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Mexico Rising



Comprehensive
Energy Reform
at Last?

David L. Goldwyn



Atlantic Council

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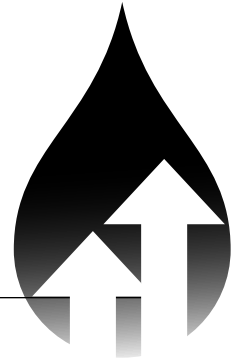
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Mexico Rising

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Foreword



What a year for Mexico. Since taking office in December 2012, President Enrique Peña Nieto has successfully tackled a daunting list of issues—many of which bedeviled his predecessors for decades. Education reform institutes national testing and standards and rewards teachers for results. Telecommunications reform expands competition. Financial reform increases access to capital at lower interest rates and creates a universal pension program. Political reform loosens the grip of the three main political parties and strengthens independent oversight. Now, energy reform frees up the energy sector for worldwide investment and further unleashes Mexico’s huge job-creating potential.

It is fitting that our report on this sweeping change is the first from the Atlantic Council’s newly-constituted Adrienne Arsht Latin America Center. We are equally pleased that US energy guru, David Goldwyn, agreed to author this paper for us—his breadth of knowledge and incisive analysis are tangible from the first paragraph.

Energy reform will have profound effects in Mexico, but also throughout the Americas and the world. Highlighting this seismic shift speaks to the very mission of our new center, which is to illuminate the many transformations in Latin America and the importance of the trilateral relationship for Latin America, the United States, and Europe.

Latin America has seen tremendous advancements in the past decade and many countries have proved themselves viable partners. Mexico has free trade agreements with nearly fifty countries, including the United States and Europe. Opening up the energy market will only further those relationships.

Legislatures around the world should take note of how these reforms came to fruition. By establishing the *Pacto por México* (Pact for Mexico), President Peña Nieto created a multi-party agreement to tackle some of the most important issues stifling Mexico’s continued ascendancy. Though the pact unraveled with energy reform, he was still able to work with an opposition party to ensure passage of the constitutional reform in Congress. In an era where bipartisanship and party loyalty too often win out over productivity and progress in many countries, this was an impressive show of citizenship and compromise.

We are proud to be on the forefront of analysis of this landmark legislation. It is vital to recognize the impact reforms in Latin America have for public and private-sector leaders, both within the Americas and outside of it. The intent of this issue brief is to provide political, corporate, civil society, and academic leaders with a comprehensive snapshot of Mexico’s energy reform, the opportunities and challenges it presents for Mexico, and the greater implications for both Mexico and the global community.

Peter Schechter
Director
Adrienne Arsht Latin America Center

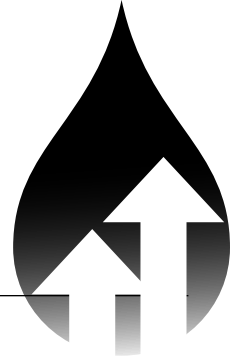
Jason Marczak
Deputy Director
Adrienne Arsht Latin America Center

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Executive Summary



Mexico's Congress passed its final hurdle to reform the Constitution and allow for private investment in the energy industry on December 12, 2013. This significant achievement heralds the most comprehensive energy reform in the last seventy-five years of the country's history.

Mexico proposes to introduce private investment into the exploration, production, and transportation of oil and gas, as well as into the refining and marketing of hydrocarbons, and the generation—and in some cases transmission and distribution—of electricity. Adopting the best practices of sound regulation, Mexico has separated energy policy from industry supervision. A new set of autonomous, independently funded regulators will be created for licensing, safety, and environmental protection in the hydrocarbons sector. An independent system operator for electricity and an independent agency to ensure open access for natural gas transportation will be established. Mexico has also directed the creation of a new and transparent national petroleum fund to be managed by its central bank. It will ensure the government's share of hydrocarbon revenue is capped, resources are shared with current and future generations, research and development is encouraged, and a rainy day reserve is available. Mexico will require measures of transparency unmatched in this hemisphere. This

includes public access to contracts, disaggregation and disclosure of revenue sources, and open accounting of its national petroleum fund. Finally, Mexico has tasked itself with developing low carbon and sustainable strategies for electricity production and optimizing sustainable strategies for hydrocarbon development.

What is remarkable and impressive is that President Enrique Peña Nieto has led a political effort in which the *Partido Revolucionario Institucional* (Institutional Revolutionary Party—PRI), the very party that nationalized the oil industry in 1938, created a legislative super majority to end the nationalization of the energy industry. It accomplished this by finding common cause with its primary opponent, the conservative *Partido Acción Nacional* (National Action Party—PAN).

Three major commercial opportunities exist with the reform. First, joint ventures with *Petróleos Mexicanos* (PEMEX) will be possible as it migrates its existing fields retained in a round zero (a one-time chance to pick what it wishes to keep of its existing inventory). A second near-term opening for

international companies in Mexican oil and natural gas will be in producing seismic studies for the government. The bulk of the opportunity for international oil companies to develop Mexico's deep-water reserves will likely come with the first bid rounds, which will come no earlier than 2016.

While change of this

Adopting the best practices of sound regulation, Mexico has separated energy policy from industry supervision.



Mexico's role in global oil markets is positioned to increase from major supplier status to strategic supplier status over the next decade.

scale is courageous, implementation will be hard. The implementing laws to be drafted in the next term, and then the actual execution by PEMEX and regulatory agencies, will be decisive in determining if reform will actually transform Mexican prosperity. Seven major challenges stand out: managing public expectations, which are very high; delivering competitive oil and gas exploration terms; building a new set of effective regulators quickly; clarifying the value proposition for the power sector when power prices remain subsidized; truly reducing control of and dependence on PEMEX, while its revenues remain indispensable to government income; trusting the market by ending the direction of investment by government agencies; and ensuring that new local content requirements are not onerous.

These new reforms, if implemented effectively, will provide Mexico the opportunity to boost oil and gas production and, with it, economic output, with positive ripple effects throughout the economy. That combination of political will and actual legal reform will put Mexico in the pole position for attracting energy investment, providing stiff competition for Colombia and Brazil, in particular.

Mexico also stands to gain in global economic competitiveness, particularly vis-à-vis Europe and East Asia in manufacturing. Mexico's role in global oil markets is positioned to increase from

major supplier status to strategic supplier status over the next decade. The International Energy Agency (IEA) projects that non-OPEC supplies will peak around 2020, just as Mexican production could begin to rapidly escalate. In seeking to balance maximizing national value from its sovereign energy resources with the private-sector investment needed to achieve that value, Mexico is also poised to be an important example for other nations searching for a new model.

Mexico has taken dramatic and historic steps to reform its energy sector. The scale of its ambition is unprecedented in both the speed of intended change and the scope of its transformation. The fact that the challenges of executing on this promise are formidable should not diminish or obscure this remarkable cross-partisan act of leadership and vision. Mexico is rising, first in political courage, and next, we hope, in prosperity, global stature, and domestic tranquility.

We title this "Energy Reform at Last?" because this impressively permissive constitutional scheme is a necessary but not sufficient precondition to real reform. The implementing legislation must be passed, the terms must be competitive, regulators need to be well and quickly resourced, and the complex coalition of decision makers will need to act with speed and efficacy. It will be a bumpy road, but these reforms mean there is no turning back. ♠

Introduction



With a masterful—and enviable—show of cross-party compromise and cooperation, Mexico has launched a revolution in its energy industry. The scale of the reform is breathtaking in its scope and ambition. If it succeeds, Mexico will evolve from a major supplier of oil to a strategic one by 2025.

First, Mexico proposes to introduce private investment into the exploration, production, and transportation of oil and gas, as well as into the refining and marketing of hydrocarbons, and the generation—and in some cases transmission and distribution—of electricity. This ends the monopoly role of *Petróleos Mexicanos* (PEMEX), the national oil company, and the *Comisión Federal de Electricidad* (Federal Electricity Commission—CFE), the national electricity company. These organizations will be converted to new, more self-sufficient status as public commercial enterprises.

Second, adopting the best practices of sound regulation, Mexico has separated energy policy from industry supervision. A new set of autonomous, independently funded regulators will be created for licensing, safety, and environmental protection in the hydrocarbons sector.

An independent system operator for electricity and an independent agency to ensure open access for natural gas transportation will be established. The reform also restructures the two national energy champions to improve

their ability to deliver value to the Mexican people.

Third, Mexico has directed the creation of a new and transparent national petroleum fund to be managed by its central bank. It will ensure the government’s share of hydrocarbon revenue is capped, resources are shared with current and future generations, research and development is encouraged, and a rainy day reserve is available.

Fourth, Mexico will require measures of transparency unmatched in this hemisphere. This includes public access to contracts, disaggregation and disclosure of revenue sources, and open accounting of its national petroleum fund.

Fifth, Mexico has tasked itself with developing low-carbon and sustainable strategies for electricity production and optimizing sustainable strategies for hydrocarbon development.

These transformations are enshrined by changes to three articles of the Mexican Constitution,¹ and elaborated in a series of transitory articles² that have constitutional status. The changes were approved by the Mexican Senate on December 11, 2013, (in a vote of 95 to 28) and by the Chamber of Deputies on December 12 (354 in favor to 134 opposed).

This constitutes phase one of the reform [see **figure 1, p6**] and will become effective as a “decree” when ratified by the legislatures of a majority of Mexico’s thirty-one states and signed by President Enrique Peña Nieto. The ruling party,

The scale of the energy reform is breathtaking in its scope and ambition.

Partido Revolucionario Institucional (Institutional Revolutionary Party—PRI), and the *Partido Acción Nacional* (National Action Party—PAN) worked together to pass the reform in Congress, and control a comfortable majority of these state legislatures. Ratification seems certain, and government authorities expect it to be completed by February 2014.

Mexico’s third major political party, *Partido de la Revolución Democrática* (Party of the Democratic Revolution—PRD), opposes these reforms. It is less certain whether the PRD can directly or by legal action force a state-by-state referendum on the reform. While some Mexican political figures privately express confidence that they can win

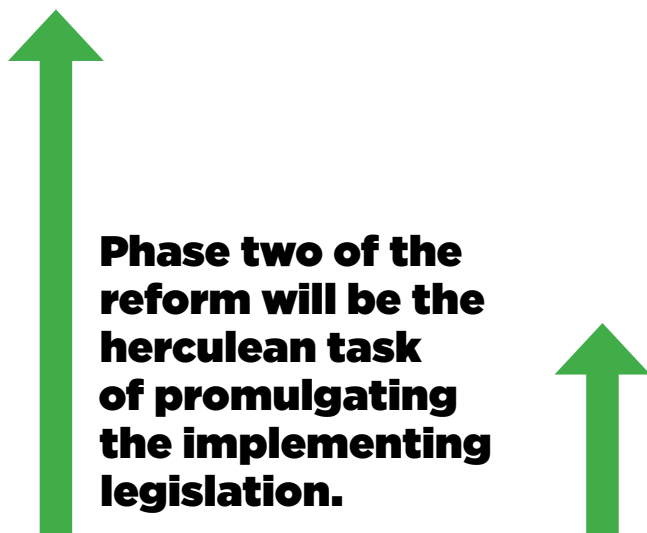
these potential referenda, the timetable for launching these efforts is less certain and could delay subsequent phases of the reform.

Phase two of the reform, which will take place during the legislative session that runs from January to June 2014, will be the herculean task of promulgating the implementing legislation. This will detail the statutes governing the new framework and the institutions that will manage it.

Concurrent with the second phase, the next step of the reform will focus on upstream oil and gas—where the highest profile investments are likely to be made in the near term—and will include a “round zero” that will transpire over a nine-month period. In round zero, PEMEX will seek to retain some or all of its existing exploration and production areas to form its asset base.

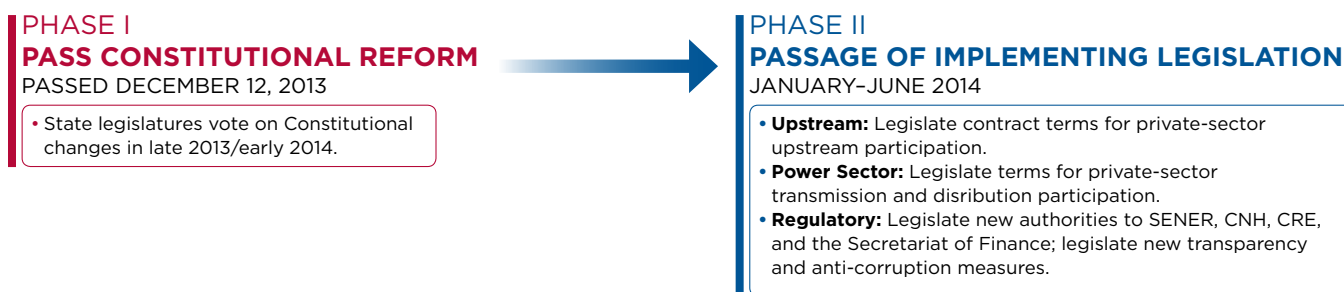
After that, many of PEMEX’s existing allocation (or “entitlement,” in constitutional parlance) will be migrated to new forms of agreements, as it either disposes of properties or seeks private investors to enter into joint ventures. Phase three will also see the creation of the new regulatory organizations (a transition that can take up to two years) and the divestment of the ownership of natural gas pipelines from PEMEX.

Phase four—beginning no sooner than a year after implementing legislation is passed—will see Mexico’s first bid rounds for new areas of exploration for oil and gas in the deepwater and in new shale plays. PEMEX will compete in these



Phase two of the reform will be the herculean task of promulgating the implementing legislation.

FIGURE 1. **Timeline: The Four Phases of Reform**




rounds on an equal basis with other companies, meeting technical criteria established by the *Secretaría de Energía* (Secretariat of Energy—SENER) and the *Comisión Nacional de Hidrocarburos* (National Hydrocarbons Commission—CNH). It will participate in auctions with no preferential rights of any kind.

It is critical to understand that these constitutional reforms are *permissive* in nature. They allow for or call for new forms of contracts for investment or new institutions to be created, but they must be created by subsequent legislation. The threshold for constitutional reform is higher than for implementing legislation, so the *ability* of reform proponents to implement legislation is not in question.

But the bargaining will be hard and the ability of the reform to attract investment will depend entirely on a few key measures: the clarity of the rules; the forms of the contract license; production-sharing and profit-sharing agreements; the predictability of regulatory decisions; and the competitiveness of fiscal terms.

This report is divided into four sections. First, we discuss the unprecedented political cooperation that produced the constitutional reforms. The second part focuses on the details of the framework. Following that, we look at the most likely near- and medium-term openings for private investment, and



The threshold for constitutional reform is higher than for implementing legislation, so the ability of reform proponents to implement legislation is not in question.

the most salient challenges Mexico must address if this framework is to succeed. The implications of these reforms for Mexico, the hemisphere, and global markets are addressed in the fourth section.

Most of our discussion concerns the oil and gas sector, in particular upstream issues, which dominate the legal text of the reform to date. No less important is electricity, which is fundamental to every Mexican. Electricity reforms will come into focus in the months ahead. ♦

PHASE III
ROUND ZERO, ESTABLISH JOINT VENTURES
 BEGINS CONCURRENT TO PHASE II

- **Auctions:** A “round zero” will occur where PEMEX can ask to retain existing exploration or production acreage.
- **Upstream:** PEMEX decides to migrate some acreage to new terms; may establish joint ventures.
- **Downstream:** Divestment of ownership of natural gas pipelines from PEMEX.
- **Regulatory:** Legislate the establishment of new institutions responsible for safety and licensing as mandated by implementing legislation.

PHASE IV:
EXPAND SECTORAL DEVELOPMENT
 JANUARY–JUNE 2015

- **Auctions:** SENER and CNH begin delineating new acreage and designing system for auctions.
- **Host first bid round** for offshore deepwater licenses. PEMEX will compete on equal footing with no preferential rights.
- **Upstream:** Ramp up workovers of existing PEMEX acreage, expand onshore activity.
- More details will be known as implementing legislation surfaces.



The Political Context: Nixon Goes to China

The need for reform of Mexico’s energy sector has been well understood for decades. Both the PRI and the PAN unsuccessfully pursued reform while holding the presidency since the 1990s. Despite its impressive reserves of oil and gas, oil production has declined, falling by 1 million barrels per day since 2004 [see figure 2]. Mexico imports natural gas and petroleum products and there are shortages of natural gas. At the same time, power generation is expensive, highly carbon-intensive, unreliable, and operating well below capacity.

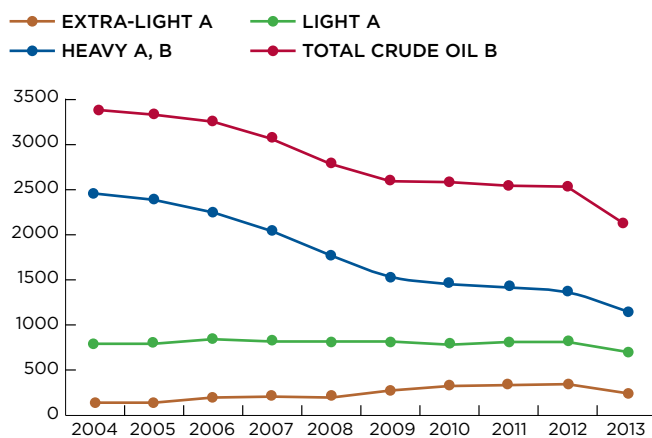
It was clear to legal experts that changes at less than the constitutional level would not be sufficient to meet Mexico’s challenges. What is remarkable

and impressive is that President Peña Nieto has led a political effort in which the PRI, the very party that nationalized the oil industry in 1938, created a legislative supermajority to end the nationalization of the energy industry. It accomplished this by finding common cause with its primary opponent, the conservative PAN. The PRI also worked with the left-leaning PRD to achieve a series of landmark reforms in education, labor, fiscal, and political issues. The PRD left only the *Pacto por México* (Pact for Mexico)³ in the lead-up to the energy reform. It is this achievement, fostering cross-party support to address structural challenges (including energy) that may vault Mexico not just to the head of its national oil company cohort, but also to the head of the emerging market class.

The format of the textual change to the Constitution was brilliant in policy and political terms. It is also a testament to the enduring popular sensitivity of energy reforms. The change to Article Twenty-Seven restores the text of Mexico’s Constitution to language used in 1938 by President Lázaro Cárdenas, who expropriated oil assets from private companies. It is ironic that the PRD’s decision to leave the Pacto over energy reform greatly enhanced the ability of the PAN to negotiate its version of the reform. ♦

FIGURE 2. Mexico’s Crude Oil Production, 2004–2013

Valid since 2002
(thousand barrels per day)



Source: Energy Information System, Petróleos Mexicanos



The Government's Proposed Reforms

Mexico's Congress approved changes to Articles Twenty-Five, Twenty-Seven, and Twenty-Eight of its Constitution on December 12, 2013.⁴

The change to Article Twenty-Five provides a basis for reforms to PEMEX and the CFE.⁵ The change to Article Twenty-Seven reverses nationalization to allow for contracting with private entities. It also provides for "entitlements"—a legal item similar to a license—to be granted to state-owned productive enterprises or governmental entities.⁶ The change to Article Twenty-Eight protects PEMEX's and CFE's abilities to be dominant (not monopoly) market players and establishes a Mexican Petroleum Fund.⁷

Oil and Natural Gas

Mexico's energy reform document⁸ explains the government's clear understanding that PEMEX lacks the technical capacity to conduct exploration in deepwater and shale oil and gas fields, and in mature fields using advanced oil

recovery techniques. In addition, the government finds it imprudent to risk government funds in this area, even if PEMEX could access the scale of investment required. The purpose of the reform is to attract large-scale private capital to spread risk and maximize government revenues, not government ownership.

Article Twenty-Seven and Transitory Articles (TAs) Four through Eight provide the essential changes to allow private investment in the hydrocarbon sector. Here are the six ways that will be accomplished.

1 Exploration and Production The reform provides that the Mexican state retains sovereignty over its hydrocarbon resources below ground, maintains a ban on concessionary contracts for nonstate companies, and retains control of PEMEX and CFE. The text maintains the sovereign ownership of subsurface resources and rules out the privatization of PEMEX and CFE.

But Article Twenty-Seven allows for contracts that confer rights to possess hydrocarbons at the wellhead, and TA Four calls on Congress—within 120 days after the decree becomes effective—to legislate new forms of contracts. There are four types of contracts to incentivize international investment: service contracts (already used in a limited fashion but currently unattractive to international investors); profit-sharing contracts where international companies would receive cash payments from the sales of oil and natural gas produced; production-sharing contracts under which physical barrels of oil are distributed between the government (presumably PEMEX) and international companies; and licenses with which

The purpose of the reform is to attract large-scale private capital to spread risk and maximize government revenues.



international companies have control of the oil and pay royalties and taxes to the government. The licenses operate like concessions, but they carry a legal distinction articulated in TA Five that the government owns the hydrocarbons underground and up until the wellhead, at which point the company will take possession.

Mexican authorities maintain that it is their intent for companies to be able to book the reserves they produce. They point to TA Five which expressly provides that companies can account for the benefits they are entitled to produce.⁹ The details of the three new exploration and production contract models that are of most interest to private investors may emerge in the implementing legislation, or only when the national regulator proffers these forms of contracts. Until then, it cannot be determined how reserves can be accounted for, what the fiscal terms for investment will be for each category of investment, and, therefore, whether the model can succeed.

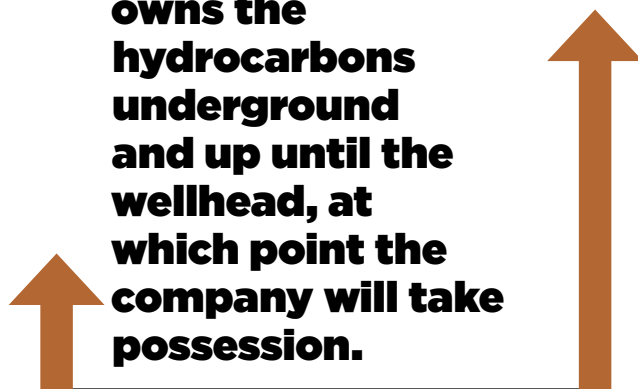
2 Refining and Marketing Although the bulk of attention from the media and international companies is on upstream prospects, the energy reforms are also intended to encourage private investment in midstream (pipeline) and downstream (refining and petrochemical) assets.

Refining is a particular priority of the government. Today, Mexico refines less than half the oil it produces. What is refined by PEMEX is at low efficiency rates, compared to US activities, and is unprofitable. While domestic refining has dropped, demand has risen. Mexico's gasoline imports increased from 3 percent to 33 percent of domestic demand between 1997 and 2012, according to the Mexican government.

With clear demand, strength, and ready raw materials, PEMEX is positioned to keep an advantage in the downstream sector. This is a result of it currently controlling nearly all of the value chain from production through refining and even much distribution of products. PEMEX is expected to seek international partners in refining and could also do so for pipelines (for petroleum products and for natural gas).

The chief obstacle to economically turning

The government owns the hydrocarbons underground and up until the wellhead, at which point the company will take possession.



around PEMEX's current operations and attracting international partners (or new investors) is in the downstream in domestic price controls. The reforms aspire to eventually repeal natural gas price regulations once PEMEX's monopoly on production and distribution is removed and the sector is "fully opened to market conditions." What happens to petroleum product prices is less clear. As long as product prices are subsidized, it is unlikely PEMEX or private companies will be interested in investing in refineries. Private investment is permitted in the mid- and downstream sectors without PEMEX's participation, but the consent of the new regulators will be required.

3 Regulation of the Sector Under the current system, PEMEX and its managing board (composed of government appointees and ministry representatives) determine which resources are to be developed. They are solely responsible for all aspects of exploration, development, and production of oil and natural gas, although PEMEX can enter into service contracts for specific tasks.

PEMEX operates with minimal oversight by regulators. The CNH nominally has authority to regulate exploration and production, and its leaders have demonstrated willingness to do so. However, in reality, CNH has an inadequate budget and capacity and minimal leverage over PEMEX.

Within the executive branch, regulatory functions are to be coordinated with a new National Commission of Hydrocarbon and a new Energy Regulatory Commission called for by Article

Twenty-Eight and in TAs Ten and Twelve. The new system divides oversight of the oil and gas sector among SENER, CNH, the *Comisión Reguladora de Energía* (Energy Regulatory Commission—CRE), and a new National Agency of Industrial Safety and Environmental Protection, which will be part of the Secretariat of Environment and Natural Resources.¹⁰

SENER will establish energy policy, determine the categories of contracts to be applied, create the bid or auction processes where applicable, and grant permits for refining and processing. CNH will provide technical advice, procure seismic studies, collect geological information (within an internal information center), run the auctions, sign contracts, approve development plans, and provide ongoing supervision of developments. Additionally, CNH will be responsible for running bids of any holding retained by PEMEX for which it seeks a private partner. The CRE will be charged with permitting liquid fuels and natural gas transportation, ensuring open access to pipelines, and approving storage. Finally, the newly created environmental regulator will be charged with industry safety and environmental protection with regard to infrastructure, decommissioning brownfields, and oversight of waste cleanup.¹¹

While not technically a regulator, the Secretariat of Finance is essential in determining the success or failure of energy reform. It is charged in TA Ten with establishing the fiscal terms applicable to each contract type. Furthermore, it will establish the mechanisms by which non-tax revenues from oil contracts are sent to the new oil fund (discussed

below) and how that oil fund pays contractors.¹²

The transitory articles provide CNH, CRE, and the new environmental regulator with significant independence. Commissioners can be removed only for cause, terms are staggered, and, while budgets are approved by the legislature, funds come from revenues the agencies collect. Up to three times the amount of their annual budgets can be carried over (although held in trust).¹³

While the creation of strong, well-funded regulators is laudable, the divided responsibilities for assigning exploration and development rights and terms will require a level of collegiality and agility not seen in most countries. The new macro-coordinating body provided for in Article Twenty-Eight of the Constitution may provide an improved path. The system, the result of bargaining between the PAN's preference for assigning all duties to the CNH and the PRI's desire to ensure some political control over the sector's evolution, is a major source of uncertainty. Moreover, it is unclear whether SENER will make determinations for the category of contract by area (i.e., contract licenses for all deep water acreage) or on a case-by-case basis.

4 Round Zero The greatest source of activity in the oil and gas sector in the next five years will revolve around the development of PEMEX's vast existing asset base. Expected to begin in early 2014, with implementation taking as long as nine months, SENER, with assistance from CNH, will conduct a "round zero" lease allocation.

Within ninety days of ratification of the constitutional amendments (regardless of passage of implementing legislation), PEMEX, which currently has control over all oil and natural gas exploration in the country, will propose to SENER what part of its current acreage it wishes to keep. SENER will then have 180 days to grant or deny those requests. PEMEX leaders expect to keep approximately 80 percent of their current operations. TA Six¹⁴ requires PEMEX to demonstrate that it has the fiscal and technical ability to develop the resources, and PEMEX must use the acreage within three years or lose it, with the possibility of a two-year extension. Round zero will capitalize PEMEX and reestablish its preeminence in Mexico's

The greatest source of activity in the next five years will revolve around the development of PEMEX's vast existing asset base.

oil and natural gas sector.

5 New Acreage Following passage of implementing legislation, standing-up of new regulatory capacity, and the conclusion of round zero, SENER and CNH will lead a process through which new acreage (as well as acreage not kept by PEMEX) will be identified and put up for bid. This will presumably include new deepwater areas, as well as shale development. In these areas PEMEX will compete on equal footing with private companies. CNH will establish technical criteria for bidders and run open auctions. Winners will be chosen in a manner closer to the US than the Norwegian model—based on high bids on the applicable criteria.

6 Restructuring PEMEX PEMEX currently has a monopoly on Mexican oil and natural gas production, owns the pipeline and refining systems, and manages the importation of oil products and natural gas. Under authority of Article Twenty-Five, TA Twenty fundamentally repurposes PEMEX to be a value-creating state enterprise, reversing course on a mandate focused on national control. Energy reforms will end PEMEX's monopoly in all of these areas, but it will remain the most important player within the Mexican oil sector and it will remain a wholly state-owned company.

PEMEX will obtain more managerial and budgetary autonomy as a state-owned productive enterprise, which is a new category of institution with a mandate to create economic value and increase revenues, rather than simply exert nationalistic control over resources. The reform provides that the government share from PEMEX is limited (to tax, royalty, and dividends) in a way (more autonomy) intended to increase the company's potential retained earnings. PEMEX's chief executive officer will still serve at the pleasure of the Mexican president, and the ten-member board will include five members of government and five independent board members, with the secretary of energy presiding and holding the deciding vote to resolve deadlocks. Labor union representatives have been removed from the board. While PEMEX hoped to have the freedom to pay competitive rates for

talent, the final reform package seems to guarantee labor rates and require legislated pay scales.

Structurally, PEMEX will be reorganized into two principal divisions common in the industry. The Exploration and Production division will focus on up- and midstream operations. An Industrial Operations division will be responsible for downstream operations. These divisions will be required to be independently competitive, with no cross-subsidy between operations.

However, the details of the restructuring have yet to be determined. This makes it unclear how much it will actually reduce overhead costs and how much capital PEMEX will want to allocate to the downstream operations. Furthermore, PEMEX will eventually be divested of its gas transport



In the new regime, PEMEX will be on equal tax and royalty footing with international energy companies entering Mexico.

infrastructure, handing those assets over to a newly formed National Center for Natural Gas Control that will be established within a year of ratification.¹⁵

PEMEX's financial situation should emerge stronger from reforms both in energy and fiscal areas. Consolidation of procurement and operating units could provide rapid savings. PEMEX historically paid an effective tax rate exceeding 99 percent¹⁶ through daily payments to the treasury, supporting approximately one-third of the federal budget.¹⁷ It is commonplace for national oil companies from Baku to Riyadh to provide the lion's share of budgetary support, but the tax regime was crushing to PEMEX, denying it sufficient capital to reinvest for long-term production.

In the new regime, PEMEX will be on equal tax and royalty footing with international energy companies entering Mexico. Fiscal reforms passed thus far should therefore improve the situation; however, a major uncertainty still exists. The PEMEX board will decide what dividend to pay the government in excess of tax and royalties. Theoretically, having all major ministries represented on the board will enhance understanding of PEMEX's needs for long-term growth, but there is no guarantee how much free cash will be available or that expediency in filling budgetary gaps or paying for electoral promises will not carry the day. Once private capital begins to provide significant tax and royalty income to the government (through the petroleum fund) the pressure on PEMEX should ease, but not before.

Following round zero, PEMEX will enter major deal-making mode, enabling it to position itself to retain shallow water production, and to partner for enhanced recovery of underinvested assets, as well as in the deepwater. PEMEX will have the discretion to enter into various forms of contract arrangements with international companies to migrate assets into joint ventures, subject to approval by SENER. To the extent that PEMEX is allowed to sell interests in its acreage, PEMEX will gain capital for reinvestment. Partnerships will also enable PEMEX to more expansively leverage its current capital over multiple projects, benefiting also from its relatively low borrowing rates in capital markets that essentially consider its bonds as sovereign debt.

Revenue Management

As a leading source of income for the federal budget, oil production is linked to virtually every public service. The promise of increased revenues from increased production underpins the political case for reform, with explicit promises being made to fund social programs and clean energy. It is understandable that the nation's oil wealth should be translated into direct benefits for the Mexican people. Yet, the energy reform package also shows an understanding of the dangers of squandering wealth and the economic distortions that can result in unchecked spending of



The oil fund should insulate the Mexican economy from the downside of resource revenue variability.

highly variable revenue amounts that are subject to global price fluctuations.

Pertaining exclusively to oil contracts, Article Twenty-Eight establishes a trust fund to receive, administer, and distribute revenues, called the Mexican Petroleum Fund for Stabilization and Development. That fund will be administered by Mexico's independent central bank, and its core design features are identified in TAs Fourteen and Fifteen. The Finance Secretariat will build mechanisms to send all oil revenues (except taxes) to the fund, which will then redistribute them based on a hierarchy of obligations.

At the top of that hierarchy are those private companies that need to be paid under oil development contracts, which should help assure investors. Thereafter, transfers to the federal budget are targeted at 4.7 percent of GDP, spread among various functions. Within that federal transfer allocation, however, top priorities are contributions to separate petroleum (federal) income and state income stabilization funds, the caps for which will be established in implementing laws.

Once those caps are met, and still counting as part of the overall payment to the federal government, contributions will also be made to an energy fund charged with hydrocarbon research, including improvements in sustainability. Surplus funds in excess of payments to contractors and the federal government will be put into a long-term savings vehicle, which presumably will be managed similar to other sovereign wealth funds, up to a maximum

value of 3 percent of the previous year's GDP. However, once the long-term investment vehicle reaches a size equivalent to 10 percent of GDP, any revenue earned from it will be transferred to the federal government in excess of the allocation discussed thus far.

Continuing the hierarchy of payments to be made with oil funds, after the long-term savings reach their limit, contributions will be made to: the Universal Pension System; research in science, technology, and renewable power; SENER projects in oil production and infrastructure; and scholarships and local development. Each of those purposes has a maximum allocation, and the Mexican Chamber of Deputies can change those funding streams.

Finally, should certain unforeseen economic or fiscal emergencies strike after the stabilization fund is spent down, the Mexican Chamber of Deputies can, with a two-thirds vote, shift funds toward making the federal budget whole.¹⁸

While the oil fund is housed in the independent Bank of Mexico, a concession to the PAN, the fund will have a managing board that will consist of three government representatives and four independent members appointed by the president and confirmed by a two-thirds vote of the Senate. That board is charged to set an investment allocation for the long-term savings vehicle, ensure that revenue dispersals are made to the federal government and other payees, and to work with the Chamber of Deputies to facilitate yearly budgeting.¹⁹ The fund will also be subject to transparent reporting on a quarterly basis.²⁰

While complex in design, with clear rules, broad independence, and a firewall from normal budget debates, the fund should successfully insulate the Mexican economy from the downside of resource revenue variability while also investing in future development.

Transparency and Anticorruption Measures

The government reforms contain strong language committing to enhanced transparency. In particular, TA Nine calls for contract transparency, external audits of costs and revenues, and disclosure of payments for services

received as well as payments made under contracts. The reform also calls for strong investigations and severe punishment for any individuals, whether private individuals or public servants, who engage in corruption in the sector. This includes exercising undue influence over government officials or employees of PEMEX or CFE for personal gain.²¹ The details of these disclosures are left to implementing legislation.

The government also indicates a stronger transparency agenda by guaranteeing that citizens will be permitted to query and audit all fiscal flows between the government and companies. That is good news for large international oil companies. It will help publicly demonstrate their (future) contributions to Mexican prosperity and will put potential Asian competitors on equal terms in revenue disclosure. The government has not yet identified a specific mechanism for implementing a transparency regime, but the most obvious mechanisms would be participation in the voluntary Extractive Industries Transparency Initiative and the institution of domestic public reporting requirements similar to those under development in the European Union and the United States.

Electricity Reform

Mexico has high-cost, high-carbon electricity and an atrophied and incomplete transmission system. Small independent power producers are succeeding, and a growing trend toward self-generation by large, credit-worthy customers is sapping the national system of critical customers. Technical and nontechnical transmission line losses run to 21 percent. As well, regardless of income, agricultural and many residential consumers pay subsidized rates. The government diagnoses numerous problems, including CFE's internal conflict of interest in the sector, the lack of natural gas and overdependence on fuel oil, the lack of planning in transmission, and distortions in power pricing that fail to incentivize efficiency.

The goals of the electricity reform are deeply ambitious, but the reforms passed thus far are not nearly as specific for power as they are for upstream oil and gas. Article Twenty-Seven ends the monopoly of state-owned CFE in power generation, and TA

Eleven calls for a private contract system to enable the financing, installation, maintenance, operation, and expansion of the infrastructure. Regrettably, provisions to reform the subsidy scheme from general to targeted subsidies did not survive the negotiations.

Similar to the way PEMEX will be required to transfer control of its natural gas infrastructure to a new entity, CFE will have to hand control of its distribution network to a newly created National Center for Electric Power Control. This new center

The overall tension in the electricity reform is that the government is making a significant commitment to lower costs.



will act as an independent system operator, manage the wholesale market, and guarantee open access for new generators. Divorced of its transmission infrastructure, CFE will rely on the CRE to obtain generation permits and have transmission rates established.²²

The overall goal of the reform is to create a market where qualified enterprises (over fifteen megawatts) can compete to sell power either to CFE or to retailers through long-term contracts or a spot market. With the Independent System Operators (ISO) required to dispatch the least cost power first, new efficient operators can compete with fuel oil generation.

At the same time, CFE can survive on its existing nuclear, hydro, or combined cycle generation, and the prospect of new gas-fired generation will incentivize domestic natural gas production. However, unlike in the petroleum sector, where resources can be transferred efficiently to local and global markets,

power relies on local markets to justify investment. Therefore, both implementing laws and concentrated market analysis will be required to estimate the extent of probable impacts.

The overall tension in electricity reform is that the government is making a significant commitment to lower costs of delivered electricity as a result of this reform. While achievable in theory, much will depend on the speed at which the new agencies are created, the actual availability of low-cost natural gas, and the appetite of investors for extracting detailed information on load centers, customers, and quality of metering and collections.

The reform of subsidies will be critical to opening the residential sector to new generators. More careful analysis is needed to assess whether new generators can earn a competitive rate of return on large capital expenditures and still provide power at a cost lower than CFE. The government is keenly aware of these tensions and the framework is likely to emerge more clearly in the phase of implementing legislation.

Sustainability

The energy reforms place a high and unique emphasis on sustainability. Perhaps in a nod to supportive votes from the *Partido Verde Ecologista de México* (Ecological Green Party of Mexico), the reforms also contain several new mentions of sustainability and environmental concerns. Such concerns are articulated specifically in Amendment Twenty-Five, and TA Seventeen contains an edict requiring that, within one year, amendments to implementing legislation be put forward that would enhance energy efficiency and reduce greenhouse gas emissions.

There is no guarantee that such proposals will become law. It does, however, contemplate that implementing legislation expressly include clean energy usage and reduced pollution measures, although no mechanisms are identified. Further, the next transitory article (TA Eighteen) requires SENER to produce a National Program for Sustainable Energy Usage within a year of the passage of the reform amendments, including a strategy for clean fuels and technologies. The legislature is tasked with creating a framework for geothermal energy within 120 days. 💧

Near-Term Commercial Opportunities and Challenges



Commercial Opportunities

We expect Mexican oil and natural gas to be open for business for international oil companies and other private investors in twelve to twenty-four months. Three major opportunities are identified below.

1 Joint Ventures with PEMEX The earliest openings for private capital will be in partnership with PEMEX as it migrates its existing fields retained in round zero to joint ventures. Subject to SENER's approval on policy, CNH's approval of partner, and the Finance Secretariat's terms, PEMEX will be able to enter into all three models of contracts with partner companies for its fields. PEMEX will be able to bolster its income flow by keeping those projects that are most lucrative while spreading risk (and hence capital requirements) to areas where it lacks comparative advantage. PEMEX is likely to maintain sole control over its largest oil fields, in the Cantarell and Ku-Maloob-Zaap areas, in which it believes it has (or can procure) relevant expertise.

Yet, elsewhere in shallow offshore and, to some extent, onshore, a perverse result of PEMEX's desperation to minimize production declines has been that it only partially developed fields to get the easy oil out, and it has not invested in readily available techniques to enhance recovery. These mature fields—the "bitten apples" that PEMEX identifies—provide the most likely investment opportunities for midsize international companies and the most likely source of production increases in the near term.

For larger international oil companies, there may be opportunities to partner with PEMEX on the

development of its existing deepwater acreage.²³ While PEMEX has managed some of the discovery phase, it is not capable of developing ultra-deepwater fields.

2 Seismic Analysis Although Mexico has a rich history of oil production, the vast majority of work is concentrated in fields in the southeast. PEMEX is in the early stages of exploring deepwater offshore reserves. Much work needs to be done to assess potential reserves. As part of the reform, CNH will house an information center to facilitate meeting that need. A second near-term opening for international companies in Mexican oil and natural gas will be producing seismic studies for the government. The government will require a high quality and massive amount of survey material, in addition to PEMEX's largely two dimension inventory,²⁴ to market new acreage effectively.

The earliest openings for private capital will be in partnership with PEMEX as it migrates its existing fields to joint ventures.



3 New Acreage The bulk of the opportunity for international oil companies to develop Mexico's deep water reserves will likely come with the first bid rounds in early 2016. As shown in the image [see figure 3] depicting offshore activity in the US versus the Mexican Gulf of Mexico, Mexico's Gulf of Mexico potential is virtually untouched. Mexico's goal is to dramatically increase this investment over time, with PEMEX as one investor among many.

FIGURE 3. US and Mexican Deepwater and Ultra-Deepwater Activity in the Gulf of Mexico



Source: Secretariat of Energy of Mexico

After the implementing legislation is complete, (expected in the second quarter of 2014), CNH and SENER will take six months to one year to block out new acreage for leasing, and design new forms of contracts. The government expects the first bid round to take place in 2016, approximately a year after the secondary legislation is passed and PEMEX has its round zero. PEMEX will not have a right of first refusal or preferential rights to acreage after round zero, or for acreage not already explored or produced. One would expect, however, that many bids will include PEMEX as a partner. PEMEX will be subject to the same fiscal terms for new leases as other companies. While the reforms authorize a variety of contract terms to match risk with reward, it is unclear what terms will be applied to deepwater, ultra-deepwater, and unconventional (shale, tight gas and coal bed methane) oil and gas formations.

Challenges for the New Framework

The constitutional changes passed on December 12, 2013, by Mexico's Congress are a landmark moment for the nation. Change of this scale is courageous, but implementation will be hard. The implementing laws to be drafted in the next term, and then the actual execution by PEMEX and regulatory agencies, will be decisive in determining if reform will actually transform Mexican prosperity. Many of the transitory articles—like competitive salaries for employees of state-owned enterprises and the fiscal terms for contracts—will be politically fraught. Once legislation is passed, formal implementing regulations and informal procedures will take time to develop. Although Mexico has a long history of energy development, it will be creating entirely new regulatory regimes for oil, gas, power, and energy transportation. Attracting private investment will require Mexico to execute on these reform plans with a speed and efficacy that would challenge any nation.

Seven challenges stand out.

1 Managing Expectations While the public will expect rapid growth in jobs and revenue, cheap and reliable electric power, and rapid investment in new industry, the ramp-up may be slow. Early investment in shallow water fields and enhanced oil recovery will show gains. But deepwater exploration can take a decade to reach production, and the ramp-up in land bases and collateral industry is incremental. The rules for investment in the power sector could take years to develop, and the new gas fields and gas pipelines Mexico hopes will supply them can take years to permit and build.

2 Delivering Competitive Oil and Gas Exploration Terms In a market where development costs are rising and profitability is eroding, companies will require large-scale opportunities (especially in deepwater) and attractive margins to invest. The terms for shale acreage will need to be competitive enough to encourage companies with multiple opportunities in the United States to redeploy capital to projects across the border.

The ability to “book” reserves as assets is critical



The Mexican energy reform envisions three types of contracts, all intended to offer companies the opportunity to book reserves.

to these investments. Booked reserves are a dependable asset stream upon which capital markets can rely and value the company. Mexico's energy reform envisions three types of contracts (profit-sharing, production-sharing, and licenses), all intended to offer companies the opportunity to book reserves. TA Five is plainly designed to facilitate this outcome while preserving sovereign ownership of resources below the surface. The proof, however, will be in the forms of contracts actually offered and the manner in which regulators like the Securities and Exchange Commission treat those agreements.

Likewise, the determination by SENER of which form of contract applies to each kind of field, and by the Secretariat of Finance as to what fiscal terms apply to each contract, will be dispositive. It is impossible to assess the attractiveness of Mexico's commercial opening without that information.

3 Building Effective Regulators Energy reform contemplates a strongly enhanced role for CNH and the creation of multiple other regulatory authorities throughout the energy sector. CNH will need to ramp up rapidly to acquire the seismic data investors expect, size blocks, build an auction system, and make recommendations to SENER on what form of contract to apply to acreage migrated from PEMEX or offered for new leasing. The ability to set clear rules and act promptly will impact investment. Bellwethers of the ability of CNH (and others) to meet this task will include significant budget appropriations for their own work and staff, and for external support of their new mandates.

4 Clarifying the Value Proposition for the Power Sector Cheaper, clean natural gas that can replace fuel oil generation at lower cost is sensible, but investors will require much more granular information before they invest. Over time, Mexican authorities will need to clarify what metropolitan areas are ripe for new generation, whether the transmission system is adequate to the task, whether customers are metered, and what will be the costs of transmission. To the extent that residential customers are to be a magnet for new generation, there will need to be greater clarity on how or whether they will be subsidized. The draw for new natural gas development is, in part, to feed new power generation. But there will need to be greater clarity on whether all gas lines will be open access, and whether gas sellers can sell directly to generators.

5 Cutting the Cord with PEMEX The promise of the reform is that PEMEX will be able to act more commercially as a state-owned productive enterprise, but this idea remains unclear. The government will remain entitled to direct the annual dividend, potentially impairing the ability of PEMEX to plan for capital investment. Also unclear is how much freedom PEMEX will have to determine the size of its workforce and to decide how to allocate investment between upstream and downstream.

In addition, it remains unclear how freely PEMEX will be able to choose its joint venture partners and how quickly CNH will approve the form of contract that PEMEX has with each partner. In the early phases, the more freely PEMEX can act, the quicker production will rise. Over time, the more PEMEX can reinvest, the more likely it will have a future of any kind in deepwater. Handicapping PEMEX in its future capital investment, or its freedom to swap assets and act creatively, could restrict it to being largely an onshore, shallow water operator.

6 Trusting the Market The text of the transitional articles is rife with the tensions between those elements of the Mexican polity that distrust the market and those that hope to embrace it. For example, the future of power sector investment in Mexico might be in distributed generation rather

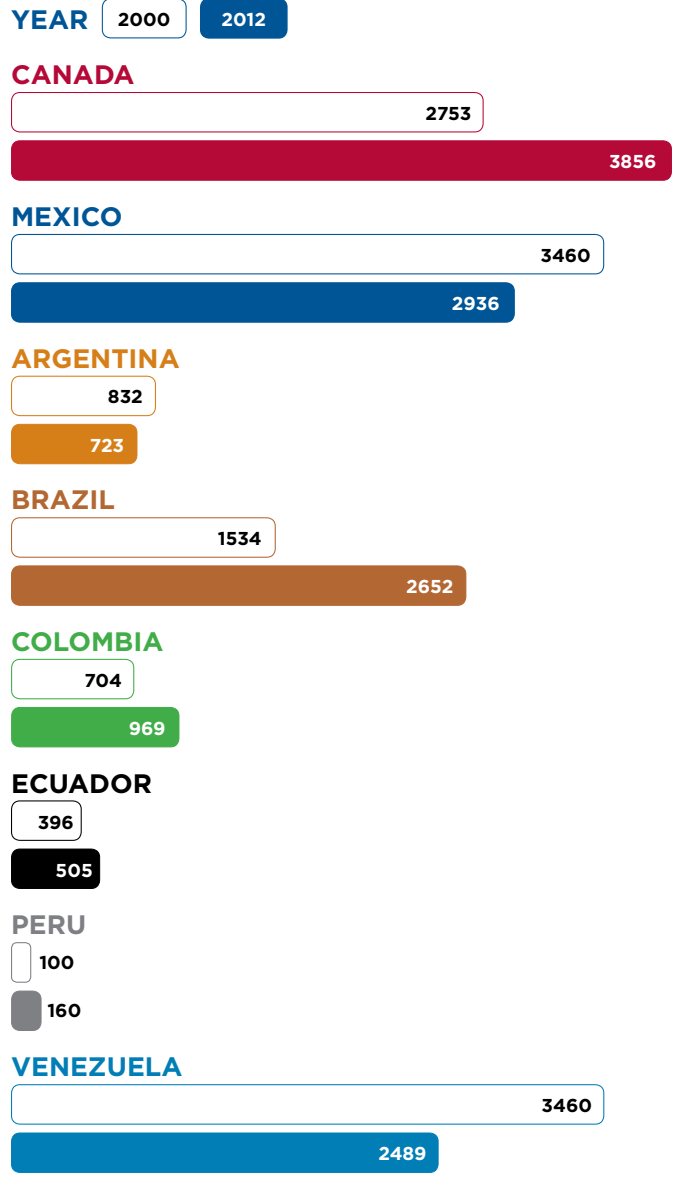
In the early phases, the more freely PEMEX can act, the quicker production will rise.

than new large-scale generation and grid extension. Time will tell whether Mexico allows the same freedoms of pricing and gas access to small generators as they will to large ones. It may be cheaper in the medium term to import US gas or US oil products than to develop Mexican shales or build new Mexican refineries. Time will tell how free PEMEX is to choose its investment portfolio based on its own market assets and whether there will be discriminatory treatment of imported gas and products.

7 Will Local Content Requirements Be Onerous? The government touts the opportunities for increased energy investments to have ripple effects for job creation through supply chains. That is certainly true. However, the government also has used language in TA Seven requiring that the law provide for the promotion of local supply chains, with a fixed (to be legislated) percentage consistent with Mexico’s international treaties and existing commercial agreements.²⁵ Such policies are known to have strong distortionary effects, and, in Brazil, are widely blamed for cost overruns and lack of interest in new lease sales [see figure 4]. The government of Mexico is keenly aware of the problems local content mandates have posed for Brazil, but they failed to exclude a percentage requirement nonetheless. Investors will be watching to ensure that requirements are not onerous or unrealistic. 💧

FIGURE 4. Competitive Fiscal Frameworks Generate Production

(Thousand Barrels Per Day, Total Oil Supply)



Source: US Energy Information Administration

Mexico's Opportunities



Domestic Returns to Reform

Leaders of both the PRI and the PAN have boldly faced the reality that Mexico's current energy regime is failing. Weakened oil production, natural gas shortages, inadequate infrastructure, product import dependence, and overdependence on PEMEX for government finance are just a few markers of inadequacy. Garnering political will for meaningful reform, however, requires more than pointing at failure; it requires a picture for prosperity that can only come with reform. That picture is bright.

This ability to deal with structural problems (education, labor, fiscal affairs, and electoral reform) may make Mexico the emerging market to watch. Compared to Brazil, Russia, China and India, Mexico seems bent on a more market-friendly model, with the potential of low-cost energy, access to markets, and educated labor. If Mexico can also muster some regulatory transparency and efficiency, the energy reform could spill over into major investments in manufacturing as well.

The government makes bold claims for economic growth and benefits for Mexicans. For the current left-of-center government, political success lies on the promises of increased tax revenue supporting social programs, infrastructure, and education. Those claims now have added credibility because the energy reform includes creation of a sovereign wealth fund to protect long-term debt obligations.

More broadly, however, the government claims that energy reform will:

- Increase GDP by 1 percent by 2018 and 2 percent by 2025
- Create half a million jobs by 2018 and 2.5 million jobs by 2025
- Lower costs of electricity and gasoline

It is beyond the scope of this paper to evaluate those broad claims. However, it is clear that on its current trajectory energy reforms will boost production and, with it, economic output, with positive ripple effects throughout the economy.

In terms of domestic economic growth, the energy reforms have four main drivers. First, to the extent that mid- and downstream oil processing, particularly refining, sees major new investment, that will improve Mexico's trade balance, put downward pressure on gasoline prices, and support manufacturing of materials needed in infrastructure improvements. As discussed above, however, few details are yet available to evaluate international interest in downstream projects.

A second economic driver is the introduction of real competition in electricity—the extent of which is still unclear—and lower-cost fuel options. The latter underpins the government's claim that power prices will fall. However, power is priced locally, so national generalizations have

Political success lies on the promises of increased tax revenue supporting social programs, infrastructure, and education.



Gains from unconventional oil and gas will require highly competitive terms to draw investment.



little utility. The government's most specific claim relies on substitution of relatively expensive fuel oil and liquefied natural gas imports for low-cost domestic natural gas from unconventional (shale) sources (and, although not specified, presumably also from increased US imports, which is already under way).

The gas pipeline infrastructure will need to expand quickly and significantly for this to be viable. The reform of the subsidy scheme will be an equally powerful driver of investment and efficiency. Its deletion from earlier drafts of the reform raises the bar for a power sector framework that can attract new investment.

The third energy driver of economic growth—unconventional natural gas production—is uncertain at best. If large-scale production is achieved, then petrochemicals, power-intensive industries, and power suppliers—in addition to power impacts—can all see significant gains, as has occurred in the United States. Pricing reform is fundamental to achieving large-scale investment, and the Mexican Congress has yet to seriously deal with that issue. It is clear, however, that, absent pricing reform in implementing legislation, the government's aspirations for unconventional gas development and lowering electricity rates will be difficult to achieve.

The future of Mexico's largest driver of near-term economic benefit, oil production, is bright. The government has identified specific goals of reform: increase oil production by half a million barrels by 2018; increase by another half a million by 2025; and

achieve reserves replacement above 100 percent.

These goals are aggressive but achievable. As noted earlier, these gains will come first from well work-overs, then early deepwater, then long term from the opening of the deepwater. Gains from unconventional oil and gas will require highly competitive terms to draw investment, given current low natural gas prices, uncertainty over global oil prices, and alternative investment opportunities in the United States. Investors will be looking for liquids, not dry gas. However, if the United States continues to restrict light oil exports, investors might look over the border where it may be easier to earn global prices for the same quality of hydrocarbons.

Bilateral and Global Gains

Although it is the second-largest economy in Latin America and the fourteenth-largest in the world, Mexico has not met its potential to attract investment and build political influence. That is now changing.

Over the past year, Mexico's three main political parties aligned to turn Mexico around in key areas. Education, labor, and fiscal reforms have all been secured, and now, the most controversial of all reforms—energy—has surmounted the most significant political hurdle. That combination of political will and actual legal reform will put Mexico in the pole position for attracting energy investment, providing stiff competition for Colombia and Brazil, in particular.

Mexico also stands to gain in global economic competitiveness, particularly vis-à-vis Europe and East Asia in manufacturing. Thanks to rapid increases in unconventional natural gas production, United States industry has seen its energy costs drop by a third in recent years while competitors in Europe have seen increases of more than 50 percent. Mexican imports of low-priced natural gas from the United States are on the rise, and whether that trend continues or domestic unconventional gas becomes widespread, Mexican industry can realize tremendous commercial advantage.

International standing and influence will also be enhanced from the amount and timing of physical barrels to be delivered to global markets. Although oil demand in the United States and Europe has

essentially reached a plateau, demand in emerging economies is rising. Near-term production increases will add important supply to markets that are expected to remain tight absent a breakthrough in Western negotiations with Iran. Enhanced energy trade, combined with the potential of a Trans-Pacific Partnership trade pact, will strengthen commercial relations between Mexico and Asian demand centers.

Mexico's role in global oil markets is positioned to increase from major supplier status to strategic supplier status over the next decade. Non-OPEC sources of oil currently comprise approximately 46 percent of global supply,²⁶ but the International Energy Agency (IEA) projects that non-OPEC supplies will peak around 2020.²⁷ Not included in the IEA's estimates are the Mexican reforms currently under way, which could have Mexican deepwater production coming online in that same time period. As a major non-OPEC supplier on the upswing, Mexico can wield enhanced influence in energy markets and energy-dependent geopolitical considerations.

Liquid exports to the United States will be positive for cross-border relations, but they are marginal to upside bilateral gains. Near-term increases in Mexican heavy crude can find a ready home in the US Gulf of Mexico refinery basin and can be expected to back out US imports of heavy crude from the Middle East and make up for continued shortfalls from Venezuela. Future production is likely lighter crude, however, in which the United States is currently awash. Still, US companies are poised to invest heavily throughout the energy value chain, due in part to geographical proximity and in part to shared geology. Those commercial ties will enhance cross-border trade and economic integration in North America.

Most significant from a US foreign policy perspective, however, is the promise of economic prosperity for Mexico that comes with energy reform. The United States does better with a strong Mexico in economic terms, security terms, and even domestically in regard to polarizing issues around immigration. The more Mexicans have higher incomes to spend on goods, the more attractive jobs

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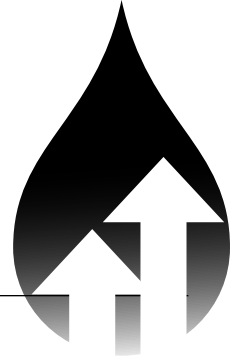


are available on Mexican territory, and the more local development turns the tide against criminal behavior, the more the bilateral relationship will prosper.

In seeking to balance maximizing national value from its sovereign energy resources with the private-sector investment needed to achieve that value, Mexico is also poised to be an important example for other nations searching for a new model. The monopoly model has failed. Yet existence of a strong national champion to partner with the private sector can play a useful role in taking extremely long-term views on investment, beyond even multidecade contracts of international oil companies that have limited time horizons to achieve their returns. Although Mexican officials frequently cite Brazil as an example to emulate, Mexico stands poised to improve upon that model by reducing direct political interference in operations of PEMEX and, hopefully, with more flexible costs brought by domestic content rules.

Mexico as a global model may also manifest in building trust between the government, companies, and the public. Pledges of rigorous transparency and anticorruption measures would put Mexico in the same category of openness as the United States and Norway. So long as PEMEX is bound by transparency rules, Mexico would stand apart in the world as being the largest country with a fully transparent, wholly owned national oil champion. Moral standing in international affairs is often underestimated, but with this move Mexico can take a lead. ♦

Conclusion



Mexico has taken dramatic and historic steps to reform its energy sector. The scale of its ambition is unprecedented in both the speed of intended change and the scope of its transformation. The fact that the challenges of executing on this promise are formidable should not diminish or obscure this remarkable cross-partisan act of leadership and vision. Mexico is rising, first in political courage, and next, we hope, in prosperity, global stature, and domestic tranquility.

We title this “Energy Reform at Last?” because this impressively permissive constitutional scheme is a necessary but not sufficient precondition to real reform.

The implementing legislation must be passed, the terms must be competitive, regulators need to be well and quickly resourced, and the complex coalition of decision makers will need to act with speed and efficacy. It will be a bumpy road, but these reforms mean there is no turning back.

Viva Mexico! ♦



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Endnotes

- 1 Article Twenty-Five authorizes the government to employ best practices when regulating state-owned productive enterprises; Article Twenty-Seven authorizes the government to develop upstream contracts with the private sector; Article Twenty-Eight allows establishment of the Mexican Petroleum Fund and ends the state-owned *Comisión Federal de Electricidad's* monopoly on power generation.
- 2 Text of Constitutional Amendment changes and Transitory Amendments (TAs) derived from: Bill of Decree to Reform and Amend Several Dispositions of the Political Constitution of the United Mexican States in Energy Matters. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 3 The "Pact for Mexico" (*Pacto por México*) is an agreement Mexico's three major political parties signed immediately following President Peña Nieto's inauguration in December 2012. It sought to accomplish reforms in several areas, including education, telecommunications, banking, and energy. The Party of the Democratic Revolution left the pact in November 2013. For a detailed explanation of the pact's background, see: Americas Society/ Council of the Americas (December, 2012) *Explainer: What is the Pacto por México?* Retrieved from: <http://www.as-coa.org/articles/explainer-what-pacto-por-m> percentC3 percentA9xico. Washington, DC: Andres Sada.
- 4 Williams, A., Martin, E., and Cattan, N. (2013, December 13) "Mexico Passes Oil Bill Seen Luring \$20 Billion a Year" Bloomberg News. (December 13, 2013) Retrieved from: <http://www.bloomberg.com/news/2013-12-12/mexico-lower-house-passes-oil-overhaul-to-break-state-monopoly.html>.(News Through Mexican Congress. m: ican Congress. earand the sector is "pened fore, with more autonomy regarding their managemen
- 5 Article Twenty-Five reads, "Regarding the planning and control of the national electric system, as well as the public service of electric power transmission and distribution as well as the exploration and extraction of oil and other hydrocarbons, the State shall carry out these activities in terms of the provisions of the sixth and seventh paragraph of Article 27 of this Constitution. In these activities the law shall establish regulation regarding management, administration, organization, operation, procurement procedures and other legal acts that state-owned productive enterprises may celebrate, as well as the salaries and compensation scheme for its employees, in order to ensure its effectiveness, efficiency, honesty, productivity transparency and accountability, based on best practices and shall define any other activities that shall be able to perform. It continues, "The law shall encourage and protect economic activities carried out by private persons and shall provide the conditions required so that the private sector's development could contribute to national economic development, promoting competitiveness and implementing a national policy for sustainable industrial development that includes sectorial and regional considerations in accordance to the terms established by this Constitution.."
- 6 Article Twenty-Seven reads, "In the case of petroleum, and solid, liquid or gaseous hydrocarbons that are in the subsoil the property of the Nation is inalienable and no subjected to the statute of limitation and no concessions will be granted. With the intention of obtaining income for the State that will contribute to the long-term development of the Nation, the Nation will carry out exploration and production activities through entitlements to state-owned productive enterprises or through contracts with private entities, in accordance with statutory laws. In order to comply with these entitlements or contracts, the state-owned productive enterprises may contract with private entities. In any case, the hydrocarbons in the subsoil are property of the Nation and this is how it should be affirmed in their entitlements or contracts."
- 7 Article Twenty-Eight reads, "The functions performed in an exclusive manner by the State in the following strategic areas shall not constitute monopolies: postal service, telegraphs, radiotelegraphy; radioactive minerals and generation of nuclear energy, planning and control of the national electric system and the public service of electric power transmission and distribution and the exploration and extraction of oil and other hydrocarbons in the terms provided in the paragraphs sixth and seventh of Article Twenty-Seven of this Constitution, respectively; and any other activities explicitly established by the laws enacted by the Congress of the Union Satellite communications and railways are priority areas for national development under the terms provided in Article 25 of this Constitution. The State, by exercising its direction over them, shall protect the security and sovereignty of the Nation and when granting concessions or permits, it shall maintain or establish its dominion over the respective means of communications and transportation in accordance with relevant statutory laws." It continues, "The State will have a public trust fund named Mexican Petroleum Fund for the Stabilization and Development, whose trustee will be the Central Bank and its objective, according to the terms established by the relevant statutory laws, shall be to receive, administrate and distribute all income obtained from the oil entitlements and contracts referred to the paragraph seventh of Article 27 of this Constitution, with exception of taxes." Gobierno de la República de México. Reforma Energética. Retrieved from: http://presidencia.gob.mx/reformaenergetica/assets/descargas/40_pags.pdf.
- 8 Gobierno de la República de México. Reforma Energética. Retrieved from: http://presidencia.gob.mx/reformaenergetica/assets/descargas/40_pags.pdf.
- 9 TA Five reads, "State-owned productive enterprises that have been given an entitlement or have subscribed a contract to develop activities related to the exploration and extraction of oil and all the solid, liquid or gaseous hydrocarbons, as well as private entities that subscribe a contract with the State or any of its State-owned productive enterprises to the same end, according to what has been established in this Decree, will be allowed to report the entitlement or corresponding contract and its expected benefits for accounting and financial purposes, provided that the relevant entitlement or contract acknowledges that the oil and all the solid, liquid or gaseous hydrocarbons that are in the subsoil belong to the Nation." "The provisions of the preceding paragraph shall apply to Petróleos Mexicanos and its subsidiary entities during the transitional period in terms of the third transitory article of this decree."

- 10 This arrangement is laid out in TAs Ten, Twelve, and Nineteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 11 As laid out in TA Nineteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 12 As laid out in TA Fourteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 13 Regarding CNH and CRE, see TAs Twelve and Thirteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013; Regarding the new environmental regulator, see As laid out in TA Nineteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 14 TA Six reads, “Petróleos Mexicanos shall submit for consideration to the Ministry of Energy the entitlement of the exploration areas in and the fields in production that it is able to operate through oil entitlements. Petróleos Mexicanos shall demonstrate to have enough technical, financial and execution capacity to explore and extract hydrocarbons efficiently and competitively.”
This arrangement is laid out in TA Three of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 15 This arrangement is laid out in TA Sixteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 16 Mayer Brown (October, 2013). *Mexico’s President Proposes New Hydrocarbon Revenues Law with Tax Reform Package*. Houston, TX: Dallas Parker. Retrieved from: http://www.mayerbrown.com/files/Publication/a613b441-ac95-4e14-bb28-c1684faf7a9c/Preview/PublicationAttachment/e3b4923a-6f54-4e55-9c72-d6124cb4cc13/UPDATE-Mexico_Tax_Reform_0913_V3.pdf.
- 17 Brookings Institution (August, 2013). *Time to Implement the U.S.-Mexico Transboundary Hydrocarbons Agreement – Congress: Drop the Poison Pill*. Retrieved from: <http://www.brookings.edu/blogs/up-front/posts/2013/08/14-us-mexico-transboundary-hydrocarbon-goldwyn-brown-gill>. Washington, DC: David L. Goldwyn, Neil R. Brown, Cory R. Gill.
- 18 The Mexican Petroleum Fund’s responsibilities and authorities are described in TA Sixteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 19 This board and its responsibilities are described in TA Fifteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 20 See TA Fourteen of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 21 See TA Twenty-One of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 22 See TA Ten of *Bill of Decree to Reform and Amend Several Disposition of the Political Constitution of the United Mexican States in Energy Matters*. Transmitted to Goldwyn Global Strategies from the Atlantic Council on December 11, 2013.
- 23 In recent years, PEMEX officials and Mexican governments have justifiably touted discovery of deepwater fields. For example, after finding oil in the Supremus-1 exploration well in the Perdido Basin last year, PEMEX indicated that the Supremus field might hold about 200 million barrels of crude. More broadly, PEMEX estimated that it had 26.5 billion barrels of crude in the Gulf, with about 10 billion coming from its side of the Perdido Basin. See: Rodriguez, C. “PEMEX Said to Find Oil in Supremus 1 Well in Perdido” *Bloomberg News*. (October 3, 2012) Retrieved from <http://www.bloomberg.com/news/2012-10-03/pemex-said-to-find-oil-in-supremus-1-well-in-perdido.html>.
- 24 Three dimensional seismic is much more expensive, but gives a much clearer view of the size and characteristics of an oil field.
- 25 TA Seven reads, “In order to promote the participation of productive domestic and local supply chains, the law shall state, within the period established in the fourth transitory article, the legal basis and the minimal percentages of domestic content in the procurement for the execution of oil entitlements and contracts referred in this Decree. The law shall establish mechanism to foster the national industry in the matter of this Decree. Legal provisions about domestic content shall consider international treaties and commercial agreements signed by Mexico.”
- 26 International Energy Agency. *IEA releases Oil Market Report for December*. (December 2013) Retrieved from: <https://www.iea.org/newsroomandevents/news/2013/december/ieareleasesoilmarketreportfordecember.html>.
- 27 International Energy Agency. *World Energy Outlook Factsheet: How will global energy markets evolve to 2035?* Retrieved from: http://www.iea.org/media/files/WEO2013_factsheets.pdf.

About the Author

David L. Goldwyn is an Atlantic Council author and is president of Goldwyn Global Strategies, LLC, an international energy advisory consultancy focused on risk management. He has written a series of works on energy issues, including *Energy and Security: Strategies for a World in Transition* (Johns Hopkins University Press/Woodrow Wilson Center Press 2013), *Energy and Security: Toward a New Foreign Policy Strategy Transition* (Johns Hopkins University Press/Woodrow Wilson Center Press 2005)—both co-edited with Jan Kalicki—and *Drilling Down: The Civil Society Guide to Extractive Industry Revenues and the EITI* (Revenue Watch Institute 2008).

Goldwyn served as the State Department's special envoy and coordinator for international energy affairs from 2009 to 2011, reporting directly to Secretary of State Hillary Clinton, where he conceived and developed the Global Shale Gas Initiative and the Energy Governance and Capacity Initiative, led ministerial-level energy dialogues with Angola, Canada, China, India, Iraq, Mexico, Nigeria, and Brazil, and co-chaired a regional biofuels initiative with Brazil. He has also served the US government as assistant secretary of energy for international affairs (1999–2001), counselor to the secretary of energy (1998–1999); and national security deputy to US Ambassador to the United Nations Bill Richardson (1997–1998).

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