure that Iran's market share isn't immediately under threat, the combination of US pressure, price disputes and Iran's unreliable supply of gas during winters will see Baghdad move away from Iranian gas in the long term.

In light of this, Iran had pinned its hopes on gas condensates as a way of boosting export revenues.

Benefitting from high-quality output, low-production costs and better trade incentives than crude oil, gas condensates had previously been a lucrative post-sanctions export for Iran.

Yet, no matter how attractive its trade incentives – including discounts and an extended repayment clearance time of 60 days – the country has recently seen its gas condensate exports dwindle, with the drop partly caused by further US pressure, along with an increase in domestic consumption.[5]



Directly after the re-imposition of sanctions, gas condensates offered Iran a good alternative from crude oil revenues, but this trend has tapered (*most recent gas condensate export figures are not yet available).

Expanding gas as a domestic feedstock

Natural gas production in Iran has remained relatively immune to the impact of sanctions compared to oil production, which dropped from 3.8m barrels per day before May 2018 to 2.2m b/d in March this year.[6]

Although reports on Iranian gas production figures vary considerably due to the political nature of the sanctioned energy sector – a factor amplified by Iran's decision to halt the publication of objective data – it seems certain that despite overall sanctions and the lack of European partners, Iran has steadily increased gas output over the years.

The National Iranian Gas Company reported average total output figures of 731m cu metres/d for the 2019 fiscal year, and the government is maintaining its ambitious target of 1bn cu metres/d by March 2021 – even if this is 300m cu metres/d less than what the country's Sixth Five Year Plan 2016–21 had originally intended.[7]

Most efforts have been focused on the South Pars field, a non-associated gas field holding 40% of Iran's reserves and processing 75% of its output. In 2019 Bijan Zangeneh, the minister of petroleum, commissioned the installation of six new production platforms by domestic companies in the field.[8]

In recent years the country has not only sought to wean itself off Turkmen gas needed to power its northern regions, it has also advanced its technical competence by using reverse engineering to design strategic equipment, such as safety valves and catalysts, that was previously imported.

Increasing gas output has helped Iranian officials phase out oil in power generation and direct such output into downstream activities. Shut out of hopes of large exports, gas is therefore being repurposed to solidify petrochemicals as the country's largest non-oil export. Iran aims to double capacity by 2025 to represent 6.2% of global output.[9]

	Household	Commercial and public	Transportation	Agriculture	Petrochemical industry	Electricity and other industries
Consumption	114.1	16.9	19.4	6.3	56	299
Consumption increase (y/y)	23%	13.4%	- 6.3%	28.6%	21.7%	- 6.1%

Natural gas consumption by sector (million cu metres/d) for spring 2019

Caged ambitions

Nevertheless, it is important to differentiate government targets from actual potential.

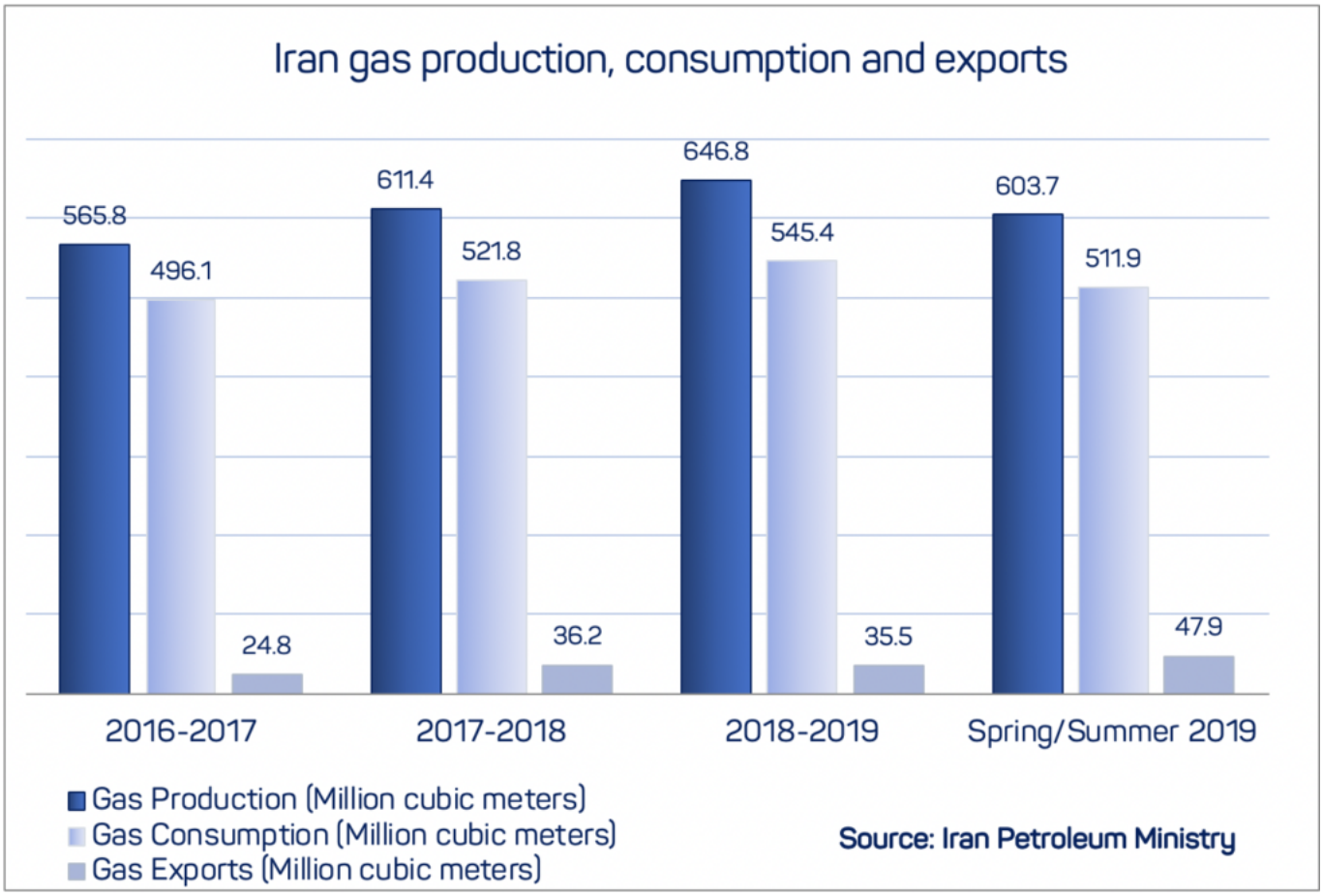
Under sanctions, Iran's energy sector lacks the necessary investment and access to advanced technology for it to reach its output targets and compete globally. Broader US sanctions on energy companies like PGPIC have also disproved the alleged resilience of gas condensate and petrochemical exports. While production capacity for both products increases, gas refineries and petrochemical plants currently run at 50% and 75% of capacity, respectively. In the meantime, Iran's storage tanks are filling up.[10]

Alarmingly, there are also fears that output in South Pars may start to drop as the field enters its second stage of life. This is mainly because none of Iran's domestic companies have the necessary technology to maintain existing levels of production as the field matures.

Finally, the Iranian gas sector's most daunting challenge remains domestic consumption. High, inefficient domestic consumption and large volumes of flared gas are primarily what have kept Iranian gas a domestic affair and made gas exports unreliable. During the cold winter months residential demand can double overnight, exhorting the country to restrict exports, as well as supplies to its industries and power plants.

Without any plan to curb domestic demand, which skyrocketed from around 283m cu metres/d in 2006 to 721.2m cu metres/d during the winter months of 2018–19, Iran will continue to find a vast gap between its natural ambition of becoming a gas behemoth, and its current position balancing the

tightrope between unsustainable domestic demand and limited presence in international markets.



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