The Geopolitics of Natural Gas
Geopolitics of Natural Gas Case Study: Iran

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by

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ABOUT THE STUDY

Some of the most dramatic energy developments of recent years have been in the realm of natural gas. Huge quantities of unconventional U.S. shale gas are now commercially viable, changing the strategic picture for the United States by making it self-sufficient in natural gas for the foreseeable future. This development alone has reverberated throughout the globe, causing shifts in patterns of trade and leading other countries in Europe and Asia to explore their own shale gas potential. Such developments are putting pressure on longstanding arrangements, such as oil-linked gas contracts and the separate nature of North American, European, and Asian gas markets, and may lead to strategic shifts, such as the weakening of Russia’s dominance in the European gas market.

Against this backdrop, the Center for Energy Studies of Rice University’s Baker Institute and the Belfer Center for Science and International Affairs of Harvard University’s Kennedy School launched a two-year study on the geopolitical implications of natural gas. The project brought together experts from academia and industry to explore the potential for new quantities of conventional and unconventional natural gas reaching global markets in the years ahead. The effort drew on more than 15 country experts of producer and consumer countries who assessed the prospects for gas consumption and production in the country in question, based on anticipated political, economic, and policy trends. Building on these case studies, the project formulated different scenarios and used the Rice World Gas Trade Model to assess the cumulative impact of country-specific changes on the global gas market and geopolitics more broadly.

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**Introduction**

Iran has been at the forefront of the international energy business since its inception. It was in Iran where the British Empire first sought to marry its global sway with energy dominance, where aspirations of contending superpowers to assert control over energy resources almost sparked the first Cold War conflict in the Middle East, where postcolonial demands for autonomy began to play out as resource nationalism, and where revolutionary upheaval has reinforced the intersection of security, prosperity, and energy resources.

Iran today remains an outsized force in the arena of global energy, with the world’s second largest proven natural gas reserves and the world’s third largest proven conventional oil reserves. Yet, despite these vast endowments, Iran has struggled in managing its resources, primarily as a result of its deeply troubled relationships with Washington and the international community. Three decades of rapidly escalating domestic demand for energy and legal constraints inhibiting exports have oriented Iran’s development of its massive gas resources nearly entirely toward meeting internal requirements.

This anomalous situation finds Tehran almost wholly excluded from international gas markets, a pattern that is shaped less by market forces than by the unprecedented international sanctions imposed in response to Iran’s defiance of the United Nations’ demands to suspend its uranium enrichment activities. Iran’s unusual evolution as a gas producer may offer some advantages for long-term development of a diversified economy; under the best conditions, gasification of the domestic economy could facilitate greater oil exports and revenues. However, for the moment, energy policy is subsumed within the existential challenges facing the Iranian government. The future of the regime—and of Iran’s role in international energy markets—faces greater uncertainty than at any time in modern history.

**Background and Energy Overview**

Prior to Iran’s 1979 revolution, gas played a subsidiary role in national development and revenues. Associated gas was predominantly flared. At the time when Iran’s monarchy began to
explore gas export possibilities, less than half of Iran’s produced gas was utilized for domestic or industrial consumption, exports, or enhanced oil recovery. The shah saw Iran’s massive energy resources as a means, albeit a vital one, to an end. He sought to develop Iran into a 21st century economy and a world power as quickly as possible, and the availability of considerable gas resources that were underutilized represented a windfall for fueling this industrial jumpstart. The National Iranian Gas Company (NIGC) was created in 1965 under the auspices of the National Iranian Oil Company (NIOC). According to NIGC’s first chief, “the shah was adamant on the gasification of the country. We made gasifying the industrial plants our priority.”

The untapped potential of Iran’s gas resources also offered the shah a means for balancing Iran’s precarious relationships with world powers. In 1965, in response to pressure at home and along the country’s borders over his alliance with Washington, the shah used a landmark gas deal to bolster a nascent opening with the Soviet Union. In return for supplying gas, Iran received Soviet military equipment as well as steel and machine tool factories—facilities with outsized importance in the monarchy’s development plans. Over time, the success of this deal opened the possibility of Iranian oil sales to the Eastern Bloc countries.

The Iran Gas Trunkline I (IGAT I) from Bid-Boland in the south to Astara along the western coast of the Caspian Sea was inaugurated in 1970 and represented the first attempt to monetize Iran’s world-class gas resources. It served as the backbone of a system that would enable massive utilization of gas in Iran’s domestic economy, first as a means of freeing additional volumes of crude oil for export and, eventually, as an alternative to the technological and export options denied to Tehran by sanctions.

Gas Resource and Production
Gas represents postrevolutionary Iran’s energy success story. Although oil production has declined under the Islamic Republic, gas production has surged by more than 670 percent, from approximately 1.6 bcf/day in 1979 to 13.4 bcf/day in 2010 (estimates, figures from BP Statistical Review 2011). These increases were sustained even when oil production struggled, such as during the war with Iraq. Flaring was reduced by threefold, and utilization of gas for reinjection in Iran’s aging oil fields as a means of maintaining pressure increased from 1.1 bcf/day in 1985
to 1.7 bcf/day in 1989.\textsuperscript{5} Still, significant wastage remains; in 2008, the World Bank ranked Iran the third leading source of flared gas, with an estimated 1 bcf/day.\textsuperscript{6}

This same period also heralded a shift from efforts to develop and utilize associated gas, which represents only about 15 percent of Iran’s overall gas resource, to its massive nonassociated fields, particularly South Pars.

**Figure 1. Source of Iran’s Gas Resources**

![Source of Iran’s Gas Resources](source.jpg)


The most significant shift in Iran’s approach to its gas resources came in the aftermath of the Iraq war, when a combination of opportunity and exigency induced a new focus on scoping the resource base and utilizing it more efficiently. In conjunction with the launch of the buy-back contract model, the Iranian parliament also authorized the government to seek up to $3.2 billion in foreign investment for South Pars development. Over the course of the next several years, NIOC undertook talks with a range of prospective partners over an array of oil and gas projects.

However, the sector and the role for foreign investment evolved differently than the early optimism suggested. Iranian eagerness for the return of the IOCs faded amidst delays and differences between Tehran and the foreign contractors about the pace of the projects, viable rate of return, and other issues. Ultimately, Iranians prioritized utilizing the gas to satisfy the country’s domestic demand—an NIOC official described Iran’s reinjection requirements as
“unlimited”—whereas foreign investors would have preferred projects that capitalized on export markets. The companies found Iran’s contentious political environment frustrating, and several found themselves enmeshed in costly corruption scandals that damaged both their profile within Iran as well as their international reputation. At the same time, Iran’s domestic politics began to shift in a more hard-line direction, and the populist sentiments that have persistently found their way into Iran’s economic policies began to revive themselves.

**Domestic Gas Consumption**

Beyond the foreign investment framework, the most dramatic shift in Iran’s postrevolutionary energy policy has been the explosion of domestic consumption. Thanks to massively undervalued resource prices, the Islamic Republic has one of the least energy-efficient economies in the world, and the cost both in terms of dependence on gasoline imports and reduction in available fuel exports has forced the government to adopt the controversial subsidy reform plan over the course of the past two years. This reflects the government’s strategy of “gas replacement”—increasing crude volumes for export by utilizing gas for domestic requirements.

As a result, it is hardly surprising that most of Iran’s gas production today is directed toward internal consumption for residential, commercial, and small industries usage.

**Figure 2. Iran’s Rising Gas Production Is in High Demand at Home**

In part as a consequence of the pressure of rapidly expanding domestic energy demand, Tehran has relied heavily on gas for domestic power generation and increasingly for transportation, as well. Slightly more than half of all consumption derives from the residential sector, with power generation at 30 percent and major industries (including petrochemicals) at 16 percent. From a gas network that served 51,000 households at the time of the revolution, Iran has expanded access to nearly 19 million households by 2011–2012, with similar but lower trends for industrial usage. Today, there are 921 cities connected to the domestic gas transmission network, as compared with nine at the time of the revolution three decades earlier. The domestic pipeline network supplies more than three-quarters of the country, reaching virtually all urban centers and approximately 57 percent of the rural areas. Iran has 31 gas-fed power plants, and during periods of peak usage—most notably, during winter freezes—residential demand escalates sharply, repeatedly forcing the government to cut supply internally as well as to export customers such as Turkey. Currently, Iran’s transmission capacity of 26 bcf/day has outpaced production of 15 bcf/day, but Tehran is preparing for additional phases of South Pars feeding into the system, seeking to add some 9,000 km of pipelines and 65 pressure boost stations by 2015.

Sanctions have played a role in limiting Iran’s export options and providing additional impetus for the 2010 implementation of subsidy reforms. The program targeted multiple aspects of the vast government support for basic commodities, whose direct tab had totaled $66 billion by 2009. Approximately 15 percent of that total related to gas, and to date the initiative has had contradictory impacts on gas consumption and future demand. One of the primary goals was to reduce a major vulnerability for the Iranian economy—the reliance of a country with among the largest energy reserves in the world on imports of gasoline and diesel for as much as 40 percent of domestic usage.

To mitigate the consumer shock of raising gasoline prices and dampen rising gasoline demand, Tehran undertook a massive program to shift the country’s transportation fleet to CNG. This initiative included the adoption of smart cards for all vehicles and fuel pumps that ration lower-cost gasoline based on consumption and subsidized conversion for individual vehicles to CNG. The outcome has been a massive increase in CNG capacity. As of mid-2012, Iran claimed to
have established more than 1,900 of an anticipated 2,500 CNG stations, with 2.8 million vehicles on the roads fueled by CNG.\textsuperscript{14}

The subsidy reform has also reportedly had a positive impact on fuel consumption overall and, in particular, smuggling, which previously resulted in 5–10 million liters of gasoline and other fuels illegally exported to neighboring countries. At the same time, however, the subsidy reforms were intended to reduce residential gas consumption by 20 percent over five years—combined with reduced flaring, enhancing the efficiency of the power grid and related equipment such as outdated air conditioners—in order to generate additional gas volumes for exports. Gas prices for industrial projects were raised to approximately $2/MMBtu from a previous rate of 40 to 50 cents per MMBtu, and further increases were initially envisaged for future stages of the reform program.\textsuperscript{15} Initial reports suggested that consumption did, in fact, decline by as much as 15 percent for households in the capital, but in the current economic chaos it is difficult to ascertain if these trends can or will hold.\textsuperscript{16}

Tehran has also sought to balance rising gas demand and enhance the available export supply by focusing more on conservation and avoiding leakages. According to Javad Owji, managing director of NIGC, more vigorous conservation measures could save 3.5 bcf/day—as much as four phases of South Pars production.\textsuperscript{17} Still, in the near term, the perennial tension about the most efficient utilization of any new gas volumes is mooted by the logistical and financial constraints of sanctions on export options, as well as by the increasing reinjection supply that will be required to maintain pressure in Iran’s aging oilfields.

Senior officials have cited the lack of sufficient gas volumes as an explanation for the precipitous declines in oil production (2012 production fell by an average of 300,000 bpd over 2011), although, surely, the intensifying sanctions and their negative impact on the availability of capital and technology play a significant role here. Estimates suggest that Tehran may need to boost its current reinjection rates—which rank at the top of the region—to somewhere in the range of 10bcf/day by the middle of this decade. This represents the equivalent production of Qatar’s entire LNG exports.\textsuperscript{18}
Beyond domestic demand, power generation, and reinjection, Tehran has sought to capitalize on its gas to buttress a petrochemicals industry that until recently had been growing at rapid pace. This has been a major priority in the postwar era—part of a broader effort to diversify the economy, generate a more robust industrial base, and reduce Iran’s dependence on oil export revenues. Sanctions and related difficulties in obtaining sufficient capital have contributed to delays in completing two major new gas-processing plants, Bid Boland-2 and Parsian. In addition, the exigencies of satisfying persistently rising household consumption has forced the government to make costly reductions on gas availability for petrochemicals feedstock, transportation, and power generation.

**Figure 3. Utilization of Produced Gas**

![Utilization of produced gas chart](http://www.amar.org.ir)


**Political Overview**

Iran may be the most persistently unstable state in the world. External observers have been predicting the demise of the Islamic Republic on a regular basis since its earliest inception. Iran provides more than sufficient rationale for these expectations of instability. In particular, the power base of the Islamic regime narrowed in a marked and meaningful fashion after the presidential elections in 2009. Iran’s government had little difficulty in suppressing the protests that erupted after Mahmoud Ahmadinejad was announced the winner of what appeared to be a
rigged election. The reformist group known as the Green Movement that demanded a re-count was effectively dissipated and its leaders put under house arrest.

During Ahmadinejad’s second term, Iran was governed by a significantly more hard-line segment of the political elite. These developments further undercut the religious legitimacy of the theocratic system. Dissatisfaction with the regime remained high and the increasingly direct impact of international economic sanctions on the lives and livelihoods of average Iranians intensified a sense of siege within the country. Targeted demonstrations, graffiti, and small-scale acts of civil disobedience persisted, and as sanctions helped crash the value of the currency in early 2012, profound fears of what the future may hold gripped many in Iran. Iranians, however, remained unwilling to mobilize in large-scale fashion or confront the regime directly. This was a product of a variety of factors, including the depoliticization of a population that appreciated all too well the risks and uncertainties inherent in violent upheaval. The primary factor in Iran’s eerie internal calm was the resourceful campaign by the Iranian regime to prevent the resurgence of any significant popular opposition through a multifaceted and shrewd set of measures. This repression, together with significant investments in mobilizing regime supporters and buying off dissent through social spending and direct distribution of oil revenues, insulated the regime from the increasing frustrations of its population even as economic conditions deteriorated.

Still, Iran’s complex and always fluid politics continued to simmer. With the reformist camp pushed to the margins, the longstanding frictions between the traditional conservative faction and President Ahmadinejad’s supporters were expressed in increasingly public and antagonistic fashion. This infighting led to the neutralization of Ahmadinejad toward the end of his second term, following a predictable political pattern in the Islamic Republic that reflects the structural tensions within a system of bifurcated legitimacy and authority.

The 2013 election for Ahmadinejad’s successor was not expected to generate significant changes in Iran’s foreign and economic policies; the scars of the 2009 unrest remained too fresh, and the specter of further disorder remained all too real amidst the fallout from the Arab Spring and the Syrian civil war. And yet, to the surprise of many, the campaign proved surprisingly contentious
and unpredictable, and its outcome reverted the presidency to a more established and pragmatic Iranian politician, former nuclear negotiator Hassan Rouhani.

Rouhani’s victory was a product of several simultaneous shifts within Iran: a determination among the political elite to stabilize a system that was reeling from external pressure and internal feuds, and popular readiness to rally around any candidate who promised a path out of the profound hardship and isolation that has beset Iran as a result of sanctions and internal repression. In this sense, Rouhani was the beneficiary of the original reformist strategy that sought to use negotiations at the top and pressure from below to effect change. Critical for his success was the support of the reformist camp, which mobilized the movement's potent political machinery on his behalf and rallied voters around the country. He ran on the slogan of prudence and hope, a mantra that managed to synthesize his commitment to the system’s red lines with the aspirations of its citizenry for something more. His campaign symbol was a large key, which drove home his promise to fix Iran’s biggest problems.

His victory represents a significant turning point, albeit one whose proportions and precise vector remain uncertain. Rouhani is in many ways an accidental instrument of change in Iran. In the past, his political affiliations have been closer to Iran's traditional conservatives rather than the leftists who spearheaded the reform movement 15 years ago. Rouhani is a blunt pragmatist with plenty of experience maneuvering within Iran’s theocratic system. He is far too sensible to indulge in a power grab à la Ahmadinejad and has aimed at involving players from all major factions in his government.

Finally, as a cleric, he assuages the anxieties of the Islamic Republic’s religious class. He embraced reformist rhetoric during the campaign, but will not deviate too far from the system’s principles, the foremost of which is the primacy of the supreme leader. Rouhani’s focus on the economic costs of Ahmadinejad’s mismanagement resonates with the regime’s traditionalists as well as with a population battered by a decade of intensifying hardship and repression. The new president benefits from a broader base of support than any in Iran’s post-revolutionary history, which will be an important asset as he seeks to navigate the country out of isolation and economic crisis.
His first six months in office have begun to clarify the contours of a new political era in Iran: one that comes nowhere close to fulfilling the ambitions of his most optimistic supporters, but one that also transcends the bounds of what was credible even a few months earlier or what was possible during previous periods of political transition. The new president appointed a cabinet composed mostly of technocrats, and the two most important ministerial slots (foreign affairs and oil) went to men with long experience and unabashed outward orientation. Rouhani broke a symbolic taboo by exchanging telephone greetings with President Barack Obama while visiting New York for the United Nations General Assembly meeting in September 2013.

The president also clearly has a mandate on the nuclear issue; only four months into his presidency, Iran reached its first agreement in a decade with representatives of the United States, Russia, China, and Europe. The November 2013 Geneva accord represents only a preliminary step, which freezes much of Iran’s nuclear program while talks proceed on a more comprehensive and ambitious deal. Still, the progress signaled newfound Iranian intention to address—rather than evade—the world’s concerns about its nuclear activities.

The diplomatic breakthrough on the nuclear issue has paved the way for a revival of Iran’s relations with a number of European states that had held the regime at arms’ length during the Ahmadinejad presidency. At the same time, however, Rouhani’s reach is not unlimited; there have been no visible improvements in Iran’s other destabilizing policies in the region, particularly its support for Bashar Al Assad and Lebanese Hezbollah. And at home, the election has resulted in only limited improvements in the domestic political environment; the leaders of the Green Movement remain under house arrest, public executions continue apace, and the environment for media and social freedoms is still subject to repression.

**Implications of Current Political Dynamics for Energy and Gas Development**

For Iran’s economy—and more specifically for its future as a producer, exporter, and beneficiary of the international petroleum business—the past decade has brought about a slow-motion catastrophe. By selecting Khatami-era minister Bijan Zanganeh to return to the helm of the oil
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ministry, Rouhani appears to be determined to transform the prospects of the energy sector and to have the support of the supreme leader in doing so.

Zanganeh won swift approval of the conservative-dominated parliament despite previous allegations of corruption and hard-line opposition to his strenuous advocacy on behalf of foreign investment in Iran’s energy sector. And during Rouhani’s first year in office, he has played an active role in courting the return of IOCs via personal diplomacy as well as through an aggressive effort to restructure the sector and revise the contract model.

Still, Tehran continues to confront the legacy of its 35-year track record of regional troublemaking. For the energy sector, the primary implication remains the complex regime of international economic sanctions, which have degraded the domestic oil and gas sector. Even as the nuclear negotiations appear to be progressing, there is significant uncertainty about the timing and scope of any meaningful relaxation in the sanctions regime. The Islamic Republic has been subject to various forms of American and international sanctions since the seizure of the US embassy in Tehran in November 1979. Over the past three decades, each US president has adopted a variety of tactics in hopes of influencing Iran’s decision-making in a constructive fashion, but US policy has relied on sanctions to compel Tehran to alter its foreign and domestic policies.

The sanctions regime was significantly intensified multiple times over the course of the subsequent decades: with the 1979 seizure of the US embassy; again in 1984 with Iran’s addition to the US list of state sponsors of terrorism; in 1987, with a ban on Iranian imports; and in 1995 and 1996, with a comprehensive embargo on trade and investment as well as new secondary sanctions against foreign investors in Iran’s energy sector. An array of new and more powerful sanctions has been added in recent years, and the result is a redundant and multi-vectored American sanctions regime that reflects the multiplicity of US objectives with respect to Iran. In contrast, most of the multilateral measures that have been instituted over the past decade are related to the nuclear and, more specifically, derive their foundations from UNSC resolutions.
The international dimension of Iran sanctions is particularly relevant for gas developments. Today, the Iran sanctions regime is a robustly multilateral affair, incorporating both coordinated international measures as well as broad adherence to US legislation and regulations. Central to this campaign was the Bush administration’s lengthy, uphill battle to bring the Iranian nuclear file before the United Nations Security Council. Since 2006, four successive UNSC sanctions resolutions have imposed real penalties on Iran and facilitated more strenuous measures by the European Union and an array of other Western and Asian states.

The UNSC measures were accompanied by a concerted campaign, focused on European and Gulf financial firms, intended to highlight the increasing legal restrictions and reputational risks of investing in Iran. After more than two decades of seeking international support for pressuring Iran, Washington succeeded simply by capitalizing on the unique role of the US financial system to magnify the impact of US restrictions. While extraterritorial sanctions had provoked European opposition in the past, these measures received little overt pushback from either the diplomatic or financial community. The surprising degree of compliance reflects effective US diplomacy with allies, greater international mistrust of Tehran, and the obliqueness of the measures, which targeted Iranian institutions but indirectly imposed constraints on any foreign business partners.

The most recent sanctions were carefully crafted to attempt to mitigate the likelihood of negative repercussions for crude oil prices and, by extension, the global economy. The US prohibition of interactions with the Central Bank includes presidential waiver authority to ensure that the primary impact remains focused on Iran’s crude oil revenue stream, rather than on crude supply or prices at the pump. To date, a variety of factors coincided to check any price escalations, including expanded output by other producers, principally Saudi Arabia; the slowdown in the global economy; and increasing North American oil production. To be sure, Washington has made relatively liberal use of its waiver authority, granting six-month exemptions to 20 countries, including most of Tehran’s major crude customers, in recognition of reductions in Iranian crude imports deemed “significant” by Washington.

However, while global energy markets have been relatively unshaken by the sanctions to date, the impact on Iran has been dramatic. The mere announcement of US measures targeting the
Central Bank helped drive down the value of the rial by nearly half its value in just a matter of weeks. With the initial grace periods incorporated into the latest US and EU measures having expired, Tehran is reportedly losing as much as $133 million per day in revenues, as oil exports fell from 2.3 mbpd in 2011 to an estimated 1.2 mbpd in 2012. By the time an interim nuclear deal was signed in late 2013, US estimates of Iranian exports had fallen to just over 1 mbpd, although Iranian statistics claimed higher volumes.

These measures, and the general frustration with Iran’s business climate, shattered Iran’s energy business just as its gas development began to take off. Major IOCs, including Shell and Repsol, have simply walked away from signed deals for South Pars projects. Other Western companies, including early entrants to Tehran’s reopened energy sector such as Total, Statoil, and ENI, foreswore new opportunities in Iran, closed Iranian offices, and curtailed future business. All the international construction firms that fabricated facilities and transportation networks associated with Iran’s petroleum sector have scaled back or withdrawn completely, and the European and Asian banks that provided much of the capital for South Pars’ early phases as well as a number of other upstream projects are long gone. Ultimately, Tehran announced that all future development of South Pars would remain in the hands of Iranian firms, a feeble face-saving gesture that tacitly acknowledges the country’s return to isolation.

For ordinary Iranians, the sanctions have meant a reversion to the exigencies of the wartime economy. Inflation mounted as high as 40 percent, according to current officials, and factories have shut down for lack of imported raw materials. Much of the trade that continues has been forced to rely on barter, increasing the flood of inexpensive Asian imports and further decimating Iran’s manufacturing sector.

The interim nuclear accord provided Tehran with some temporary relief—specifically, access to $4.2 billion of hard currency that banking restrictions had prevented Tehran from repatriating. The agreement also temporarily suspended sanctions on Iran’s petrochemicals trade, its automotive sector, and precious metals, and established a licensing process for civil aviation purchases as well as a banking mechanism to facilitate humanitarian transactions. Finally, current importers of Iranian crude will not be asked to further reduce their purchases in order to
obtain waivers of existing measures prohibiting transactions with Iran’s Central Bank, and the agreement temporarily lifts restrictions on transportation and insurance of those cargoes.

This agreement, together with more prudent fiscal policies adopted by the Rouhani administration, has provided a valuable stimulant to a crisis-ridden Iranian economy. However, in the context of the continuing restrictions that Iran faces and the ongoing cost of the sanctions in terms of oil revenues and broader difficulties in engaging in normal business transactions, the scope is extremely modest. The relief can be revoked at any time, all transactions must be concluded within the six-month window, and with the exception of civil aviation, none of the openings apply to US firms or individuals. Although the election and the interim accord have piqued enough business interest to resume trade delegations to Tehran, there is little evidence of significant new foreign investment in Iran. IOC interest is self-evident, but even the European firms with prior experience in Iran and expressed hope for a return have clearly indicated that they will need a more secure legal and political environment before they can contemplate any new investments.23

The revival of serious negotiations on the nuclear issue suggests that sanctions are working precisely as intended—eroding Iran’s economic power and, by extension, the capability and authority of its government without impairing the global economic recovery or adversely impacting oil consuming countries. From a strategic perspective, however, real questions remain about whether the sanctions will succeed in altering Iran’s posture on the nuclear issue or on other concerns. The constraints imposed on Iran are useful simply in limiting the resources available to the regime, but it is still not certain that they will persuade the regime to impose significant, verifiable constraints on its nuclear program. Based on the public statements of both President Obama and Ayatollah Khamenei, neither senior leadership has confidence that the ongoing negotiations will ultimately resolve the impasse or result in real sanctions relief.

Even as nuclear negotiations began to intensify in pace and seriousness after Rouhani’s election, Khamenei continues to maintain that sanctions will not alter Iran’s nuclear posture. In the supreme leader’s view, their impact is bearable, arguing that “continuing these sanctions for a long time is not in the interest of Western countries” and that much of the world has “either been
forced to go along with sanctions or they are just doing it as a ceremonial gesture. And these conditions will not continue.” The supreme leader has extolled Iran’s “economy of resistance,” which “prepares the ground for the progress and flourishing of a nation even in times of pressure and sanctions.” Iran has endured even more onerous economic circumstances in the past—during the war, for example, when the fiercest fighting coincided with a worldwide collapse in crude prices that drove Iran’s annual oil revenues to approximately one-tenth of their current levels.

In recent years, Iran’s capability to continue developing its gas resources played directly into the leadership’s conviction that the country can survive the sanctions. Efforts to step up production at South Pars were not intended merely to forestall Qatar’s depletion of the resource, but also to fuel an expanding electricity trade with Iran’s neighbors, fed by domestic gas-fired power generation capacity. And the sanctions may provide paradoxical incentives for several of Tehran’s major crude customers—in particular, China and India—to increase their stakes in Iran’s gas sector. As a consequence of the financial restrictions, Beijing and Delhi have shifted to payments in local currency or various forms of barter.

The direct economic impact of sanctions is not the only risk facing the Iranian leadership today. The economic pressure that Iran is experiencing today has predictably exacerbated the regime’s innate animosities and paranoia and intensified the conviction, born of the revolution and war, that the world is aligned implacably against Iran. The revival and reinforcement of this approach to the world has come at a particularly dangerous moment—one in which there are multiple sources of instability and potential conflict, all of which would have devastating consequences for Iran’s energy prospects as well as the broader security of the Gulf.

In this sense, sanctions feed troubling dynamics that are almost certainly bound to exacerbate regional instability. The regional climate could easily escalate from what is now a low-intensity proxy war between Iran and its Sunni Arab neighbors to a direct interstate conflict involving a number of key energy producers. The Arab Spring has generated any number of opportunities to spark such a crisis—for example, Yemen and Bahrain are rife with sectarian violence, external intervention, and the prospect for inadvertent escalation. The most likely arena for a
conflagration comes in Syria, where Iran’s sole Arab ally is locked in a brutal and protracted implosion, facilitated by Saudi Arabia and the other Gulf states.

Finally, looming over Tehran’s struggle to withstand international economic pressure is the persistent threat of military action by Israel and/or the United States in an effort to terminate or at least set back Iran’s nuclear program. Such a strike has been widely debated, as cyclical threats between Tehran, Washington, and Jerusalem have provoked speculation that military action may be imminent. The likelihood, indicators, and full implications of a military attack on Iran’s nuclear program goes well beyond the scope of this paper; however, for the purposes of anticipating the future development of Iran’s gas sector, the possibility must be briefly addressed.

Even a limited campaign, intended to merely delay Iran’s nuclear program rather than conclusively eliminate any vestige, would inevitably wreak havoc on the country’s economy and infrastructure. More ominously, Iranian retaliation for any direct military strike could be wide-ranging and catastrophic for regional energy development and transportation. The Arab Gulf states would once again prove tempting targets. The price of oil would skyrocket, at least temporarily, and if Tehran succeeded in jeopardizing Gulf security, an attack could spark a global energy crisis and a new worldwide recession. And in the long-term, if the current regime survived, its determination to acquire nuclear weapons would be compounded by the attack, and the regional security environment would be permanently and profoundly enflamed.

Rouhani’s election has temporarily eliminated the prospect of any military strike against Iran’s nuclear facilities. But if the negotiations fail to produce an agreement that can withstand scrutiny from the powerful skeptics in both capitals, especially Iran’s Supreme Leader Ayatollah Ali Khamenei, then President Obama will come under renewed pressure to deliver on his assurances that Iran will not be permitted to acquire a nuclear weapons capability.
Economic Factors

Post-Revolutionary Petroleum Sector
The 1979 revolution left Iran beset by chaos. Oil worker strikes brought the industry to a halt and the monarchy to an end. During the transition to a new order, the disarray was prolonged by the departure of thousands of technocrats, the ongoing divisions among the revolutionary coalition, the perpetuation of worker activism, ethnic unrest, and the war with Iraq. The revolution also subjected Iran’s energy policy to ideological imperatives and new external challenges. The revolutionary leadership sought to diversify Iran away from petroleum dependency, which they saw as draining Iran’s patrimony and subjugating the country to the West and global capitalism.

As a result, the agreements with concessionaries were cancelled, production was constrained, and Tehran sought to export more through independents and the spot market. The massive new gas export projects were abandoned, with catastrophic long-term impact on Iran’s role in the international gas trade. However, circumstances quickly modulated these autarkic tendencies. With the September 1980 Iraqi invasion, revenue demands began to force a rapid reconstitution of the battered industry.

During the revolution’s first decade, Tehran endeavored to recover production and maintain exports amidst bombardment of its facilities and transportation corridors as well as the sanctions and the total mobilization of the economy to support the war effort. The mid-1980s collapse of oil prices, engineered by the Saudis at least in part to undermine Iran’s prospects for defeating Saddam Hussein, contributed to Tehran’s decision to end the war.

As a result, Iran’s postwar reconstruction agenda acknowledged a more realistic appreciation for substantial increases in energy production and reengagement with the international economy. Efforts to reopen the energy sector to foreign investment were hard-fought internally, and the new framework was carefully constructed to mitigate anticipated domestic opposition. The result as codified in the 1987 Petroleum Law and the 2002 Foreign Investment Promotion and Protection Act has proven insufficient to attract and maintain sufficient levels of international
capital and expertise in the energy sector, particularly as pressure has mounted from Washington and the United Nations.

Chief among Iran’s hindrances is its cumbersome contract model, known as the buyback. Launched in 1990 and revised repeatedly since, the buyback contract has proven a major impediment to attracting and maintaining foreign investment in the energy sector. The relatively limited time frame and the cap on the rate of return drove Total out of Iran even more than the pressure from the American and French governments. The drawbacks to the buyback are exacerbated by Iran’s lengthy and quixotic decision-making process. Even before the intensification of sanctions, interest in the Iranian energy sector had waned considerably from its apex in the late 1990s as a result of the frustrations and limited rewards of doing business in Iran. At a recent conference, Iranian officials acknowledged the imbalance in the risk-reward structure under the buyback framework, asserting that IOCs earned approximately $8 billion through the projects tendered prior to 2005, whereas Tehran had netted $94 billion.26

Figure 4. Oil Production Never Regained Pre-Revolutionary Heights

**Industry Structure**

The post-revolutionary transformation of the Iranian regime and its relationship to the international energy business did not significantly alter the basic structure of the Iranian petroleum industry or its centrality to the revenues of the Iranian state. Today, Iran’s energy sector is wholly dominated by the state and semi-governmental entities. The Ministry of Petroleum, established in the aftermath of the revolution, determines policy and supervises the various operating companies, including the flagship National Iranian Oil Company (NIOC) and its counterpart businesses for gas, petrochemicals, and refining and distribution. Ultimately, however, the establishment of the ministry has not differentiated policymaking from operations, and episodic attempts at establishing greater accountability have run aground. Consistent with its traditional attachment to oil issues and its role in budget-making, Iran’s parliament has also assumed an interventionist stance vis-à-vis the oil and gas sector.

**Figure 5. Structure of Iran’s Petroleum Industry**

NIGC retained authority over gas treatment and distribution despite repeated efforts by NIOC to usurp this territory. Exploration and development remains under NIOC auspices, with a single subsidiary (Pars Oil and Gas) charged with the largest gas fields (including both North and South
Pars) and other geographically-delimited subsidiaries. Today, NIGC has 44 subsidiary companies, including 30 provincial distributors, eight gas refineries, and an additional six companies that manage particular functions.

In addition, there is a range of additional direct and indirect (semiprivate) subsidiaries performing as subcontracted developers of the fields, in cooperation with international and foreign national oil companies in some cases. One of the largest of these is Petropars, which is engaged in several South Pars Phases development phases. Petropars has been implicated in a series of scandals and allegations of corruption, but aside from the eviction of several high-profile reformist politicians from management roles, the scrutiny and suspicion has produced minimal repercussions beyond further delaying development and deterring foreign investors. Sanctions have thrust Petropars into an even more central role in South Pars development.

President Ahmadinejad came into office pledging to eradicate what he described as an “oil mafia” that had plundered Iran’s resources, a thinly veiled reference to former President Rafsanjani and other regime officials who had insinuated themselves and their families in the economic affairs of the state. Ahmadinejad succeeded in engineering a broad turnover in energy management; however, there is little evidence that he has achieved anything other than a shift in the recipients of patronage. In addition, many technocrats with long experience in the industry and in dealing with international energy companies have been sidelined. Ahmadinejad feuded repeatedly with the parliament over oil ministers and at one point in 2011 attempted to install himself in the post. The Majlis also thwarted Ahmadinejad’s effort to merge the petroleum and energy portfolios in his cabinet.

The only significant innovation in the structure of the broader petroleum sector during the Ahmadinejad era has been new openness toward participation by other domestic entities. Historically, NIOC jealously guarded its turf and precluded all but a few favored state enterprises, such as IDRO, from inroads into the sector. But the withdrawal of foreign investors has shifted that paradigm. These changes have involved both the entrance of new semigovernmental players as well as the shift to seeking domestic financing through the sale of “participation bonds” in specific phases/projects of South Pars. This was a function of necessity
rather than a genuine liberalization; however, like so many other policies adopted as a temporary fix, the pseudo-privatization of the petroleum sector may have long-term implications for Iran. In 2007, the Petroleum Ministry announced that 21 of the various subsidiary companies to its four primary operating consortia would be privatized; but as of 2013, it appeared that little progress had been made in this regard.27

The departure of Western investors since 2006 has opened opportunities for domestic firms, particularly those with Revolutionary Guard connections. Islamic Revolutionary Guard Corps (IRGC) affiliated companies, such as the Khatam al Anbia construction firm, have reportedly secured as much as $25 billion in projects in the oil and gas sector, and similar trends hold true for other semigovernmental firms, including those associated with the large parastatal foundations that had previously been excluded from such activities. Beyond the entrance of the Revolutionary Guard, the combination of ideological preferences and the various constraints on foreign involvement has also facilitated the entry of semigovernmental entities into the oil and gas sector, including Mapna, the state-affiliated power generation conglomerate, as well as the parastatal Foundation for the Oppressed (Bonyad-e Mostazafan).

Bijan Namdar Zanganeh’s return to the helm of the Oil Ministry is a welcome improvement from the perspective of technocrats. He brought with him an array of his former senior officials, including Mehdi Hosseini, a former deputy oil minister who helped devise the buy-back model and served as Iran’s chief negotiator on many of its early deals. Hosseini is now charged with revising the contract model, and his early proposal—dubbed the Iran Petroleum Contract, or IPC—was unveiled to companies and analysts in early 2014, with a formal launch scheduled for February 2015. The new framework will apparently authorize the establishment of joint-venture partnerships among Iranian oil companies and foreign firms, and provide higher profit margins, longer terms, and contract conditions that might enable IOCs to book reserves (although only on production).28

Foreign Investments
Today, Tehran remains heavily focused on development of the massive South Pars field, appropriately so since the field contains 47 percent of the country’s total recoverable gas
reserves. The first 10 phases of an anticipated 24-plus stage development plan are already on line, and while this is zealously celebrated by regime officials, Iran’s technocrats quietly grumble about lags in development and the costs to Iran. South Pars production accounts for approximately half of Iran’s gas, and field investments have helped fuel exponential increases in Iran’s gas consumption over the course of the past two decades. Current production from South Pars totals 285 mcm/day, with production from Phase 12 (launched in late February 2014) expected to add an additional 14 mcm/day as it is fully brought on line this year.

Slightly more than a decade ago, these expansions prompted concerns that Tehran “ends up with more gas than it can handle.” However, development of South Pars, the crown jewel of Iran’s gas reserves, is moving considerably more slowly than originally planned, and additional gas remains urgently needed in order to fulfill domestic requirements, including reinjection to maintain production levels in the country’s aging oil fields. The phased but interconnected approach to South Pars development has meant that early delays have cascaded into deferrals for subsequent projects.

More recently, virtually all Western investors in the energy sector have exited Iran as a result of international pressure and frustrations with the Iranian investment climate. In their absence, Chinese and Indian firms have assumed symbolic stakes but have slow-rolled capital commitments and project development. And even here frustration is mounting; Iranian leaders periodically gripe about Chinese nonperformance. In July 2012, Iranian news agencies reported that CNPC had formally withdrawn from its lead role in Phase 11, following months of warnings by Tehran that Chinese lack of movement on the project jeopardized the contract; however, various news reports contested this characterization. In August 2013, Zanganeh awarded Phase 11 to the parastatal Petropars, and frictions over CNPC’s glacial development of the South Azadegan oil field led to renewed pressure on the company in early 2014.

In the absence of foreign investors and external sources of finance, Tehran has been forced to pony up enormous capital investments to compensate for the loss of anticipated foreign investment. The government has sought to accelerate the timetable for South Pars for both face-saving and practical reasons. The field’s full development was initially slated for 2023, an
ambitious schedule by any measure.

However, Iran’s oil minister announced to the parliament that current plans project full development of the field a decade earlier. A task force of senior regime officials was appointed, and crews are reportedly working around the clock in order to meet these self-imposed deadlines. “Completing the work will require great investment, which will entail serious help by honorable Majlis representatives, because with the completion of the South Pars phases our production will equal Qatar’s,” Rostam Qasemi emphasized. In July 2012, Tehran allocated $5 billion from the National Development Fund (NDF) for South Pars, out of a total $14 billion in new NDF support for the petroleum sector.

The pace of South Pars’ exploitation is the subject of increasing anxiety for Tehran; the geological structure is shared with Qatar’s North Field, and the disparity between development and depletion rates on the Qatari side has sparked concerns that the delays and obstacles experienced by Tehran will eventually forfeit the field’s potential. One Iranian expert estimates that Doha has gained $55 billion and is set to earn another $100 billion, in part because of the lack of serious competition from Iran. This assessment of a production imbalance favoring the Qataris is not universally shared; in fact, some analysts contend that Tehran may bear some culpability for depleting the reservoir at a sharper decline rate than its relative share of the asset. Still, with financial pressures and frictions with its neighbors mounting, Tehran’s tone on South Pars and other shared fields, including the Arash gas field that is shared with Kuwait, hardened during the final years of the Ahmadinejad presidency. Since the election, Iranian officials have sought to portray the issue in a slightly more positive light, stressing the opportunities for regional cooperation on the 25 fields shared with Iran’s neighbors.

Gas Imports and Exports

With the post-1989 war initiative to develop South Pars, Iran has revived gas export possibilities, including pipeline and LNG deals that echo the prerevolutionary plans. In 1993, Tehran signed a preliminary agreement with Gaz de France for feasibility studies into various pipeline and LNG export options. At the time, the Petroleum Ministry envisioned exports of approximately 50 bcf/year by 2000, half intended for European and Pakistani markets. In 2001, Oil Ministry officials projected that gas export revenues would gradually rise to levels commensurate with historic patterns of oil revenues, predicting $6 billion from South Pars alone.
These projections have proven overly optimistic; Tehran’s export capabilities have been constrained by a variety of forces: domestic mismanagement and volatility in the petroleum sector management; lack of access to technology and capital as a result of sanctions; and fierce rivalries over establishing dominant export corridors from competitors including Qatar, Russia, and the Central Asian states. Still, Iran has managed to achieve modest export levels to Armenia and Turkey via pipeline and two separate swap arrangements with Azerbaijan, one of which provides Iranian gas to the Azeri enclave of Nakhchivan.

The Turkish deal is the longest standing of Iran’s export relationships, and its chaotic history speaks to the obstacles Tehran faces in marketing its gas as a reliable supply source. Talks between Tehran and Ankara about gas exports began shortly after the revolution, and in 1982 the two countries agreed to a deal. However, it was not until 1996 that supply agreement was signed, and sanctions and financial questions delayed the launch even further. The pipeline, which links Tabriz to Ankara, was completed in 2001 and has a capacity of 1 bcf/day.

Iran’s gas trade with Turkey has been interrupted on a regular basis due to political, security, and market issues. The greater disappointment has been that the Turkish deal has never fulfilled the larger ambitions of Iranian policymakers—that is, to serve as a gateway to European exports and situating Iran as the hub of a robust supply network.

As part of its fifth Five Year Plan, launched in March 2010, Tehran set out an agenda of massive investments in the gas sector that included the construction of the ninth IGAT pipeline. Iran continues to pursue piped gas export projects that show little evidence of viability from a political or commercial perspective, including a pipeline to Pakistan (and in some guises, India) as well as a joint project with Iraq, Syria, and Lebanon that would extend to serve European and regional demand. Tehran advanced the projects unilaterally by developing domestic pipeline capacity to service anticipated export routes and has signed preliminary agreements with Baghdad, Islamabad, and Damascus in discussions on pricing and infrastructure.

The “peace pipeline” to South Asia has been in the works since at least 1994, but has been repeatedly stalled due to political frictions, security concerns, and difficulties in agreeing upon a
pricing formula. In May 2009, Tehran signed a gas sale and purchase agreement with Pakistan and subsequently inked a gas transportation agreement with additional guarantees intended to facilitate the countries’ respective construction of the pipeline in 2010. Tehran has been at work for several years on the domestic portion of the pipeline, but financial constraints have precluded any progress on the Pakistani side.

By virtue of necessity, Iran’s approach to exports has tended to be characterized by opportunism. As talks with Pakistan on piped gas foundered, Tehran revived the dormant Iran LNG project that had been conceptually associated with South Pars Phase 12 as a prospect for gas exports to India. The Arab pipeline network has also shifted form to adapt to changing geopolitical circumstances and opportunities. With sanctions impinging on its finances and energy partnerships, Tehran has now turned its attention toward utilizing the gas domestically and serving as a regional electricity hub, including major projects for electricity supply to Iraq, Afghanistan, and other states.

Iran has also maintained talks with a range of neighbors on gas exports and/or joint development projects, but these projects do not have sufficient momentum to move beyond the negotiating table, and the current regional political climate effectively postpones them indefinitely. Even before the escalation of frictions between Iran and the Gulf states over the course of the past year, a combination of political and pricing obstacles had scuttled efforts to establish intra-Gulf gas trade. Iran’s protracted negotiations to supply 0.5 bcf/day gas to the UAE produced only acrimony, as a deal with Dana Gas, based in Sharjah, collapsed over pricing disputes. Tehran has engaged in periodic negotiations with Kuwait, Oman, and Bahrain, and signed preliminary agreements with Kuwait in January 2003 and April 2010, and more recently with Oman. These talks and deals are seen by both sides as politically useful, but there is little prospect of their implementation in the near term. Since Rouhani’s election, Iranian officials have announced major new gas export deals with Oman and Iraq, but ongoing shortages in the domestic market suggest that adequate supplies may not be available, and this factor along with sanctions will complicate prospects for the deals to proceed as agreed.
Iran has sought to develop LNG production since the initial development of South Pars. Three major projects—Iran LNG, Persian LNG, and Pars LNG—were originally devised, with plans for initial exports to begin in 2011. But without the technology and without solid sales agreements, there is little that Tehran can do to force the project forward. A number of the foreign firms involved with the projects had already withdrawn or signaled their disinterest in moving forward and have written off tens of millions in costs associated with the aborted projects. Some facilities associated with the Iran LNG project, including storage tanks constructed by the Iranian firm Panahsaz Iran Engineering Company, are now left effectively idle. “We do not dare buy given the political issues. What would happen if we sign a deal?” an Asian buyer queried a reporter in 2011, adding that beyond the sanctions, Iran’s sluggish progress on construction of the liquefaction plant and its lack of any prior track record in LNG makes prospective customers very skittish.”

In both its rhetoric and infrastructure development, Tehran continues to promote its prospects as a major global gas supplier, with the intention of expanding Iran’s share of the international gas market from its current 1 percent to 10 percent. However, this vision of Iran seems almost divorced from reality; the same sanctions that are ending many of Iran’s traditional oil supply relationships and eroding its interconnections with the global banking system will preclude any new gas deals in the near or medium term. Iranian officials have reportedly been rebuffed in efforts to launch gas export talks with a range of European and Russian firms.

Because of the distance between supply and major centers of domestic demand, Tehran has imported small but steady volumes from Turkmenistan via the Korpezhe-Kurt Kui pipeline since 1996 in order to enhance gas supplies available to populations in northern Iran. A second pipeline was launched in 2009 and expanded in 2010, intended to facilitate 1.6 bcf/day from the Dowlatabad field. With another northern neighbor, Azerbaijan, Tehran has established a swap arrangement that exchanges Iranian supply to the Azeri enclave of Nakhchevan in Armenia and in 2011 agreed to another deal for up to 0.5 bcf/day by 2015. Iranian officials forecast that further gas imports will be needed unless the country manages to stem demand growth and boost domestic production.
Future Scenarios and Energy Implications

Long-term Containment
After the initial progress in late 2013, negotiations toward a final nuclear deal became mired in technical complexities and the inability to fashion an agreement that satisfies Iran’s insistence on maintaining the vast majority of its nuclear infrastructure and Western requirements for significant rollback in Iran’s enrichment capabilities and the closure of several key facilities. Domestic politics on each side—including Congressional action in the run-up to the 2014 midterm election to advance new penalties against Iran—only entrenches the impasse.

Iran’s economy remains under siege. Although Tehran gained some benefits from the temporary sanctions relief provided by the interim deal, those measures are reimposed after the first year of negotiations. The rest of the crippling sanctions regime remains in place and is intensified toward the end of this decade. Iran’s economic activity is severely constrained, but through its sophisticated smuggling capabilities and the willingness of some states and firms to engage in sanctions-busting, Iran’s “resistance economy” survives. American and Israeli leaders periodically threaten military action, but refrain from a major strike to eliminate the program so long as Tehran avoids testing or otherwise declaring its nuclear weapons capability.

Iranian reformists remain completely marginalized, and divisions over strategy and leadership inhibit the emergence of a viable opposition to the regime. The Revolutionary Guards continue to occupy a dominant role in the Iranian economy and their subsidiaries are now closely intertwined with the state energy companies and ministry. However, most of their attempts to move forward with large-scale gas development projects and export pipelines remain stymied by sanctions. As gas production volumes start to decline and Iran is struggling to keep the domestic market supplied, the Iranian regime is forced to discontinue gas exports to Turkey. Continued internal repression and the militarization of the Iranian government has turned Iran into a pariah state with no outside support by the mid-2020s. Iran remains an outsized actor, but one that has forcibly benched itself. This leaves Iranians, and the world, watching carefully over the horizon for the change that often seems imminent but remains just beyond reach.
Democratic Evolution

President Rouhani’s initial success in spearheading a shift in Iran’s foreign policy gradually helps to expand the political space within Iran. Restrictions on personal freedoms are peeled away, and Rouhani’s empowered executive branch commits to protecting the basic political freedoms outlined in Iran’s constitution. Predictably, there is some hard-liner backlash in the press and on the streets, but unlike previous attempts at gradual reform, the supreme leader endorses modest liberalization. Negotiations on the nuclear issue continue, President Obama manages to stave off Congressional attempts to intensify pressure, and in early 2015 a comprehensive nuclear deal is inked.

The deal entails the lifting of most United Nations and European sanctions, and some selective removal of US measures targeting Iran’s refined petroleum imports, its primary financial institutions, and its insurance and transportation sectors. The US embargo on investment in Iran remains intact; however, as other international oil and service companies return to Iran, pressure mounts in Washington for greater US involvement. During Rouhani’s second term, Tehran contributes to a regional process that ends the Syrian civil war and generates a multisectarian, democratically elected government in Damascus. This step, together with Iran’s reduced financial and material support to terrorist organizations elsewhere in the region, begins to pave the way for further relaxation of US measures against Tehran and the return of the US majors to Iran’s energy sectors.

Tehran’s new contract models prove more attractive, and the pace of investments expands along with oil and gas production. With the help of foreign investors, the development of South Pars speeds up, and Iranian gas production expands considerably. The inauguration of the Pakistan-Iran pipeline is celebrated in 2020 and discussions on an extension to India resume. Moderate exports of Iranian gas to Europe start in 2022 through the Trans-Anatolian gas pipeline (TANAP) and the prospects of further deliveries excite Eastern European countries desperate to reduce their exposure to Russia. The first Iranian LNG facility goes online in 2026 and marks the beginning of an era in which Iran ascends to one of the major players in the global gas trade.
The slow evolution of the Islamic Republic into a responsible actor at home and abroad continues. The death of Ayatollah Khamenei and the selection of a moderate figure as supreme leader begins to erode Iran’s theocratic institutions and strengthen representative government.

*Deal but Iran Misses Gas Boat*

Rouhani’s election opens some new opportunities for Iran, but his careful strategy and the multiplicity of the challenges facing him at home and abroad make for painfully slow progress. Talks between Iran and the international community on a comprehensive nuclear accord make fitful progress but also experience prolonged periods of hiatus as a result of domestic political pressures within Iran. The continuation of diplomacy staves off serious consideration of military action, but also prevents Iran’s economy from interacting normally with the rest of the world. At home, Rouhani continues to focus on rehabilitating the economy within the constraints of existing sanctions and avoids pressing for political reforms or social liberalization in order to assuage the hard-liners who are constantly biting at his heels.

A final nuclear deal is signed in late 2015, but over the course of the next two years Tehran and Washington continue to trade accusations of deception and failure to adhere to the outlined terms. Further negotiations are required to clarify and reconfirm the original agreement. As a result, the removal of sanctions proves to be more difficult than anticipated and progress is slow. European, Japanese, and Korean firms begin to return to the Iranian energy sector in a significant way only in early 2018, and Washington’s continuing differences with Tehran over terrorism and human rights means that US firms remain barred by unilateral measures until well after 2020.

The consequence is that Iranian gas development projects remain in limbo, expanding only very slowly, and exports become possible only by the mid-2020s. However, by that time Iran is not able to capture a significant share of the global gas market because other countries have absorbed its markets and substituted for its export routes. Iran has effectively missed the boat and fails to take on a proportionate role in the global gas trade.
Conclusion

The experience of Iran’s gas sector offers a telling microcosm of Iran’s post-revolutionary melodrama: the intense tragedy of the failure—born primarily of ideological antipathies—to make the most of the country’s epic natural and human resources, counterbalanced at least in part by the surprising capacity of Iranians to manage and even overcome deeply unfavorable circumstances. Iran has repeatedly squandered opportunities to seize its proportional share of the world gas trade, and yet its economy today still has tremendous potential for growth and expanded interconnections with the international energy industry.

This study has shown that the future of Iran’s gas sector is entirely dependent on political developments. As the second largest gas reserves holder of the world and due to its strategic location between the West and a rising Asia, Iran has enormous potential. It is a nation whose politics have repeatedly taken unpredictable turns, whose democratic aspirations have erupted repeatedly for more than a century, and whose current government fails to meet its citizens’ basic aspirations for dignity and a decent life. Rouhani’s election to the presidency was certainly one of those hardly predicted turns. It remains to be seen whether he can succeed in delivering on his promises, bringing about meaningful reforms and resolving the nuclear stand-off without renewed factional violence or retrenchment from Iran’s still-powerful hard-liners. Leadership that proves more open to the world and more representative in its structure would serve as a beacon for new investment and economic development. It could allow Iran to reach its potential as a nation state and as a player in the global gas markets.
Endnotes


5. *APS Review*.


8. Both Total and Statoil were alleged to have paid bribes as a means of securing and maintaining their stakes in South Pars. “Total takes $390 mil settlement provision over US probes of Iranian gas deals,” *Platts*, July 27, 2012.


11. Mahmoud Ahmadinejad address as recorded and translated by BBC Monitoring Middle East, July 26, 2012.


23. For example, Total CEO Christophe de Margerie—who has been an unabashed proponent of investment in Iran over the years—said in a January 24, 2014, interview with Francine Lacqua and broadcast on Bloomberg television that given the company’s other projects and priorities “so definitely Iran is for after 2017.” De Margerie met with Rouhani on the margins of the World Economic Forum in Davos, Switzerland, as did Eni chief executive Pablo Scaroni, who later suggested that sanctions relief alone would not be enough to bring the Italian firm back to Tehran. Ajay Makan, “Iran courts western oil majors at Davos,” *Financial Times*, January 23, 2014, [http://www.ft.com/intl/cms/s/0/6323be74-842d-11e3-b72e-00144feab7de.html-axzz2x56gGE9w](http://www.ft.com/intl/cms/s/0/6323be74-842d-11e3-b72e-00144feab7de.html-axzz2x56gGE9w).


32. “South Pars projects will be completed by March 2015,” Mehr News Agency, June 24, 2012.

33. Kamizi, “Iran lacks energy diplomacy.”

34. Alex Witfield, “Understanding Middle East Gas Exporting Behavior,” The Energy Journal 32, no. 2 (2011): 215. Witfield argues that “the classic problem of drainage only exists if one party in a non-unitized field produces more than his share of the reserves. Since the North Field reserves are roughly twice those in South Pars, balanced production would have Qatar producing twice as much as Iran. It is important to note that Iran is currently producing more than its share would justify. If Iran is ultimately successful in developing its 22 South Pars blocks, its planned production would substantially drain reserves from Qatar’s much more modest development plans.”

35. “Making the most of oil,” MEED, October 18, 1991.

36. “Special report oil & gas – Pars Oil & Gas.”

