

 **Atlantic Council**

ADRIENNE ARSHT  
LATIN AMERICA CENTER and  
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# **THE COLLAPSE OF THE VENEZUELAN OIL INDUSTRY AND ITS GLOBAL CONSEQUENCES**

**BY FRANCISCO MONALDI**



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**A** COUNTRY WITH ONE OF THE LARGEST energy resource endowments on the planet, Venezuela has long been one of the world's leading exporters of crude oil. In the 1990s, Venezuela's oil industry attracted vast numbers of investments and contracts—its future was looking bright. But, Venezuela has not lived up to its potential in energy, or, unfortunately, otherwise. The product of nearly twenty years of neglect and mismanagement, Venezuela's reality is not one the world could have imagined two decades ago.

Today, the country faces a crisis of severe proportions with global reverberations. For years, President Nicolás Maduro has steered Venezuela toward autocracy, disregarding international diplomatic pleas, economic pressures, and protests by the people. Hyperinflation rates predicted to exceed the thousands in 2018 are casting a shadow over Venezuela, with core government supporters squeezed by the effects.<sup>1</sup> The country's democratic order is in pieces, illustrated by the announcement of a presidential election on May 20, 2018, that bans key members of the opposition and lacks basic electoral guarantees.

Daily life is increasingly unsustainable—the population continues to face crippling food and medicine shortages, leading many to seek refuge in the neighboring countries of Brazil and Colombia, among others. With negotiations between the government and opposition over and with Venezuela's invitation to attend the Summit of the Americas in Peru rescinded, the world fears an effective and sustainable solution to the crisis is currently out of reach.

As the Venezuelan crisis implodes, the country's oil industry—where crude oil comprises about 95 percent of total exports—is in a death spiral. Production is collapsing in a way rarely seen in the absence of a war. Today, more than half of what is produced does not generate cash flow to the national oil company, Petróleos de Venezuela, S.A. (PDVSA). Instead, it is sold at a massive loss in the domestic market or used to repay loans for oil, mainly to Russia and China. And arrears with partners and suppliers have been piling up, leading service companies to reduce their activity in the country and making foreign oil companies unwilling to invest in their joint ventures with PDVSA.

Undoubtedly, US individual and financial sanctions have made it difficult for the company to refinance its debt. By the end of 2017, Venezuela was late in

payments to bondholders, and rating agencies declared the government in selective default. Against a drumbeat of US oil sanctions and with European Union sanctions enacted against key members of the government, the international community continues to pressure President Maduro to reestablish the rule of law and hold free and fair elections. But the government has shown no signs of buckling, clearly illustrated by the Venezuelan leader's announcement of the May election. These conditions indicate a bleak scenario for 2018 and for the immediate future of Venezuela.

Of course, the deterioration of the Venezuelan oil industry is not occurring in a silo. The energy sector's downfall will have important implications for world oil markets and global geopolitics, given the key role that Russia and China could increasingly play in the Venezuelan energy sector. Moreover, the country's oil predicament will likely deepen its economic depression and humanitarian crisis, making a recovery less likely in the short term, even if oil prices were to continue to rise. With stakes at an all-time-high, how can the Venezuelan oil industry survive? What will the entrance of foreign actors like Russia and China mean for the future of Venezuelan energy and the region? And what will this mean in 2018 and beyond?



*President Nicolás Maduro prepares for a meeting with energy leaders. As Venezuela's crisis implodes, the energy industry's downfall will reverberate across world oil markets, with significant geopolitical implications.*


## THE COLLAPSE

Venezuela has not seen such low levels of oil production since the 1980s. Today, production is less than half of the level that prevailed when Hugo Chávez came to power in 1999 (when it had reached 3.5 million barrels per day (b/d)).<sup>2</sup> According to Venezuela's February 2018 report to the Organization of the Petroleum Exporting Countries (OPEC), average oil production declined dramatically over the past two years, by 12 percent in 2016 and again by 13 percent in 2017. Production in December 2017 was reported at 1.63 million b/d, a whopping 29 percent lower than a year earlier (a decline of some 650,000 b/d).<sup>3</sup> The supply collapse is close to four times Venezuela's reduction commitment under the OPEC-cut deal of 2016, renewed last year.

The oil industry collapse has reinforced Venezuela's economic debacle. More than 90 percent of the country's hard currency is obtained through oil exports. Because of the oil-production and cash-flow collapse—even though the average price of the Venezuelan oil export basket increased by more than \$11 per barrel from 2016 to 2017—the country did not improve its cash situation, and foreign exchange reserves declined to less than \$10 billion by the end of 2017, from upward of \$11 billion in 2016 and \$16 billion in 2015.<sup>4</sup>

The country is also suffering the worst economic depression ever recorded in Latin America. The International Monetary Fund (IMF) estimates gross domestic product (GDP) contracted by 16.5 percent in 2016 and 12 percent in 2017, and forecasts a 15 percent contraction for 2018. Inflation reached more than 2,600 percent in 2017, the highest in the world by a wide margin, and the IMF forecasts 13,000 percent for 2018.<sup>5</sup>

The oil industry's current troubles are rooted in the



**Venezuela's average oil production declined dramatically over the past two years, by 12 percent in 2016 and again by 13 percent in 2017...the oil industry collapse has reinforced Venezuela's economic debacle.**

oil policies implemented by President Hugo Chávez between 1999 and 2013. More than one situation stands out. During an oil strike in 2003, Chávez fired about half of the PDVSA workforce, including the majority of top executives and technical staff. Between 2005 and 2007, he forcefully renegotiated joint ventures and operating contracts with foreign companies and partially nationalized these projects. ExxonMobil and ConocoPhillips withdrew from the country as a result.

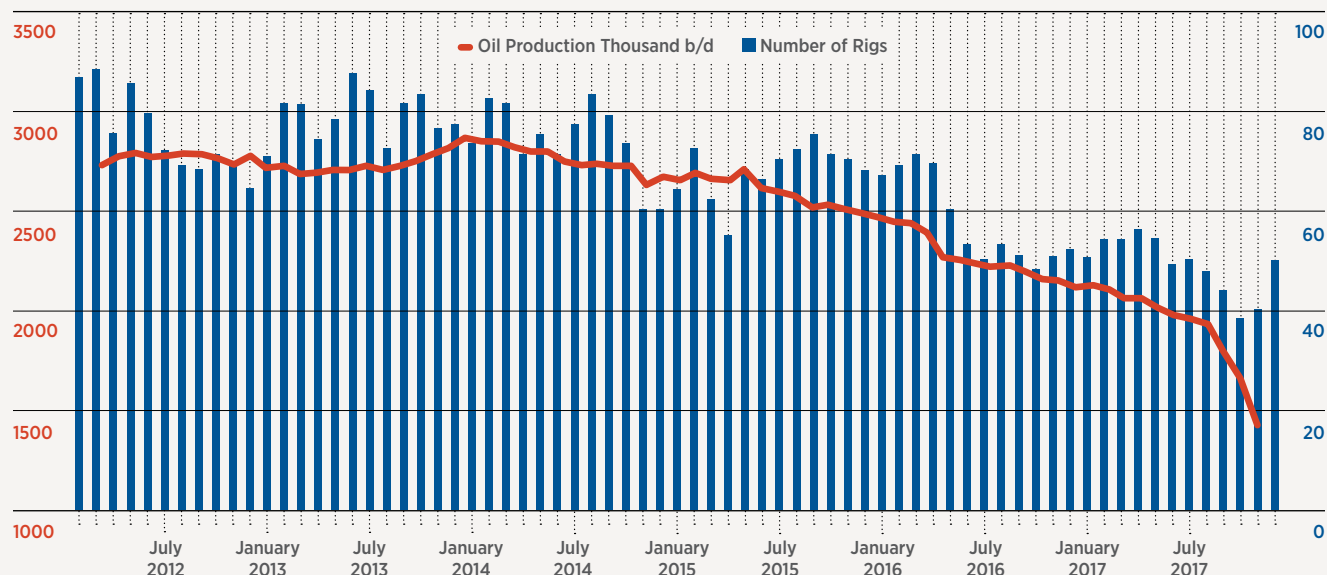
Chávez's policies also drove PDVSA into significant debt. Investment in oil development and production declined, even during the decade-long oil price boom that ended in 2014. With this, Venezuela squandered the opportunity of increasing production by more than the one million b/d, to exceed 4 million b/d, as was planned before Chávez and continued to be during his tenure.

## WEATHERING THE OIL INDUSTRY'S DOWNFALL

After the price of oil declined from more than \$90 per barrel in 2014 to less than half of that by early 2015, the problems of the Venezuelan oil sector became much more severe. The Venezuelan oil basket—which had, on average, stayed above \$100 in 2011 and 2012—fell to \$35 in 2016.<sup>6</sup> Since then, oil production has declined by more than 1.1 million b/d [see Figure 1, page 3]. Because of the collapse in cash flow, PDVSA has accumulated massive debts with suppliers and partners, which have exceeded \$20 billion. Consequently, service companies began to reduce their activity. The average number of oil rigs in operation went from sixty-nine in 2014 to forty-nine in 2017, a decline of 29 percent.<sup>7</sup> Rig efficiency has also significantly declined, leading to fewer wells per rig being drilled.

In addition, most of the oil PDVSA produces does not generate cash flow. Of the roughly 1.8 million b/d of oil that it was producing in November 2017 (1.9 million b/d, including gas liquids), before December's sharp decline, only about 850,000 b/d generated revenues for the company.<sup>8</sup> About 400,000 to 450,000 b/d were consumed in the domestic market at a huge loss and approximately 500,000 to 600,000 b/d were committed to repay loans to China, Russia, as well as to joint-venture partners. According to PDVSA's debt

**FIGURE 1. Oil Production and Oil Rigs in Operation**



SOURCE: OPEC and Baker Hughes

report at the end of 2017, of the financial debt (of \$3.02 billion) with joint-venture partners, Venezuela owed \$1.58 billion to China National Petroleum Corporation (CNPC), \$690 million to Chevron, \$580 million to Repsol, and the rest to others. That figure does not include the much bigger debt for oil with Rosneft (around \$5 billion).<sup>9</sup> As well, some 50,000 b/d were supplied at a large discount to Caribbean countries, largely to Cuba. At the same time, Venezuela imported more than 150,000 b/d of refined products and light oil, partly as a diluent for its extra-heavy oil.<sup>10</sup>

PDVSA's oil production can be divided into two categories: production operated solely by PDVSA, and production operated by joint ventures with foreign partners. Production solely operated by PDVSA, without partners, collapsed much more rapidly than the total production (by almost three quarters since Chávez's inauguration in 1999). In contrast, from 2010 to 2015, production in joint ventures increased by more than 30 percent. Since that time, the joint ventures' production has declined, but at a lower rate than that of PDVSA. As a result, joint ventures with foreign partners today drive more than half of Venezuela's production, up from about a quarter in 2010.<sup>11</sup>

Production in conventional fields has been falling very rapidly. In contrast, extra-heavy production in the Orinoco Oil Belt (OOB) had been steadily increasing,

until 2016 when it started to decline, but at a slower pace than total production. As a result, the Venezuelan basket has become increasingly heavier and less profitable. Moreover, to increase production, the country needs to import more diluents, further reducing its profit margins and requiring significant investments in additional infrastructure.<sup>12</sup>

## SANCTIONS

In 2017, the US government imposed limited financial sanctions on Venezuela and PDVSA, preventing the company from obtaining long-term credit in the United States and restricting dividends from CITGO, PDVSA's US refining subsidiary. The United States has also imposed targeted sanctions under Executive Order 13692 and the Foreign Narcotics Kingpin Designation Act (Kingpin Act) on over forty Venezuelan individuals—including Venezuelan President Nicolás Maduro and Vice President Tareck Zaidan El Aissami Maddah—deemed responsible for human rights violations, money laundering, and other crimes.<sup>13</sup>

Similar sanctions have recently been enacted by Canada and the European Union—with Canada imposing sanctions on almost twenty Venezuelans, including

President Maduro, and the European Union imposing sanctions that include a travel ban and an asset freeze on officials in charge of security forces accused of abuses during the 2017 anti-government protests.

Although sanctions have not yet targeted oil imports or exports, there is evidence both are already being impacted. Buyers are trying to find alternative sources to Venezuela's supplies, and banks are unwilling to give letters of credit to PDVSA. As a result, Venezuelan exports to the United States, which had been relatively stable for the previous four years, collapsed in 2017, from an average of 24.3 million barrels per month in 2016 (equivalent to 810,000 b/d) to 16.6 million barrels per month (555,000 b/d) in November 2017 [see Figure 2]. The US Energy Information Administration (EIA) still has not published the monthly figures for the last two months, but according to estimates by *Reuters*, Venezuelan exports to the United States were 393,000 b/d in December 2017 and 477,000 b/d in January 2018.<sup>14</sup> This will have an additional negative impact on PDVSA, as the US market is the most profitable and

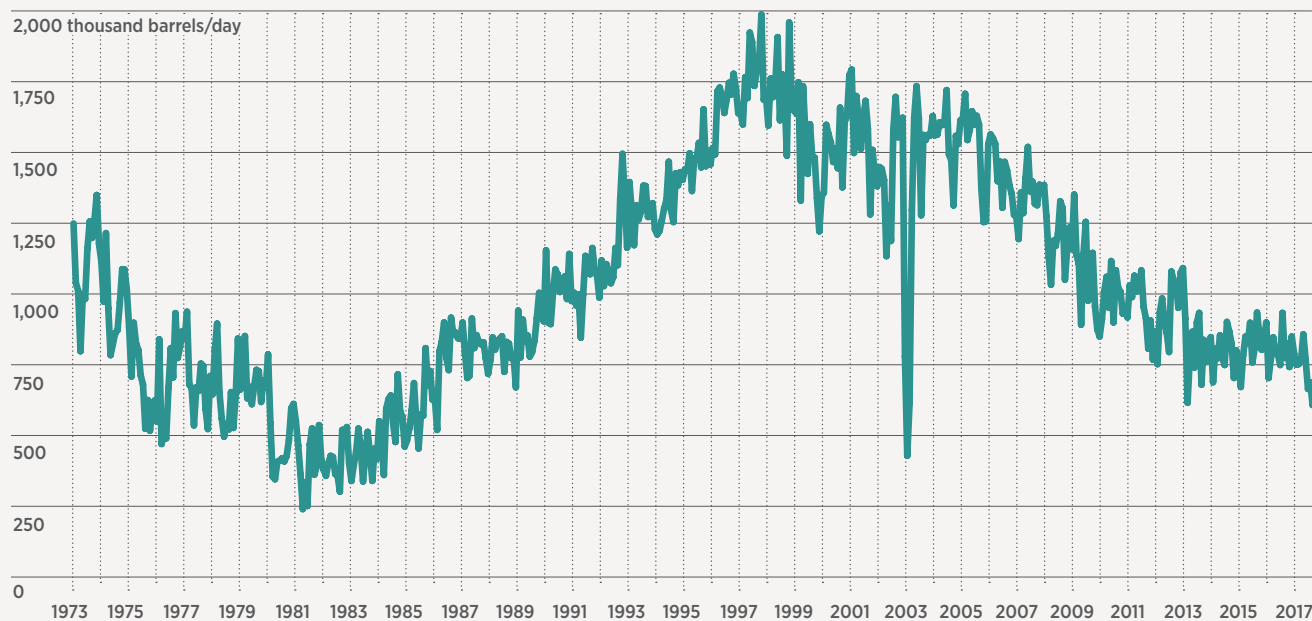
generates most of the cash flow. Diverting oil exports to India and China, as Venezuela has been doing, implies higher transportation costs and selling at a discount to capture markets.

## DEFAULT

Venezuela has defaulted on debts to many creditors—most prominently China and Russia. Yet, until late 2017, it had avoided defaulting on bondholders (to whom it owes more than \$60 billion, including both Venezuelan Treasury debt and PDVSA's debt). But during the last quarter of 2017, the country was late in making some payments and was declared in selective default by the leading international rating agencies (Fitch Ratings, Moody's, and Standard & Poor's).<sup>15</sup> And while President Maduro called in October 2017 for a restructuring of Venezuela's debt, he has not provided details on how he will do so.

In 2018, the country again faces bond payments of

**FIGURE 2. US Imports from Venezuela of Crude Oil and Petroleum Products**



SOURCE: US Energy Information Administration





more than \$8 billion. Absent a significant additional increase in the price of oil, the likelihood of a generalized default is very high, as the combination of US sanctions, the decline in oil production, and the depletion of Venezuela's external assets leaves the authorities with very little room to maneuver. The consequences of default could be very serious. Already, creditors have attempted to seize PDVSA's foreign assets, and in January 2018 some cargo ships were seized in the Caribbean for unpaid debts.<sup>16</sup> The costs of avoiding these kinds of actions by creditors would further negatively impact PDVSA's financial situation.

## ROLE OF CHINA AND RUSSIA

Only China and Russia can provide Venezuela with a financial lifeline to avoid full-blown default, but they are unlikely to do so. Although China has the capacity, the country seems unwilling. The Asian giant has not increased its credit exposure to Venezuela in the last few years, although it has agreed to be flexible on debt repayments. Venezuela still owes China close to \$25 billion, most which must be repaid with oil shipments.<sup>17</sup> In 2017, Venezuela supplied China with about 330,000 b/d, but due to the refinancing agreement, only a portion of this oil was used to repay the loans. Another portion

*Russian oil giant Rosneft holds large stakes in CITGO, the US unit of PDVSA. As the oil crisis worsens, Russia continues to purchase oil fields in exchange for loans, extending its influence in Venezuela.*

was paid in cash to the Venezuelan government, but that cash did not generally reach PDVSA and was spent by the government elsewhere. In 2018, the refinancing agreement is due for renewal, which is expected to happen.

Likewise, while the Russians have been more willing to finance PDVSA in the last few years, it would be hard for them to continue increasing their exposure in the long run. Venezuela owes close to \$3 billion to the Russian government—a debt that was recently refinanced with a generous grace period—and more than \$5 billion to the Russian oil giant Rosneft. For its last loan, in 2016, Rosneft received as collateral 49 percent of CITGO's shares. In 2017, Venezuela supplied Rosneft with about 220,000 b/d.<sup>18</sup> Rosneft has also recently acquired two offshore gas licenses and has been in negotiations to obtain additional oil assets (and possibly exchange the CITGO-shares collateral for some domestic assets).

It seems likely that the Russian and Chinese oil companies are going to have a bigger role in the Venezuelan oil sector, especially in a scenario of increased sanctions or full-blown default. In such scenarios, these

companies will probably market a significant share of PDVSA's exports and operate an increasing share of its production, guaranteeing the repayment of their loans. Similarly, Chinese oil services companies will play a more prominent role than traditional Western companies.

## ROLE OF INTERNATIONAL OIL COMPANIES

Under current circumstances, international oil companies must carefully consider how to react. Venezuela has one of the most abundant geological endowments in the world. Moreover, because of its desperation, the government is offering increasingly attractive deals. However, the above-ground risks are clearly very high. Should those companies stay if the economic and political situation worsens? Should they sign new deals if they are sufficiently attractive?

Depending on the extent of Venezuela's future diplomatic and financial isolation from the international community, there are scenarios in which Western companies are—whether they withdraw from the country or are pushed out—partially, or totally, displaced by the non-Western national oil companies. An extreme scenario, in which all Western companies leave the country, would probably mean lower levels of oil production,

(e.g., 1.2 million b/d), but that may still be enough to sustain an internationally isolated authoritarian government.

Significant Western players include Chevron, Repsol, Total, and ENI, as well as Statoil and Shell. Taken together, Western companies operate more than half of the joint-ventures' production and more than a quarter of the country's total production.

In the highly unlikely event that Venezuela transitions from the current authoritarian model and sanctions are lifted, which could happen if free and fair elections are held; if an exodus is successfully negotiated between the opposition and the government; if Maduro is forced out by other members of the government; or if the military takes over (all unrealistic scenarios in the short term), foreign companies of all types—including many that are not currently operating in the country—could play a very significant role in the industry's recovery. The current catastrophic situation of the oil sector, combined with the country's tremendous geological endowment, makes Venezuela a prime candidate for investment if there is a dramatic change in the domestic situation. Venezuela's success in attracting such investment will, of course, depend on the degree of political stability and the strength and credibility of the institutional framework. Even if such stability and credibility remain tenable only in the distant future, it is important to recognize that Venezuela has the potential to add more than one million b/d of oil production in less than a decade.

*A once powerful oil minister and former head of PDVSA, Rafael Ramírez is now under investigation for corruption.*



## OTHER DEVELOPMENTS IN 2017

In addition to the collapse in oil production, 2017 saw upheaval for the Venezuelan oil industry manifested in other ways. In November, Minister of Oil Eulogio Del Pino; CEO of PDVSA Nelson Martínez; the CEO and the board of directors of CITGO; and more than seventy PDVSA executives were fired and indicted on a variety of corruption charges. The powerful former minister and former CEO of PDVSA, Rafael Ramírez, was fired from his position as ambassador to the United Nations and accused of corruption.

This purge was widely perceived as politically motivated to achieve multiple objectives: use these executives as scapegoats for the economic collapse,

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## Venezuela's 2018 outlook for oil production is bleak. PDVSA will continue to face severe cash-flow problems even in the best price scenario.

remove Ramírez as a political rival to President Maduro, and open the door for the militarization of the oil industry.

A general from the National Guard, Manuel Quevedo, was appointed minister of oil and CEO of PDVSA, with a mandate to increase production and rid the company of corruption. Quevedo and his team of military officers have very limited experience in the oil industry, making it extremely hard to successfully manage the dramatic financial and operational challenges that the company is facing.

Political developments in the first two months of 2018—the announcement of upcoming elections and the collapse of negotiations between the government and opposition in the Dominican Republic—have created a context that will only exacerbate the already dire state of the oil sector.

## OUTLOOK FOR 2018 AND FUTURE SCENARIOS

Venezuela's 2018 outlook for oil production is bleak. PDVSA will continue to face severe cash-flow problems even in the best price scenario. Production is likely to decline by 250,000 to 350,000 b/d by December, and by much more in the case of a full-blown default or additional sanctions.

In the ideal outlook, at least three major changes would have to occur for Venezuela's industry to recover. At the most basic level, the macro economy would need to be put in order, with a comprehensive adjustment program that would include debt restructuring and a

competitive foreign-exchange rate. To attract significant foreign investment, the institutional oil framework would have to be made more flexible and credible. Finally, the country would have to transition to a democratic and stable political government, which would reduce political risks and allow international sanctions to be lifted.

To rebuild the oil sector and to add up to one million b/d in less than a decade, investments would also need to triple to around \$15 billion per year, the number of oil rigs in operation would have to more than double, and rig efficiency would need to improve. For each 100,000 b/d per year of production increase, about \$4 billion per year in additional investment would be required. Because PDVSA would not be able to increase investment, more than 75 percent of future investment would need to come from foreign companies.<sup>19</sup>

Unfortunately, none of these changes are likely to happen in 2018, or in the near future. In fact, while the current government remains in place, no improvements in policy are likely to occur. As such, the most realistic scenario is one in which production continues to fall, the country becomes more isolated, Western companies fail to increase investments, and some leave the country.

It is far more likely that investment remains at the current level or declines, production in PDVSA-operated fields continues to fall, and the joint-venture production stagnates or slowly declines. In this case, while production would continue falling for the next few years, it would probably not collapse. Rather, production would asymptotically reach a level (e.g., 1 to 1.2 million b/d) at which it would stagnate. This is expected because remaining production would be concentrated in newer fields, operated by joint ventures, and in the Orinoco extra-heavy Oil Belt—areas in which decline has been less pronounced.

A further decline in Venezuela's production would eliminate world surplus demand more quickly than expected, putting upward pressure on oil prices. Eventually, that would likely lead to more production by other OPEC countries with spare capacity, and by the United States. However, heavy-oil price discounts would shrink, as there would be a shortage of this type of oil.

There is, of course, a risk of production collapsing much further than forecasted here, due to a combination of events such as an oil strike, a full-blown credit default, generalized international sanctions, or





massive civil unrest, all possible occurrences. In the case of default and stringent sanctions, PDVSA would rely extensively on Chinese and Russian national oil companies, both for marketing the oil to limit the impact of sanctions and for operating the joint ventures.

An intermediate, albeit unlikely, scenario to consider is one in which a shift within the government occurs, opening doors for limited economic reforms. Such a scenario would lead to stabilization in oil production levels at around 1.5 to 1.7 million b/d. This outlook would require that Western companies stay and slightly increase investment, in an environment of limited sanctions, debt restructuring, and some basic macroeconomic reforms, under a favorable oil price environment—a serendipitous confluence of preconditions that remains implausible. Limited natural-gas exports to Trinidad would also occur in this scenario.

Finally, in a full-on successful transition scenario, Western companies would play a major role in the recovery of the Venezuelan oil sector, along with national oil companies from China, Russia, and India. As in most oil-exporting countries, PDVSA would likely continue to play a prominent role, but that would require a major restructuring of the company, refocusing it on commercial oil and gas ventures.

*An oil tanker crosses the bridge over Lake Maracaibo in northwestern Venezuela. An inlet from the Caribbean Sea, Lake Maracaibo was once one of the world's richest and most centrally located petroleum-producing regions. Today it lies in ruins.*

In the end, increasing oil and natural gas production offers the best chance for the Venezuelan economy to eventually recover. Although economic diversification should be a long-term economic priority, there is no other sector that could attract the amounts of investment and generate the fiscal revenues that hydrocarbons can obtain in the medium term.

Venezuela has the most abundant resource endowment outside of the Middle East; its oil and increasingly its natural gas production should be a key part of the energy supply in the next few decades. Today, the country is facing a crisis of unimaginable proportions. Only if Venezuela can pull itself from under the crisis that today blankets it, will the world once again see its oil sector flourish.

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**FRANCISCO MONALDI** is an Atlantic Council author, and fellow in Latin American Energy at the Baker Institute for Public Policy at Rice University. He is the founding director and professor at the Center on Energy and the Environment at the Instituto de Estudios Superiores de Administración (IESA) in Caracas, Venezuela. Monaldi is also a nonresident fellow at the Center on Global Energy Policy at Columbia University. This is his second Atlantic Council publication. In August 2017, he co-authored *Venezuela: What are the Most Effective US Sanctions?*



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