

also, it must create an administrative structure that puts an end to the uncontrollable financial speculation amidst which it functions. Our time is clearly characterized by the replacement of the generalized use of highly polluting fossil fuels—the oil of the twentieth century and the coal of the nineteenth—with alternative energy sources, like solar and wind power, now in development. Pemex and the CFE have been excluded from these modern forms of business, which has meant that they are confined and subordinated to the transnational corporations that get the most profitable contracts in the world and thus capture most of the oil rent. Nuclear-electrical plants, presented as alternatives, are also obsolete and highly dangerous, since they emerged during the Cold War to simultaneously produce electricity and plutonium for weapons.<sup>3</sup>

Pemex and the CFE could have a promising future in producing solar energy. They should be restructured to make them modern, active companies, in Mexico's energy transition toward solar and wind power—the old windmills renovated—that we could even export to the countries of the North.

The manifestly unconstitutional laws must be repealed and both companies given the independent management they require. ■■■

---

#### NOTES

<sup>1</sup> Last year, the CFE paid out almost Mex\$200 billion to 22 private firms, mostly transnationals, with whom it has signed 25-year contracts for the generation of electricity. This is just the payment for the purchase of energy from these private firms. In addition, it had to spend Mex\$88 trillion to comply with a contingency clause that commits it to assuming the cost of the risks that could prevent the so-called “independent producers” from fulfilling their contractual obligations. This is, in fact, the reestablishment of the colonial model.

<sup>2</sup> Miguel Alemán Valdés, *La verdad del petróleo en México* (Mexico City: Pemex, 1988), p. 482.

<sup>3</sup> Today, the 500-ton stockpile of separated plutonium is sufficient to make 100 000 nuclear weapons. In 1994, the U.S. Academy of Sciences stated that this material represented a clear danger for national and international security, and since then, no technology has been developed capable of dissolving plutonium, which continues to accumulate as a waste product that puts environmental health, and therefore, human health, at risk.

---

## The Energy Agenda for The 2012-2018 Administration<sup>1</sup>

Rosío Vargas\*  
Heberto Barrios\*\*

**T**he rumor has been spreading that the legislature will pass a new energy reform soon, perhaps even before December 1, when the new president is slated to take office. That was Enrique Peña Nieto's campaign pledge that made the biggest impact in the foreign media; however, the national political situation and the complexity of the task will make it difficult to implement, above all because no consensus exists about the details.<sup>2</sup>

The programmatic proposals disseminated until now call for major surgery: for example, the proposal to make Pemex a government corporation registered on the stock market; the adoption of a regime of concessions for the drilling and pumping of oil, gas, and shale oil and gas; a constitutional reform of Article 27 that, once approved, could immediately be followed with a change in the article's regulatory legislation; and strategic alliances and what is involved in the many “good contracts” signed over by Pemex for oil production, but also to all those activities opened up to private participation.

---

\* Researcher at CISAN.

\*\* Member of the National Committee for Energy Studies.

Top Pemex officials are convinced that the current model has run its course and the company has stopped being a lever for national development, meaning that now is the time to change its status from a public body with no autonomy to one with autonomy.

The arguments for changing Pemex' circumstances center, first, on the need to change its fiscal regime to advance with new developments; this is due to the fact that its budget is insufficient for the investments required, which means that the company would have to go into debt to make them. What is more, the contribution of oil revenues to the national budget goes preferentially into day-to-day government operations instead of long-term investments and to pay a debt that has not been reduced; this is why company directors are thinking about a comprehensive financial reform under a new fiscal regime that would levy all kinds of taxes.

A second argument is Pemex's supposed managerial incapability due to a presumed insufficiency that, it is believed, can be overcome with foreign investments and human resources. Top Pemex officials are convinced that the current model has run its course and the company has stopped being a lever for national development, meaning that now is the time to change its status from a public body with no autonomy to one with autonomy.

While Pemex's financial situation is considered "critical," the same is not the case of its prospects for production: the goals set even attempt to reach the maximum oil production levels of 2004 (3.4 million barrels a day). This "optimistic" vision is based on an estimation of oil reserves that would allow for more than 30 years of potential production using all of them.<sup>3</sup>

The official discourse recognizes that cheap oil has come to an end in Mexico. However, the prospects look encouraging in light of all the government projects in the works: fractured deposits; Chicontepec, shale oil and shale gas, deepwater projects, the incorporation of enhanced recovery techniques (improved oil recovery, or IOR, and enhanced oil recovery, or EOR), and heavy and extraheavy crudes. Pemex is investing in the "understanding of the geology" of these projects; its policy is to increase reserves, maintain the production platform, implement secondary and improved recovery systems, advance in developing complexes, seek to be complementary to the



Manuel Salgado/Cuartoscuro.com

private sector in the incentive contracts, and make inroads into new developments. The general aim is to "acquire expertise" to understand the costs.

With fractured deposits, the task is to optimize exploitation management. Chicontepec is another challenge because of its complex geology. The project for drilling shale gas is based on resources that would put Mexico in third place worldwide, and would require huge investments and skilled human resources to exploit them. The prospects for deepwater drilling are framed in a broad potential estimated at 26.5 billion barrels in prospective resources, but there are managerial limitations. The company's success in replacing its reserves, which last year came to 100 percent for proven reserves, has encouraged this optimistic outlook.

The scenario of the decline of oil does not seem to concern company officials. In this sense, we can contrast two mo-

ments in recent oil history. In contrast with the times when the first “diagnostic analysis” was made during the 2008 debate about the energy reform,<sup>4</sup> when the image of oil was in crisis and the depletion of reserves a major factor, today, the vision is far from being catastrophic. What is more, it does not seem to be a concern that peak oil has been reached; what is a concern for company executives is acquiring managerial capabilities to carry out their works projects that would lead to delegating and ceding activities to international corporations, arguing a “lack of knowledge” and “national experience.”

In a context of abundant resources, it is logical to establish roads ahead like a policy of accelerated production, even for Cantarell, ensuring this way that the wells will continue to be productive. In that case, there is also no concern about production costs. A palpable example is the case of Chicontepec, where more than 300 wells have been operating producing 6 barrels a day or less than their economic limit, meaning that money is being lost and the programmed production goals are not being met. According to a report by petroleum exports about the exploitation of crude in Chicontepec, current production levels do not justify the payments Pemex is making to contractors. Pemex reports Chicontepec as a project that is continually increasing production (up to 11 barrels/day, taking into account the entire productive life of the well), when it is actually operating below its financial limit.<sup>5</sup>

#### SHALE OR LUTITE GAS

In this general tone of abundance, the potential for shale or lutite gas has been announced (680 trillion cubic feet). Three wells have been sunk and Pemex has drilling plans for the next 50 years; the goal is 27 000 producing wells. For these to be economically viable, Energy Regulating Commission officials think it necessary to move toward a regime of licensing. The reasons they give, however, are contradictory. On the one hand, they argue that this exploitation does not produce rent, a statement that seems to derive from the associated high production and regulatory costs, since regulations raise the project’s total cost by 30 to 40 percent. Nevertheless, this does not mean there can be no oil rent.<sup>6</sup>

The argument that there will be no rent is used to justify the state’s withdrawal from investment as well as its monopolistic character, which would lead to introducing competition in this segment, except in transportation and distribution of hydrocarbons, activities considered monopolies. In turn, this

Pemex reports Chicontepec as a project that is continually increasing production (up to 11 barrels/day, taking into account the entire productive life of the well), when it is actually operating below its financial limit.

justifies the need for constitutional changes for handling shale gas.

The extraction of shale gas is also associated with the “problem of the Dutch disease,” that is, with rentism associated with the macroeconomic impact of earnings derived from its being realized in the market. In both cases, the argumentation is questionable, since there is no unavoidable so-called Dutch disease; rather, this seems to support the proposal of a regime of licensing and concessions to private contractors.<sup>7</sup>

Another business option proposed for shale gas is possibly importing it, with the argument that Pemex is not yet prepared to exploit it. This includes the proposal of building pipelines to transport the imported gas, with an estimated annual volume of 6.5 million cubic feet; investments in 600 kilometers of pipelines by 2026 are being analyzed.

The proposal is accompanied by an underground transport system that could be operated by a company like Spain’s Unión Fenosa, which would bring together and operate the system to avoid a critical alert. In this case, the business would be in the hands of Texans and pipeline builders on Mexico’s northern border.

The risks of this energy option include not only the environmental impacts that would result from fracturing the rock and the water being used for the process, but also that this is a new factor that would create dependency for Mexico. Would it not be better to try to recover all the associated or flare gas that is burned in the atmosphere in Mexico’s Southeast?

#### REFINING AND PETROCHEMICALS

The proposals for these activities are no different from what is currently being done. There has been no promise to acquire refineries abroad given the non-existence of the refineries that Mexico requires, in addition to the possibility that purchasing them could also bring risks. Petrochemicals are only considered as being developed jointly with private companies.

One surprise has been the impetus given the nuclear alternative, in which sizeable investments will be made. The U.S. Agency for International Development (USAID) has a budget for the Federal Electricity Commission to invest in this form of energy.

What prevails in the discourse is an effort to underline that the losses accrued to previous bodies were for financial reasons, using virtual figures, not real, operating figures, just like in the case of petrochemicals.<sup>8</sup> There is a clear goal of underlining the deterioration of the company's finances,<sup>9</sup> based on accounting that shows a company that is broke. The aim: to pave the way toward autonomous management, following the paradigm of Petrobras.

#### POLICIES AND ACTIONS FOR THE ELECTRICITY SECTOR

Many specialists share the position that, for energy security, the ideal is a combination including practically all a country's energy sources, but in Mexico the official proposal includes the majority. While it is difficult to call greater participation of clean energies in the national energy matrix an energy transition, a general evaluation of greater diversification of energy sources makes it possible to see the growing participation of foreign corporations and international bodies in the sector's projects and developments. However, clearly, the process is moving ahead without any strategy, without a comprehensive plan.

What is more, those in charge of implementing it are not specialists in the field, which limits their ways forward and operativity.

Regarding non-fossil-fuel sources, the aim is that their participation increase in total production by 35 percent by 2026.<sup>10</sup> Of that, 28 000 MW will come from wind energy and 20 MW from nuclear power.<sup>11</sup> The Electricity Sector Works and Investments Program (POISE) goal is 2 000 MW from clean electricity generation by 2026. To achieve this, the Ministry of Energy (Sener) has three funds:

- 1) the Conacyt-Sener Hydrocarbon Fund, that aims to create technological solutions based on Pemex's needs for deposits, deepwater, refining, heavy crudes, and environmental contingencies. The proposal is to call on

research centers to work on improved recovery and injection technologies;

- 2) the Conacyt-Sener Sustainability Fund, with has a starting goal of 35 percent in the production of electricity using renewables. Part of it will be used for geothermal activities to achieve a production capacity of 800 MW based on the existing geothermal potential; and
- 3) the IMP Technological Research and Development Trust.<sup>12</sup>

One surprise has been the impetus given the nuclear alternative, in which sizeable investments will be made. In this sense, the U.S. Agency for International Development (USAID), headquartered in Mexico at the U.S. embassy, has a budget for the Federal Electricity Commission (CFE) to invest in this form of energy. Despite the stimulus to green and nuclear energies, fossil fuels will continue to be the main object of the U.S. agency's budget for decades to come. This is reflected in the fact that these resources are preferentially channeled into Pemex rather than the CFE.

The fact that fossil fuel supply is the majority also has to do with the limitations of renewable energy. The aforementioned goal of renewable energy being 35 percent of supply seems difficult to achieve, since greater development is needed to be competitive *vis-à-vis* other energy sources. Here, the ideal would be that financial support not be poured only into training human resources, but into the production with national content of all the equipment and mechanisms needed. This is because it is to be expected that they will be imported from United States and/or Europe, which will leach social sustainability out of green development because it would not create jobs in Mexico nor multiply impacts for national industry. Benefits would continue to go to Spanish and U.S. corporations, which are continuing to join in on electricity generation using renewables, the transportation of liquified natural gas, and possibly shale gas through a pipeline on the northern border.

#### ENERGY TRANSITION AND PROFOUND INTEGRATION

President Barack Obama has fostered the development of clean energies in an attempt to turn his country into a global leader in the field. However, it is difficult to think that this will be sufficient for displacing hydrocarbons in the near future. Clean energy's influence will be a clear factor, however,

based on the investments and the trade in renewable technology that will enter the Mexican market, given Obama's efforts to create jobs in his country. While his visible bet is on renewables, he has not stopped paying attention to strengthening oil drilling on federal lands. The impetus to the production of hydrocarbons in the United States also has an impact on Mexico's strategy.

Pemex's policy favors maximum oil production for export; this can be gleaned both from the production predictions Pemex has presented and from USAID's preferential investments. Mexico continues to emphasize its role as a trustworthy supplier for the United States, and, like Canada, seeks to buttress its partner's energy security.

The basis for Mexico's oil policy design is the U.S. view of the world hydrocarbon situation, particularly concerning changing peak oil to a wavy curve that can be extended for a longer period before the decline of production, based on the existence of abundant non-conventional resources and the development of secondary and tertiary recovery techniques. This will lead to intensive drilling and pumping of Mexico's remaining fossil fuels.

Clearly, U.S. oilmen and companies see the opportunity of benefitting from oil rent, by becoming part of all phases of production and business opportunities. This is why Pemex is being encouraged to transition to a scheme of corporate governance that would allow for issuing stock, opening up to the transnationals through strategic alliances, and concessions to private companies, which would allow them to incorporate our reserves as part of their assets, improving their stock issues and at the same time maximizing the production of Mexico's remaining petroleum.

The strategy is framed in the profound integration taking place in North America, in which its institutions and actors are those who design the policies of our energy companies, reflecting the trilateral agreements among the elites of the three countries of North America after the North American Free Trade Agreement (NAFTA) and the Security and Prosperity Partnership of North America (SPP).

The North American Competitiveness Council (NACC) has been the body that has generated the concrete proposals for privatizing Pemex and the CFE, deregulating the market, and fostering integration. Among the most important recent objectives are

- 1) maintaining the security perimeter related to oil reserves and production;

Clearly, U.S. oilmen and companies see the opportunity of benefitting from oil rent, by becoming part of all phases of production and business opportunities.

- 2) including clean energy, the focus on climate change, together with fostering the mechanism for clean development;
- 3) strengthening cooperation and encouraging collective security including exploration and extraction of resources;
- 4) supporting the work to facilitate the flows through the inter-connected network; promoting investment and trade in clean energy technologies; and encouraging electricity interconnectedness, increasing the use of renewables; and
- 5) bolstering nuclear security in North America by working with the International Atomic Energy Agency on research to convert poor uranium into highly enriched uranium, as agreed at the Washington meet on uranium security in 2010.<sup>13</sup>

The United States organizes its support of its partners according to the strategy of dual bilateralism, which means that it arranges integration with each one separately.<sup>14</sup> The accords reached by President Obama with his two geographical neighbors were a recent example of the importance of this. Canada's prime minister made it clear that he would align with U.S. interests by venturing into the Asian market with his country's oil; at the same time, the United States pressured Mexico to open up its oil sector to private investment, getting Mexico to sign an agreement in February 2012 related to "the development of oil and gas reservoirs that cross the international maritime boundary between the two countries in the Gulf of Mexico."<sup>15</sup>

The asymmetry of the relationship between the two countries and the way in which this agreement was worded led to the supposition that the U.S. oil industry will be in charge of managing the two countries' resources. This completes the scenario that makes it possible to conclude that national energy policy design is the sounding board for the future of North American integration and for U.S. energy policy in particular.

## CONCLUSIONS

Despite the fact that the country's demand for crude oil can be covered by the production of the Chiapas-Tabasco Mesozoic, shallow water drilling, Ku-Maloob Zaap, and Cantarell, Pemex directors propose big developments that would mean enormous amounts of investment, and, above all, big risks, like those involved in the Chicontepec deposits (also ATG or Tampico Misantla), deepwater deposits, and shale gas.

While there are those who think that the current comprehensive service contracts for exploring and production are sufficient, others promote constitutional changes to Articles 27 and 28 as necessary to achieve a regime of concessions and autonomous management for Pemex.

Mexico's next first executive's agenda is a clear example of the service we Mexicans provide to the interests of the empire, under the auspices of the neoliberal paraphernalia. ■■■

## NOTES

<sup>1</sup> One of the most important sources of information for this article was the July 2012 Forum for Energy Strategies held in Mexico City. Among the participants were Rogelio Gasca Neri, professional consultant to Pemex; Édgar Rangel Guzmán, of the National Hydrocarbons Commission; Sergio Guaso Montoya, assistant director of Pemex Business Development, Exploration, and Production; Pemex Director Juan José Suárez Coppel; Juan Carlos Zepeda Molina of the National Hydrocarbons Commission; and Verónica Irastraza Trejo, the vice-minister of energy planning and development of the Ministry of Energy (Sener).

<sup>2</sup> David Shields, "Pemex autónomo," *Reforma* (Mexico City), July 1, 2012.

<sup>3</sup> Juan José Suárez Coppel, "Pemex: situación actual y perspectivas," paper presented at the Expo Foro Pemex 2012, www.pemex.com, July 2012, p. 5.

<sup>4</sup> Sener and Pemex, *Diagnóstico: situación de Pemex. Resumen ejecutivo* (Mexico City: Sener and Pemex, March 2008).

<sup>5</sup> Luis Carriles, "Chicontepec no cubre sus costos. Expertos," <http://www.eluniversal.com.mx/finanzas/96503.html>, July 24, 2012, accessed July 24, 2012.

<sup>6</sup> High estimated production costs are not enough to conclude that there will be no rent, since this would depend on international gas reference prices (the Henry Hub or Houston Ship Channel price), which Mexico accepts as valid. It would also depend on estimated demand, technology, the investments made, and the availability of the natural resources associated with extraction. The concept of rent that these arguments are based on is limited.

<sup>7</sup> In Mexico, the true causes of rentism have not been pondered, nor have international experiences aimed at sterilizing petrocurrency and channeling earnings into long-term investments, thus sterilizing oil earnings. Brazil's Presal strategy includes measures for avoiding rentism.

<sup>8</sup> It was made clear in the case of refining that of the Mex\$79 billion racked up as losses this year, only Mex\$12 billion were real operational losses, that is, only 15 percent.

<sup>9</sup> In terms of what have been called "labor liabilities," although the media only talks about pensions and retirement, in reality, they include the annual cost of severance pay for all Pemex's current workers and executives, as well as retirement; that is, they involve getting rid of both active workers and retirees. This is also an item in an accounting system designed for businesses in bankruptcy.

<sup>10</sup> Comisión Federal de Electricidad, *Programa de obras e inversiones del sector eléctrico 2012-2026* (Mexico City: Subdirección de Programación/Coordinación de Planificación, 2012), pp. 2-3.

<sup>11</sup> *Ibid.*, p. D11.

<sup>12</sup> These are sectoral Conacyt-Sener funds. See Sener, Fondos Sectoriales Conacyt-Sener, <http://www.sener.gob.mx/portal/Default.aspx?id=1442>, accessed August 13, 2012.

<sup>13</sup> <http://www.whitehouse.gov/the-press-office/2012/04/02/joint-statement-north-american-leaders>, accessed July 15, 2012.

<sup>14</sup> Gabriel Dana, "The North American Leaders Summit and Reviving Trilateral Integration," *Infowars.com*, <http://www.infowars.com/the-north-american-leaders-summit-and-reviving-trilateral-integration>, accessed July 15, 2012.

<sup>15</sup> Gabriel Dana, "NAFTA Partners Take Steps to Boost Trilateral Relationship," April 9, 2012, [http://beyourownleader.blogspot.mx/2012/04/nafta-partners-take-steps-to-boost\\_09.html](http://beyourownleader.blogspot.mx/2012/04/nafta-partners-take-steps-to-boost_09.html), accessed July 15, 2012.

# Mexico and the Biofuel Challenge

## A Critical Balance Sheet

Gian Carlo Delgado Ramos\*

In the face of the widely recognized phenomenon of man-made climate change<sup>1</sup> and in a context in which easily accessible oil reserves are beginning to peak,<sup>2</sup> energy security is today of major importance for the future. Considering the impact of the transportation sector on the climate,

but also on the quality of the air, among other socio-environmental and energy security issues, not only the use of technologies to increase energy efficiency, but also new —in principle more sustainable— forms of fuel have been proposed as an alternative: biofuels.