GEORGE W. BUSH INSTITUTE

NORTH AMERICA: AN ENERGY COLOSSUS

By Bernard L. Weinstein and Morgan Allen

March 2014

INTRODUCTION

An energy revolution has been underway in North America for the past decade. In the United States, for example, hydraulic fracturing has been combined with horizontal drilling to unleash huge quantities of oil and natural gas from shale formations, revitalizing tired economies in places like North Dakota and Pennsylvania. At the same time, deepwater drilling in the Gulf of Mexico—at least until the Macondo accident in 2010—has also contributed considerably to America's rising hydrocarbon output.

In Canada, meanwhile, oil production has grown more than 50 percent over the past decade, mainly from rapidly rising output in the Alberta oil sands. The oil sands represent the planet's third largest oil reserves and are expected to produce 3.8 million barrels per day by 2025.

And although oil production in Mexico has fallen more than 25 percent over the past decade, there is new hope on the horizon. In December 2013, Mexican President Enrique Peña Nieto signed historic legislation ending 75 years of state monopoly of the energy industry. While secondary legislation is still being drafted, experts anticipate the reform to bring in billions of dollars of foreign investment, create millions of jobs, and help grow the Mexican middle class.

The three countries can best leverage the current revolution by taking immediate steps to integrate their energy sectors. Although the North American Free Trade Act (NAFTA) dramatically increased cross-border collaboration among the United States, Canada and Mexico, the energy sectors have remained largely untouched by the agreement.

But the road will not be easy. This paper discusses several major reforms that must be made to effectively create a common energy market across the continent. If successful, the emergence of the North American "energy colossus" will fuel an industrial revival; further de-tether America from the instability of the Middle East; and stimulate economic growth across the continent.

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Section I: Benefits of Integration

Linking the energy markets across North America will help propel the continent to become the world's energy powerhouse. Indeed, North America already possesses five times more fossil fuel reserves than OPEC. While access to reserves is essential, it is international cooperation between the United States, Canada and Mexico that will further improve industry efficiency and maintain low costs in the energy sector to allow it to thrive for decades to come. Three of the most salient and immediate impacts of such integration include: (1) reduced reliance on imports; (2) higher rates of economic growth for the region; and (3) a resurgence of manufacturing across North America.

Reduced reliance on oil and natural gas imports.

At present, Mexico and Canada are net exporters of oil. The United States is a net importer. The U.S. and Mexico are both net importers of natural gas, while Canada is a net exporter. In a unified common market for hydrocarbons, the region would quickly become a net exporter of natural gas and, within a decade, could even become a net exporter of oil because of rapidly growly production from shale plays and the Gulf of Mexico.

By reducing imports of oil, and eventually becoming an exporter, the entire continent will benefit not only in terms of energy security but an improved balance of international payments. This will mean greater employment in the North American energy sector along with enhanced income and tax revenue for all three countries. Such a dramatic shift will also de-tether the continent from the instability of the Middle East, in the process re-shaping America's relationship with China, one of the world's largest energy importers.

Faster economic growth for North America.

Integrating the energy markets across the continent will increase industry efficiency, decrease costs and, ultimately, lead to an abundant and affordable energy supply. Because every business and household across North America consumes and relies upon energy in some capacity, these economic efficiencies will lower costs for businesses and households alike. From a household perspective, this means more money can be

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directed toward investment and consumer goods. From a business perspective, this means increased output, particularly in manufacturing, as outlined in the next subsection.

Further, since the end of the Great Recession, employment in the U.S. and Canadian oil and gas industry has jumped 25 percent while most other economic sectors have yet to recover the job levels of 2008. It's been a different story in Mexico, where oil and gas production has been declining. But the ongoing energy reforms will afford Mexico the opportunity to jump-start its oil and gas industry with all the attendant job creation that implies. With expanded cross-border investment and greater production, Mexico's growth rate will accelerate. At the same time, a booming, integrated North American energy sector will boost economic growth in the U.S. and Canada as well.

Continued manufacturing resurgence.

The implementation of NAFTA has led to transnational supply chains, enabling companies to keep costs low by manufacturing and assembling products all over the continent, regardless of where they are headquartered. While the treaty receives most of the praise for this innovation, the recent energy boom deserves some of the credit as well. Abundant energy allows for goods to be transported cheaply across extended supply chains, while factories are able to operate with lower overhead.

Mexico, for example, has relied heavily on the surplus of U.S. natural gas to keep electricity costs lower than China, a chief manufacturing rival. This is part of the reason why the country has emerged as a worldwide leader in automobile and appliance manufacturing.

But Mexico is not alone. The United States has also witnessed a revival of its manufacturing sector. For example, a decade ago America was a net importer of petrochemicals. But today the U.S. is a net exporter of petrochemicals because of the dramatic drop in fuel and feedstock costs.

Other energy-intensive manufacturers, including plastics and metal fabrication, have been "reshoring" jobs and investment citing higher labor costs abroad and cheap energy at home. In fact, a recent survey of U.S. manufacturers found that 54 percent of respondents have plans to bring back overseas jobs to the U.S. Expect this trend to become even more pronounced if a common energy market can be relied upon to ensure electricity and other productions costs remain low across North America.

As outlined above, linking the energy sectors of the three NAFTA partners will reap rewards across the economy and invariably hasten the overall economic integration of North America itself. More cross-border trade and investment among the three countries will lead to greater economic efficiencies, new job opportunities both in energy and other industries, and higher incomes for workers across North America. Economic integration of the continent, combined with relatively cheap and abundant energy, can also bring about an industrial revival that will make North America the world's leading manufacturing and exporting region.

Section II: The Current State of North America Integration

It is difficult to describe the state of hydrocarbon integration across North America as it varies by subsector and project. Broadly speaking, however, the United States and Canada have achieved some successes in energy collaboration, while the United States and Mexico have historically been limited by the political sensitivities stemming from a state-run oil and gas industry. And, not surprising, given the geographic chasm, the collaboration between Canada and Mexico on the energy front is largely an afterthought.

U.S.-Canada integration.

Perhaps the most recent and fastest-growing example of cross-border integration is the huge investment by American companies in the Alberta oil sands, mainly through joint ventures. On an ancillary level, the involvement of U.S. companies in the oil sands has also brought oilfield service companies, like Baker Hughes and Halliburton, to Alberta and other energy-producing provinces. Meanwhile, Canadian companies, such as Enbridge and TransCanada, own and operate pipelines in the lower 48 states—including the recently opened Gulf Coast Pipeline Project carrying crude oil from Cushing, Oklahoma to Nederland, Texas.

On the electricity front, Hydro-Québec and Ontario Hydro have interlinks to the U.S. power grid and already serve customers in the Northeastern and Midwestern United States. If New York State closes the nuclear plant at Indian Point, which supplies 25 percent of New York City's electricity, it plans to buy replacement power from Hydro-Québec.

And finally, the Keystone XL pipeline controversy notwithstanding, Canada and the United States are linked by many crude oil, gasoline and natural gas pipelines. These pipeline networks have been critical to integrating the energy markets of the two countries. Rail connections between America and Canada are also extensive, and growing volumes of crude oil produced in Alberta are moving into the U.S. via rail.

U.S.-Mexico integration.

At present, neither American companies nor companies from any other country are allowed to own Mexican oil and gas reserves. Although American oilfield services are active in Mexico on a contract basis, expect everything to change very soon.

As outlined earlier, the recently-enacted reforms in Mexico should result in much greater integration of the American and Mexican energy sectors. Under the Mexican reforms, the government will continue to own the reserves, but foreign companies will be allowed to book Mexican resources as reserves under SEC rules, a critical change for attracting international companies. Unlike in the past, Pemex—Mexico's national oil company—now has autonomy and will be able to act more like a private company by partnering with foreign investors without receiving government permission. The Transboundary Hydrocarbon Agreement between the United States and Mexico will also regulate and encourage joint production in the Gulf of Mexico.

Mexico-Canada integration.

Canada's footprint in the Mexican energy market is limited, though 40 companies currently provide equipment or services to Pemex directly or as subcontractors. But just as U.S. companies see growing opportunities in Mexico, the same is true for Canada.

Canadian exports to Mexico in 2013 totaled $5.4 billion, including oilfield products and services. Mexico is also Canada's number three trading partner, after the U.S. and China. Given Canada's world-class energy companies, significant new investment in Mexico's reformed oil and gas sector can be anticipated in the years ahead. Canadian pipeline companies could be especially active in the Mexican market, further helping to create the infrastructure to support a North American common energy market.

As outlined above, the state of integration among the three countries is encouraging in some respects, but there is still much work to be done. Below is a short list of immediate steps the United States should take to solidify continental collaboration in the energy market.

Section III: Facilitating Continental Integration

Taking advantage of energy reforms in Mexico, while also bolstering North American energy security, will require supportive policies and regulations, especially in the United States. The goal should be to remove any and all unreasonable restrictions on the movement of energy products, technology and capital among the three countries as well as barriers to developing the region's indigenous hydrocarbon resources. Some of the key U.S. steps for North American energy integration include:

Removing restrictions on hydrocarbon exports.

For the past 40 years, in response to the OPEC embargo of 1973, crude petroleum exports from the U.S. have been severely restricted. Back then, oil was referred to as "liquid gold." But today, it's just another globally traded commodity. While domestic production of oil is skyrocketing, consumption has actually fallen as industries and households become more efficient in their energy use and auto vehicle mileage continues to improve. Some politicians and pundits claim that exporting oil will divert the U.S. from the path toward "energy independence." Others argue that exporting oil will weaken America's energy security. But if it makes economic and logistical sense to export some grades of oil, such as light sweet crude where the U.S. is experiencing a supply glut, America should do so. And if it makes economic and logistical sense to import oil, such as diluted bitumen from Alberta to feed Gulf Coast refineries designed to process heavy crude, America should do so as well.

On the national gas front, some progress has been made. To date, the Department of Energy (DOE) has approved six permits for the export of liquefied natural gas. Twenty other permits are pending. But there is a catch. U.S. law makes it extremely difficult for American companies to export natural gas to countries that don't have free trade agreements with Washington. Companies that want to sell to those countries need to persuade the DOE that the deals are in the national interest, a criterion without a formal definition. That makes the approval process a lengthy and byzantine process, often frustrating would-be purchasers of U.S. gas. At the same time, big gas producers such as Qatar and Australia are ramping up their own gas-export capabilities, threatening to close the window of opportunity for U.S. exporters. This "pre-clearance" requirement for exporting gas should be removed.

Approving the Keystone XL pipeline.

Canada is the largest and most stable crude oil provider to America today, sending America three million barrels daily. The Keystone XL pipeline will bring an additional 830,000 barrels of Canadian and Bakken oil to Gulf Coast refineries. Though the southern leg of the pipeline between Cushing, Oklahoma and Nederland, Texas opened early this year, the critical link between Alberta and Cushing (which requires presidential approval because it crosses an international boundary) has not yet been green-lighted.

Not only will Keystone's construction and operation create thousands of jobs, the pipeline itself is a critical component of the infrastructure needed to achieve full integration of the North American energy market. Significantly, a recent State Department report finds that the pipeline will not result in increased greenhouse gas emissions.

It has been estimated that building the pipeline will support up to 5,000 construction jobs while ongoing operation will require several hundred full-time-equivalent workers. In addition, jobs will be created from manufacturing 1,400 miles of pipe and transporting it for installation along the proposed route. Because the Keystone alignment passes through Alberta, Saskatchewan, Montana, South Dakota, Nebraska, Kansas and Oklahoma, the economic benefits from construction and operations will be widespread.

The ultimate destination of crude oil from Alberta is the refinery complex along the Texas/Louisiana Gulf Coast. These facilities are principally designed to process the heavy crude oil produced in the oil sands. Importantly, greater volumes of Alberta crude oil can displace significant amounts of heavy crude currently being imported from Venezuela and the Middle East. Because of excess refinery capacity along the Gulf Coast, exports of gasoline, diesel and jet fuel have increased rapidly in recent years with substantial amounts being sent to Mexico. For the reasons outlined above, the Keystone XL pipeline should be approved without further delay.

Immigration reform.

To achieve a true "common market" for North American energy, labor mobility will be required in addition to the free flow of capital, products and technology. Immigration reform has been a controversial and divisive policy issue in the United States for decades, and since 2014 is an election year neither the White House nor Congress is likely to push for any legislation.

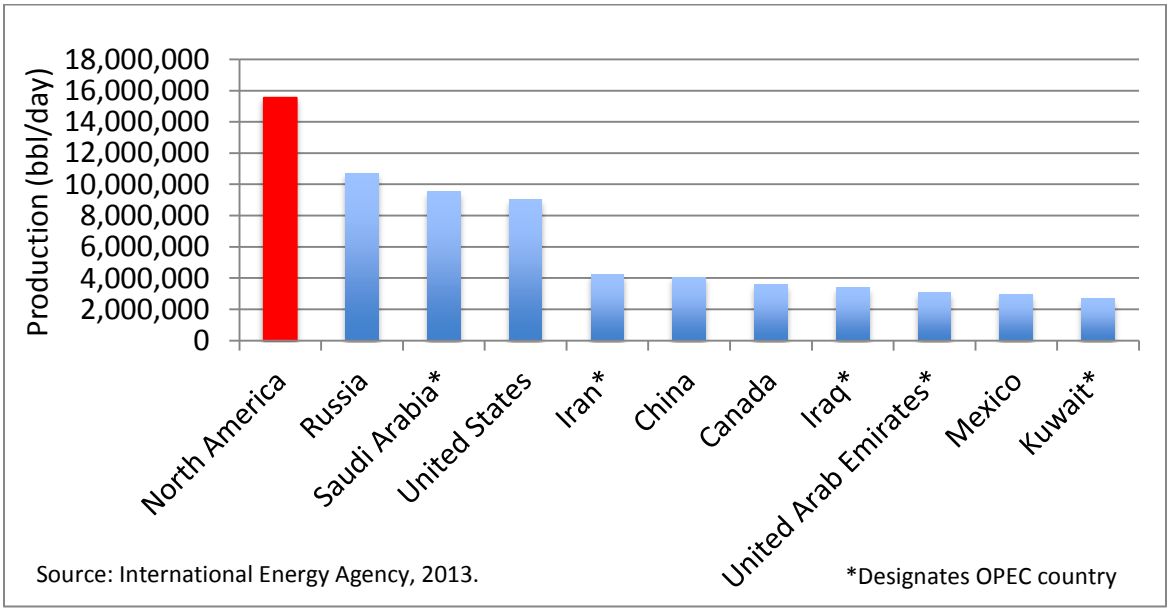
In the interim, and especially in view of ongoing energy reforms in Mexico, it is critical that Mexican oilfield workers be able to travel easily to and from the United States and Canada and to secure "green cards" or "work permits" as necessary. Shale oil and gas plays are not limited by political boundaries; neither should exploration and production companies. In particular, highly trained engineers, geologists and other professionals must be able to move freely across the continent to ensure maximum production.

Conclusion

North America is on the brink of becoming an energy colossus, with huge geopolitical implications. The shale revolution has made the United States the world's number one natural gas producer and, within a year or two, the number one oil producing country. While the "shale gale" has been occurring in America, Canada has been expanding production from the Alberta oil sands, thought to contain the world's third largest reserves. Now, as a result of energy reforms, Mexico—with huge onshore and offshore resources—is poised to join the revolution.

Integration of the North American energy sector, and the attendant increase in the production of hydrocarbons, will improve the region's balance of payments and reduce imports from the Middle East and elsewhere. But more importantly, abundant supplies of energy across North America will bolster its standing as an economic superpower, a destination for foreign investment, and a formidable global competitor.

Figure 1
Total Oil Production By Country, 2013



Source: International Energy Agency, 2013.

*Designates OPEC country

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