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June 12, 2017

The Honorable Robert E. Lighthizer
United States Trade Representative
Office of the United States Trade Representative (USTR)
600 17th St., NW
Washington DC 20006

Subject: Comments on Negotiating Objectives Regarding Modernization of the North America Free Trade Agreement with Canada and Mexico

Dear Ambassador Lighthizer,

On behalf of its members, the American Petroleum Institute (API) would like to submit comments with regard to the modernization and renegotiation of the North American Free Trade Agreement (NAFTA). In addition to this executive summary, API is submitting supporting documentation, detailing the benefits of NAFTA that our industry currently relies upon and would like preserved. The first and second documents cover integrated and interdependent North American energy markets, and the third shows ways in which NAFTA facilitates several energy benefits. API member companies recommend that among the negotiating objectives for a modernized NAFTA, the enhancement of the integration and interdependence of energy markets and enhancement of the energy benefits from these integrated markets remain priorities.

For API and its industry members, there is a strong desire to see the provisions of the current NAFTA remain in place. The overall functionality of the current NAFTA agreement works for the oil and natural gas industry. API and its industry members therefore wish to ensure that as NAFTA is modernized, the provisions of the current agreement remain in place in a new NAFTA. Such provisions include the ones that API raises in this letter.

API is the only national trade association representing all facets of the oil and natural gas industry, which supports 9.8 million jobs and 8 percent of the U.S. economy. API's more than 625 members include large integrated companies, as well as exploration and production, refining, marketing, pipeline, marine businesses, and service and supply firms.

Zero or Reduced Tariffs

API supports the integrated energy markets that thrive for the oil and natural gas industry across US borders with Canada and Mexico. Part of the reason for this successful integration lies in the lack of tariffs on goods exchanged across those borders. It facilitates substantial trade and

investment, and ensures a wider variety of products available for consumers across North America. Any changes that would increase tariffs above the current zero rate would dramatically impair current trade flows, increase costs for North American companies and, in turn, raise product costs for US consumers. Therefore, API requests that duty-free treatment remain the rule for commodities and products currently at zero. API also requests that any tariffs still in place under the current NAFTA be either reduced or eliminated under any new trade agreement.

Investor Protections

The current NAFTA contains substantive investment provisions supported by a robust Investor-State Dispute Settlement (ISDS) mechanism. These provisions include rules that require the payment of prompt, adequate, and effective compensation for expropriation of investments. They also provide for a neutral forum for the resolution of disputes that arise between investors and host governments. In order to encourage investment, these provisions provide a level of security for companies and a means by which they can adequately protect those investments. If negotiators seek to modernize these provisions, API recommends they incorporate the provisions of the 2012 Model US Bilateral Investment Treaty (BIT). A modernized NAFTA must incorporate the current NAFTA's substantive protections and ISDS to protect industry investments in Canada and Mexico.

Trade Liberalization

NAFTA liberalizes trade in energy between the US, Canada and Mexico, including the automatic liberalization, per the US Natural Gas Act, of US natural gas exports to Canada and Mexico by virtue of NAFTA being a free trade agreement between the parties. This directly benefits US companies and creates investment opportunities that otherwise would not be available. API supports the liberalization of all trade of crude oil, gas, liquefied natural gas (LNG) and all refined products and petrochemicals or other energy intensive manufactured goods reliant on natural gas between all three countries.

Market Access

Although Mexico's hydrocarbon market was excluded originally in NAFTA, Mexico's subsequent energy reforms trigger a "ratchet clause" in NAFTA that provides national treatment for US investors' market access to Mexico, on par with such access provided in NAFTA to Canada's oil and natural gas market. This measure gives US companies a competitive advantage. API supports market access to foreign investors in domestic markets, without exceptions.

Additional Key Provisions

- ***Co-existence Clauses*** – API supports co-existence clauses in a modernized NAFTA that preserve the strongest investment protections and free trade provisions among overlapping agreements between parties. These clauses ensure stability and security.
- ***Intellectual Property Rights Protections*** – API supports intellectual property rules that adhere to the norms laid out by the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

- ***Labor Mobility*** – API advocates that a modernized NAFTA include provisions that would allow for the mobility of oil and natural gas industry personnel, including for emergency response, across US-Mexico-Canada borders.
- ***Trade Remedy Measures*** – API supports trade remedy measures that are consistent with Article VI of GATT which prohibits the "dumping" of products that causes or threatens material injury to an established industry in the territory of a contracting party or materially retards the establishment of a domestic industry.
- ***Duty Drawback*** – Full duty drawback provisions help put US companies on a level playing field with other foreign companies, but there are restrictions in the current NAFTA. API and its industry members support new language that allows for full access to all duty drawback provisions.
- ***Rules of Origin and Diluent*** – API and its industry members would like to see new, more flexible language for rules of origin and diluent in a modernized NAFTA. Diluent acts as a sort of lubricant and it primarily applies to heavy Canadian crude imported by US refineries.
- ***Regulatory Cooperation & Coherence*** – API member companies request for a new NAFTA to include a Regulatory Coherence Chapter that preserves regulatory autonomy for the parties – including mutual recognition of Mexican, US and Canadian regulatory regimes for oil and natural gas. We support a NAFTA Regulatory Coherence Chapter that establishes or fortifies a regulatory cooperation process, with strong mechanisms to promote regulations that are risk-based; use sound science and data; incorporate cost-benefit analysis; and that are product of increased transparency, accountability, enhanced information quality and timely stakeholder consultation.

On behalf of its member companies, API appreciates the opportunity to share its perspectives on NAFTA and items to include as the US, Canada, and Mexico approach negotiations for a new trade agreement between them. API also requests to testify at the June 27th public hearing, and we have included our written comments as an attachment to this letter submission. We look forward to working with you to modernize NAFTA and to continue improved trade relations with our North American allies.

Sincerely,

Vice President, Regulatory & Economic Policy
American Petroleum Institute (API)

Enclosures: (1) *North America Energy Market Interdependence & Integration*
(2) *NAFTA: North America's Trade Agreement & Energy Market Facilitator*
(3) *North American Energy*
(4) Written Comments of API Testimony for June 27th Hearing

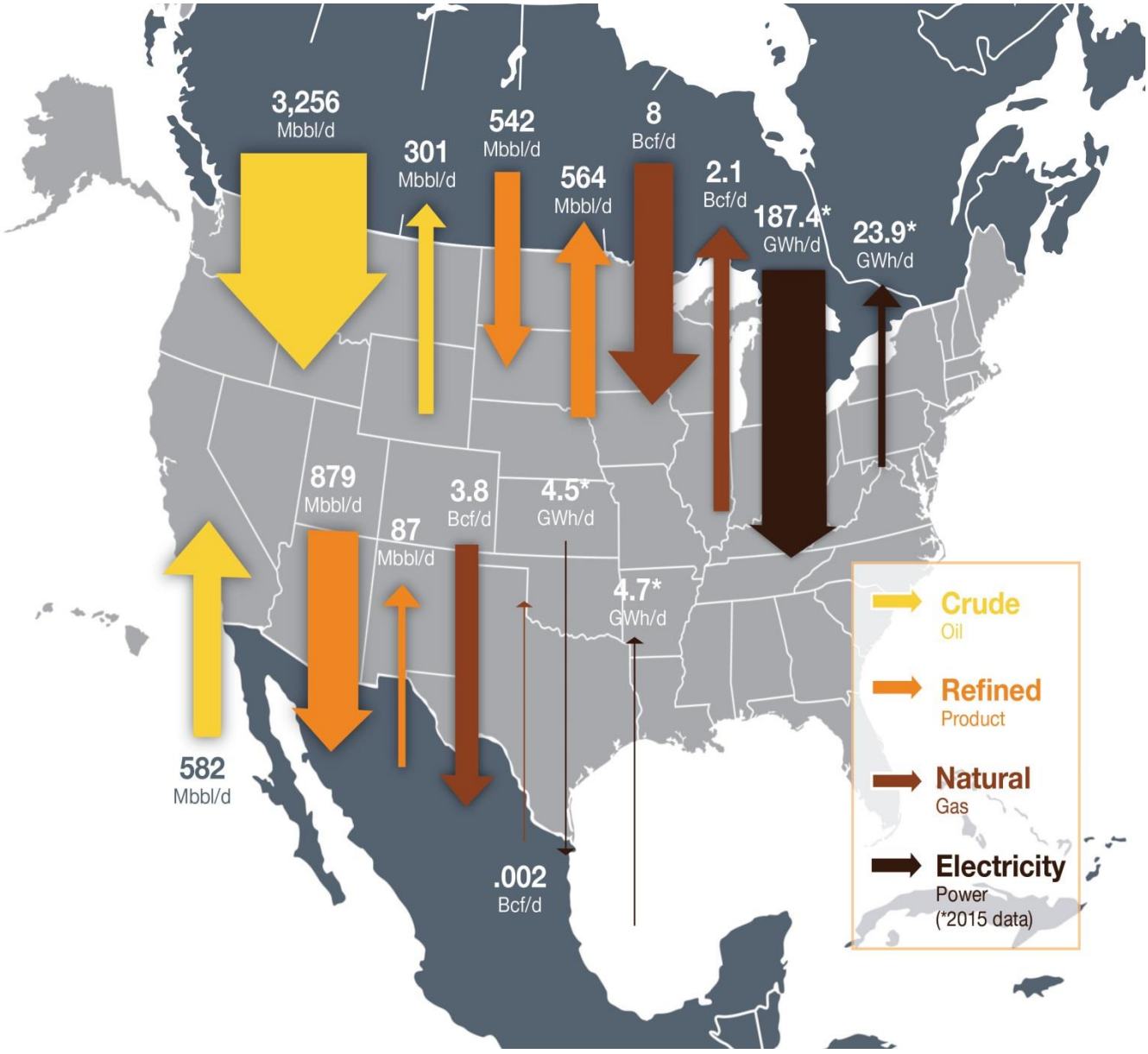
North America Energy Market Interdependence & Integration

API Backgrounder: North America Energy Market Interdependence & Integration

North American energy markets (oil, natural gas, electricity) are integrated and interdependent with energy infrastructure and trade crossing the borders of the US, Canada and Mexico.

The trade in crude oil, natural gas, refined products such as gasoline and petrochemicals, and electricity between the US, Canada and Mexico is **multi-directional**, with *Figure 1* showing the flows in 2016.

Figure 1. North America Energy Flows by Commodity, 2016



Source: US Energy Information Administration (EIA). *Petroleum & Other Liquids* *Exports by Destination* and *US Imports by Country of Origin*; *Refined Products* *Exports by Destination* and *US Imports by Country of Origin*;*US Natural Gas Exports and Re-Exports by Country* and *US Natural Gas Imports by Country* ; and *Electricy flows US → Canada, Canada → US and US ↔ Mexico*.

Taken together, the US, Canada and Mexico are on the cusp of North American self-sufficiency. North America is on the verge of achieving self-sufficiency with respect to liquid fuels, when measured by production of liquid fuels exceeding consumption of the same across the US, Canada and Mexico. According to the US Energy Information Administration *2017 Annual Energy Outlook*, a benchmark publication of potential future energy needs, the quantity of petroleum and other liquid energy sources produced by the US, Canada and Mexico[1] will soon outpace the quantity of petroleum and other liquid energy sources that those countries will consume. In fact, according to the EIA, this will happen as soon as 2020. Production of liquid fuels grows at a rate of 0.8% per year over the projection period, while demand grows more slowly at 0.08% per year.[2] This allows supply to overtake demand, offering North America the opportunity to be self-sufficient, provided open trade flows – especially between the US and Canada.

Table 1. North America Liquids Production vs. Consumption, 2015-2040

	Petroleum and Other Liquids Production					Petroleum and Other Liquids Consumption[1]			
mb/d	**United States (50 states)**	**Canada**	**Mexico and Chile[2]**	**NAFTA Supply[3]**	**NAFTA Supply - NAFTA Demand**	**United States (50 states)**	**Canada**	**Mexico and Chile[2]**	**NAFTA Demand[3]**
2015	14.99	4.55	2.66	22.19	(2.05)	19.55	2.39	2.30	24.24
2016	14.64	4.88	2.62	22.14	(2.16)	19.59	2.39	2.32	24.29
2019	16.64	5.33	2.52	24.49	(0.44)	20.19	2.39	2.36	24.93
2020	17.01	5.42	2.49	24.92	0.02	20.14	2.39	2.38	24.90
2025	17.61	5.38	2.44	25.43	0.93	19.77	2.38	2.36	24.51
2030	17.72	5.55	2.49	25.76	1.73	19.13	2.39	2.50	24.02
2035	17.34	5.73	2.80	25.87	1.76	19.00	2.44	2.67	24.11
2040	17.47	6.00	3.26	26.73	2.02	19.34	2.51	2.87	24.72

[1] Estimated consumption

[2] Chile is a small producer and consumer, accounting for 0.5% of combined production and 14% of combined consumption.

[3] Includes Chile

Source: Energy Information Administration, *Annual Energy Outlook 2017, Appendix A, Table A21*.

The North America Crude Oil Story

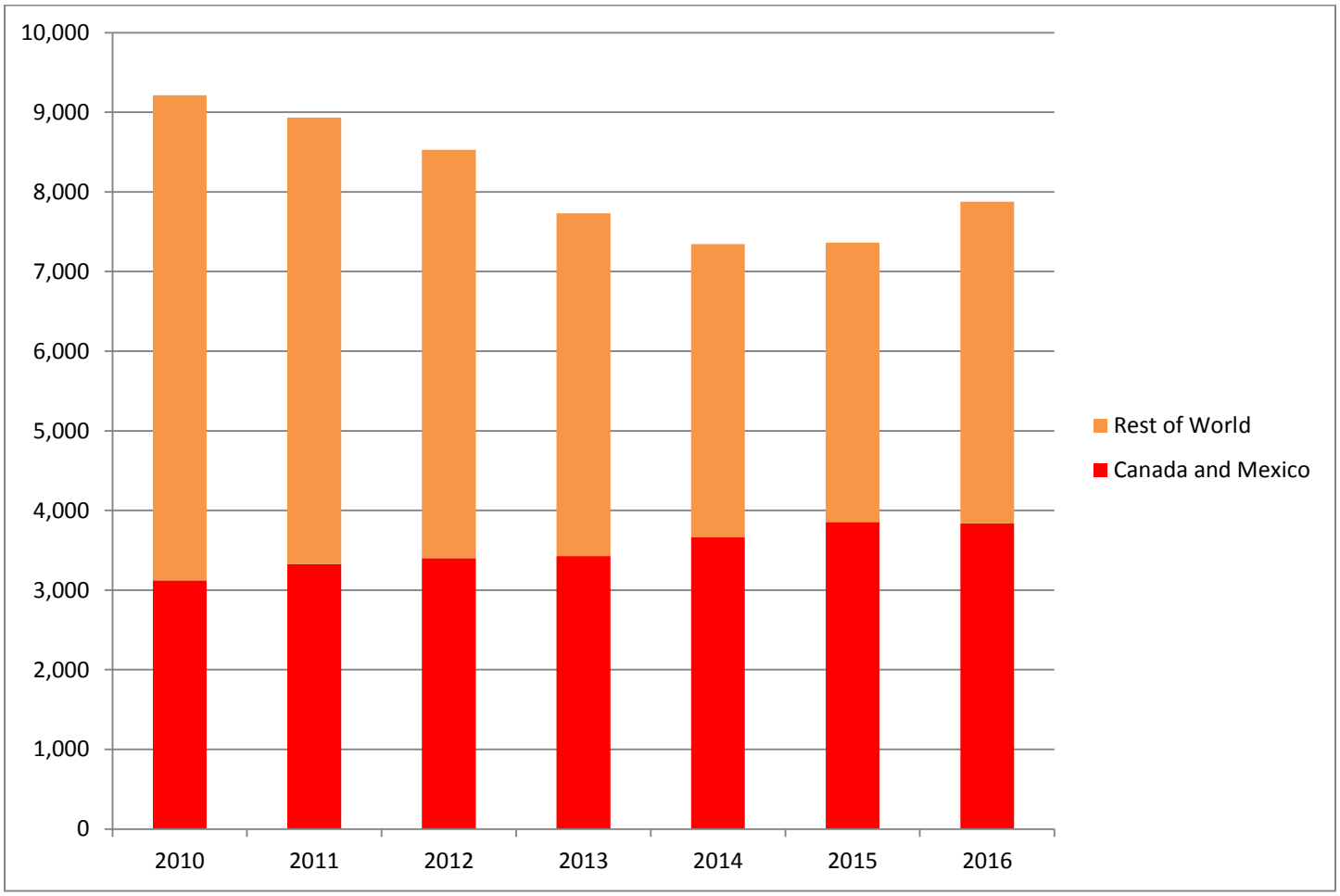
The US is a net importer of crude oil from both Canada and Mexico. Canada is a major oil producer and is able to satisfy all of its own needs (which is why there is essentially no movement of crude oil from the US to Canada) and a significant percent (40%) of US import demand as well. In particular, Canada is a major producer of heavy crude oil, which is suited for the complex refineries in the US Midwest and Gulf regions. Canada supplies virtual all of the heavy oil processed at Midwest refineries and large percentage of the heavy oil processed at Gulf Coast refineries. Over the past five years, US crude oil imports from Canada and Mexico have increased nearly 6 percent, and cross-border pipeline utilization is almost at its maximum leaving some

[1] The EIA data group Mexico and Chile, although Chile is a minimal producer and small consumer compared to Mexico.
[2] Source: Energy Information Administration, *Annual Energy Outlook 2017, Appendix A, Table A21*.

shipments to be delivered via rail. Imports from Mexico are 20 percent the size of imports from Canada and have fallen 64% since their peak in 2004 due to decreasing production.[3]

Imports of crude oil by the US have decreased in recent years (see *Figure 2*). At the same time, the percentage of imported crude oil from Canada and Mexico have increased as a percentage of total US imports, growing from 33.6% from Canada and Mexico in 2010 to 48.7% in 2016.

Figure 2. US Crude Oil Imports, 2010-2016 (Thousand Barrels per Day, Annual Average)



Source: Energy Information Administration, *Petroleum & Other Liquids: U.S. Net Imports by Country*.

[3] Source: US Energy Information Administration (EIA). *Crude Imports*.

The North America Natural Gas Story

The US is a net importer of gas from Canada, although this is declining, and the US is a net exporter of natural gas to Mexico. Canada is the world's 5th largest producer of natural gas.[4] The US produces 90% of the natural gas it uses, importing most of the rest from Canada. In 2016, Canada provided 97% of all US natural gas imports, representing 10% of US consumption.[5] Market dynamics have made Canadian imports of natural gas more cost effective for US consumers, especially in the Northern US. However, recently natural gas imports from Canada have declined and this trend is expected to continue due mainly to the low cost of US natural gas. The interconnectedness of the Canadian and US natural gas markets enhances the flexibility and reliability of the system, allowing natural gas to go where it is most marketable. US and Mexico natural gas markets are also becoming more interconnected: US pipeline capacity for natural gas exports to Mexico has rapidly expanded in the past few years and currently stands at 7.3 billion cubic feet per day (Bcf/d) and is expected to nearly double in the next three years.[6] Mexico is also a new market for US LNG, with 7 Mcf of natural gas shipped from Sabine Pass since February 2016.[7] Mexico's energy reforms, strong growth in natural gas demand in the power sector, declining domestic production, and the lower prices of US pipeline gas compared with more expensive liquefied natural gas (LNG) imports have all created an opportunity to increase energy trade between the US and Mexico.

The North America Refined Products Story

Across all refined products, the US is a net importer from Canada and a net exporter to Mexico, with variation among the key products as depicted by the following flows[8] between the US with Canada and Mexico in 2015:

- Total refined petroleum products – a net importer from Canada and a net exporter to Mexico.
  - 25% of US refined product imports shipped from Canada (542 KB/D) and 12% of exports shipped to Canada (564 KB/D).
  - 19% of all US refined product exports shipped to Mexico (879 KB/D) and 4% of refined product imports are shipped from Mexico (87 KB/D).
- Finished motor gasoline - a net exporter to Mexico.
  - 52% of US finished motor gasoline exports shipped to Mexico (329 KB/D).
- Motor gasoline blending components - a net importer from Canada and net exporter to Mexico.
  - 23% of US imports shipped from Canada (149 KB/D).
  - 56% of US exports shipped to Mexico (73 KB/D)
- Distillate fuel oil - a net importer from Canada and net exporter to Mexico.
  - 71% of US distillate fuel oil imports shipped from Canada (104 KB/D).
  - 15% of US distillate fuel oil exports shipped to Mexico (182 KB/D).

[4] Source: National Energy Board [Government of Canada]. *Natural Gas [Overview]*.
[5] Source: US Energy Information Administration (EIA). *US Natural Gas Imports by Country* and *Natural Gas Consumption by End Use*.
[6] Source: US Energy Information Administration (EIA). 1 December 2016. *New U.S. border-crossing pipelines bring shale gas to more regions in Mexico.*
[7] Source: US Department of Energy. October 2016. *LNG Monthly (YTD 2016)*.
[8] Source: US Energy Information Administration (EIA). *Petroleum & Other Liquids – Exports by Destination*, and *US Imports by Country of Origin*.

- Kerosene type jet fuel – a net exporter to both Canada and Mexico.
  - 21% of US Kerosene type jet fuel exports shipped to Canada (37 KB/D).
  - 19% of US Kerosene type jet fuel exports shipped to Mexico (33 KB/D).
- Petroleum coke – a net exporter to Canada and Mexico.
  - 13% of petroleum coke exports are shipped to Canada or Mexico (74 KB/D).
- Finished motor gasoline, motor gasoline blending components, distillate fuel oil, kerosene type jet fuel, and petroleum coke account for 47% of US imports and 58% of US exports.

US Gulf Coast Refiners account for most of US refined products exports, especially to Mexico. Increased domestic crude oil supplies and low cost shipping of crude oil to the US Gulf, where refiners have access to abundant natural gas, for refining and processing operations, favors refined product exports. Distillate fuel, which can be consumed in a variety of uses, accounts for the largest portion of US refined product exports. US refineries in the Gulf Coast (PADD 3) are increasing diesel production for export to Mexico, and other South American destinations too. The EIA reports the US is the source for most of Mexico's refined product imports, and at the same time the destination for most of Mexico's crude oil exports.

New England infrastructure constraints account for US refined products imports from Canada. New England relies heavily on imported energy. Shipping products from the US Gulf Coast requires Jones Act vessels, which generally make them more costly[9] than foreign imports. For example, most US imports of distillate fuel are supplied into the East Coast (PADD 1) from Canada. Canada's largest refinery, operated by Irving Oil[10] in New Brunswick is located 65 miles north of the boarder. This refinery sends over 80% of its production to the U.S, accounting for a large portion of US gasoline imports.

The North America Electricity Story & Linkages to Natural Gas

The United States and Canada benefit from a relatively seamless border that allows electricity grid managers to optimize electricity generation assets on both sides of the border in order to improve electric reliability and efficiency. Currently, there are more than 30 active major transmission connections (69 kilovolts or greater) between the two countries, trading approximately $3 billion (US dollar) of electricity in 2014.[11] Although the predominant flow of trade is from north to south, it is not entirely one-sided. Canada is an overall net exporter of energy to the United States, but the roles are reversed in certain regions, particularly where there are infrastructure constraints. The US and Mexico trade a smaller amount of electricity currently along the border regions where Mexico imports some power from California and Texas, however, Mexico's recent energy reforms present a huge opportunity for electricity and natural gas trade with the US. Mexico's growth in its domestic electricity market has largely been met with generation from new natural gas-fired plants, driving the increase in US natural gas exports to Mexico.

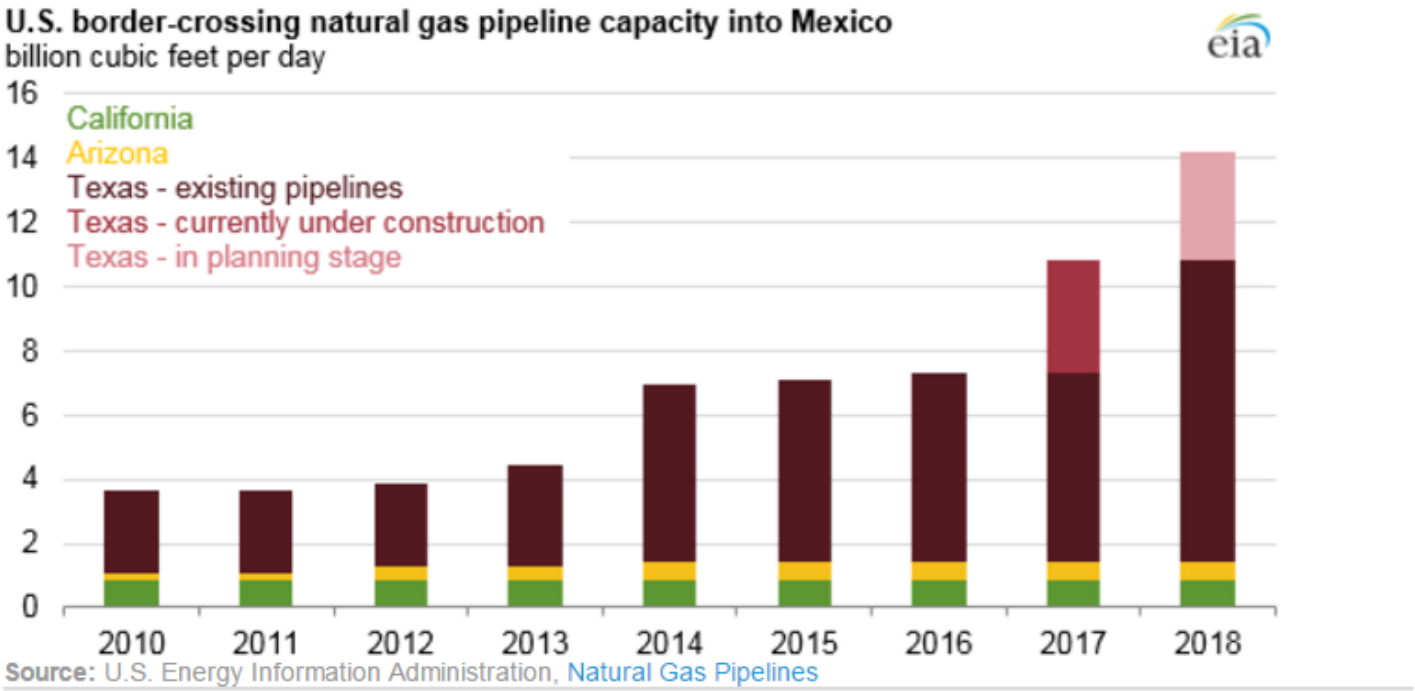
[9] Source: US Energy Information Administration (EIA). 2012. *Potential Impacts of Reductions in Refinery Activity on Northeast Petroleum Markets*
[10] Source: Irving Oil. 20 August 2015. *Irving Oil Announces $200-Million Refinery Project*.
[11] Source: US Department of Energy. 2015. *Quadrennial Energy Review (QER). Chapter VI: Integrating North American Energy Markets*.

Infrastructure across US/Canada/Mexico Borders: Pipeline capacity for crude oil and natural gas between the US, Canada and Mexico is significant and growing through new construction.

- **Crude Oil Pipelines.** There are nine (9) major crude oil pipelines operating currently. One pipeline is in the process of being replaced with one almost twice its original size. The additional capacity would increase the cross-border nameplate capacity from 3.9 million barrels per day (2016) to 4.3 million barrels per day by 2018.
- **Refined Products Pipelines.** Several projects are underway to facilitate more refined product export to and through Mexico from the US. These projects include cross-border pipelines (such as the $500 million Dos Águilas project[12]and South Texas Refined Products Pipeline), storage facilities, and rail and trucking infrastructure (South Texas Energy Products System and Poliducto Monterra del Centro).
- **Natural Gas Pipelines.** Natural gas pipeline capacity between the US and Mexico includes fifteen (15) pipelines that are currently operating, with six (6) cross-border pipelines under construction and capacity growth expected to increase from 7.3 bcf/d in 2015 to 14.1 bcf/d in 2018. Investment in US-Mexico cross-border natural gas pipelines since 2014 totals more than $15 billion. In addition, more than $7 billion has been invested in natural gas projects in Texas to expand capacity in US-to-Mexico southbound natural gas transmission.[13] The expansion of US pipeline export capacity to Mexico has been matched by the expansion of Mexico's domestic pipeline network, which includes twelve (12) additional pipelines with a total capacity of 9.7 Bcf/d currently in development. Since 2014, more than $14 billion has been invested in natural gas pipeline expansion in Mexico.[14] These pipelines are part of Mexico's Energy Ministry's (Secretaría de Energía - SENER) five-year plan for expansion of the country's natural gas pipeline infrastructure, which will help to disseminate US natural gas throughout the country.[15]

[12] Source: Howard Energy Partners. 28 January 2016. *Howard Energy Partners Proposes New Refined Products Pipeline System from Corpus Christi to Monterrey*.
[13] Sources: US Energy Information Administration (EIA). *Natural Gas-Data-Pipelines* - *Pipeline Projects*; Pointlogic [proprietary data].
[14] Sources: US Energy Information Administration (EIA). *Natural Gas-Data-Pipelines* - *Pipeline Projects*; Pointlogic [proprietary data].
[15] Source: US Energy Information Administration (EIA). 1 December 2016. *New U.S. border-crossing pipelines bring shale gas to more regions in Mexico.*

Figure 3. US-Mexico Cross-Border Pipeline Capacity



Source: US Energy Information Administration (EIA). 1 December 2016. *New U.S. border-crossing pipelines bring shale gas to more regions in Mexico.*

Summary

Today's highly integrated and interdependent North American energy markets (oil, natural gas, electricity) benefit the United States by expanding the size of our energy markets, creating economies of scale to attract private investment, lowering capital costs, and reducing energy costs for consumers. Energy system integration also enhances US energy security through imminent North American energy independence and by providing export markets for the US as the world's largest producer of oil and natural gas.

NAFTA: North America's Trade Agreement & Energy Market Facilitator

API Backgrounder –
NAFTA: North America's Trade Agreement and Energy Market Facilitator

North American energy markets are highly integrated and interdependent (see API backgrounder *North American Energy).* The North American Free Trade Agreement (NAFTA) has played a critical role facilitating North American integration and interdependence, which provides these benefits to the US:

1. **NAFTA enhances energy security of the US.**
2. **NAFTA supports US jobs and US manufacturing in energy.**
3. **NAFTA helps to make energy more affordable in the US.**
4. **NAFTA enhances energy security and affordable energy for US allies, including our North American neighbors.**
5. **NAFTA enables US companies to compete and win oil and natural gas bid rounds in Mexico, now increasingly on par with US companies' competitiveness in Canada.**

NAFTA provides these energy benefits to the US because of its key provisions that enable cross-border trade and investment in energy (see box below). **NAFTA's zero tariffs, trade liberalization, market access and investment protection all play a critical role in maintaining the jobs and commercial benefits for the US oil and natural gas industry**.

How NAFTA Provides Energy Benefits to the US:

- **Zero Tariffs.** NAFTA eliminated tariffs for crude oil, gasoline, motor fuel blending stock, distillate fuel oil, kerosene type jet fuel, and for energy intensive manufactured goods like rubber, plastics, and petrochemicals – all of which would increase without NAFTA (see *Table 3*).
- **Trade Liberalization.** NAFTA liberalizes trade in energy between the US, Canada and Mexico, including the automatic liberalization, per the US Natural Gas Act, of US natural gas exports to Canada and Mexico by virtue of NAFTA being a free trade agreement between the parties.
- **Market Access**. Although Mexico's hydrocarbon market was excluded originally in NAFTA, Mexico's subsequent energy reforms trigger a "ratchet clause" in NAFTA that provides "national treatment" for US investors' market access to Mexico, on par with such access provided in NAFTA to Canada's oil and natural gas market.
- **Investment Protection.** NAFTA's provisions for strong Investor-State Dispute Settlement (ISDS) include rules that restrict expropriation of investments and that provide for prompt, adequate and effective compensation when expropriation does occur and provisions for the settlement of disputes.
- **Additional Key Provisions** such as **Co-existence Clauses, Intellectual Property Rights Protections, Labor Mobility, Regulatory Cooperation** and **Trade Remedy Measures.**

1. NAFTA Enhances Energy Security of the US

Over the past decade, the United States has reestablished itself as an energy superpower: the world's leading producer of oil and natural gas. Our renewed ability to develop and produce from domestic sources has led to a number of economic and domestic benefits, but it also has the potential for significant foreign policy impacts as well, especially enhanced US energy security.

NAFTA enables North American Energy Self-Sufficiency. The renaissance in US oil and natural gas production, coupled with NAFTA facilitating oil, natural gas and derived products to flow to and from both Canada and Mexico, have enhanced the energy security of the US. As a result, the US, Canada and Mexico together are a unique global energy center. According to the US Energy Information Administration, North America is on the verge of achieving energy self-sufficiency with the production of liquid fuels exceeding consumption across the US, Canada and Mexico. This new reality is the result of open markets and capital investment in North American resources and underpinned by NAFTA. The US, with its NAFTA allies, are able to create a new level of insulation to traditional energy and economic upheavals as well as present the US with a very different set of foreign policy choices than it has in the past – all the while still providing great value to US workers and the economy.

NAFTA promotes North American Energy Insulation. Integrated North American markets via NAFTA lower US energy reliance on other more volatile regions. US trade with its allies, Canada and Mexico, encourages a safety in traded goods that reduces US exposure to potential supply disruptions from other regions. NAFTA provides a more reliable alternative for oil and natural gas trade flows than many other regions that the US would be forced to access, were NAFTA not available. The combination of the surge in US shale production and the flexibility of the free market and of free trade, including NAFTA, means that the US, as the leading oil and natural gas producer in the world, can raise or lower its output and help the global market adjust to shortages or surpluses.

NAFTA contributes to the US as the Global Swing Producer. NAFTA-enabled North American energy integration has also contributed to the US's ability to now act as the main swing producer in global energy markets[1] and curtail the decades of OPEC's influence on world markets. Further, the development of these reserves limits the US's reliance upon more volatile political regions for energy supply – potentially insulating ourselves from those conflicts.

[1] Source: Yergin, D. *"Who Will Rule the Oil Market?"* New York Times, 25 January 2015.

2. NAFTA supports US Jobs and US Manufacturing in Energy

NAFTA promotes US jobs through imports and exports across North America. NAFTA promotes imports and exports to and from the US, Canada and Mexico – all of which supports the 9.8 million jobs within the US oil and gas industry and reflects 8 percent of the US economy. NAFTA promotes a highly complex integrated and interdependent North American energy market and supports these industry jobs here in the US.

For example, crude oil exports play a large role in the aforementioned US jobs. According to ICF International, over the period of the next 18 years, these exports will result in both direct and indirect employment gains with an average job gain between 48,000 and 91,000 annually.

NAFTA supports US Energy Intensive Manufacturing Jobs
NAFTA supports trade flows of energy intensive manufactured goods, such as plastics, petrochemicals, and fertilizers. Natural gas is important as a heat and raw material source for these industries and, in order to support these industries, natural gas producers must maintain a high level of production. Enabling secure and open trade flows for manufactured goods, as well as oil and natural gas, maintains a robust demand outlet for these produces and enables a healthy US manufacturing industry, which supports US jobs.

NAFTA also supports US jobs by opening the US as Manufacturing Destination for Canadian and Mexican Crude Oil. NAFTA supports energy trade flows between the US, Canada and Mexico. Both Canada and Mexico produce heavy crude oil, which sophisticated US refineries in the Midwest and Gulf Coast regions are well-suited to process. Overall US crude oil production has increased significantly, resulting in a decrease in crude imports from 9.21 million barrels per day in 2010 to 7.87 million barrels/day in 2016. At the same time, US refineries continue to receive crude oil from Canada and Mexico, preserving an advantage for the US by supporting thousands of US refinery jobs.

Much of Canada's crude oil is in Alberta and the current infrastructure is only able to flow the vast majority south to US refineries. US refineries, primarily in PADD 2: Midwest (esp. in IL, IN, KY, MI, MN) are configured to process these heavy crudes, facilitating thousands of US refinery employment and the domestic production of refined products. Consumers in the Midwest rely on these refineries for refined products. Even as US crude oil production has increased in recent years, imports from Canada have increased 61 percent over the past five years. A total of 69 US refineries imported crude oil from Canada in 2016[2]; as an example, the three largest US refineries in terms of imports of crude oil from Canada employ a total of 3000 workers[3].

[2] Source: US Energy Information Administration (EIA). *US Crude Import Tracking Tool*.
[3] Sources: ExxonMobil, Joliet Refinery; Flint Hill Resources, *Pine Bend Refinery*; and Phillips 66, *Wood River Refinery*.

Refineries in the Midwest: Supporting US Jobs by Importing Canadian Crude Oil

The API member company **ExxonMobil Joliet Refinery in Illinois** is equipped to handle 250,000 barrels of crude per day and produces approximately nine million gallons of gasoline and diesel fuel every day. That's enough to drive an average car around the world more than 7,000 times. These fuels and other refinery products are transported from the refinery to consumers primarily across the Midwest.

The Joliet Refinery employs more than 600 people directly and is a leader in energy efficiency among US refineries. The Joliet Refinery is ideally located to receive and process Canadian crude delivered by pipeline. The characteristics of Canadian crude require specialized refinery equipment and processes, and the Joliet Refinery was designed with this purpose in mind.[4]

The API member company **BP Whiting Refinery in Indiana**, near Chicago, produces enough gasoline each day to fuel 6 million cars. It is the largest refinery in the Midwest and it makes enormous contributions to the region's transportation network. The refinery processes 430,000 barrels of crude a day, a large portion of which are heavy grades from Canada.

In 2013, BP finished a several billion dollar modernization project at the refinery that amounted to the biggest private investment in Indiana's history. The Whiting Refinery supports a total of 13,600 jobs in Indiana.[5]

Regarding trade with Mexico, US refineries, primarily along the Gulf Coast in PADD 3: Gulf Coast (especially in LA, MS, TX), are configured to import heavy crude oil from Mexico and then supply refined products to US markets and export refined products back to Mexico. A total of 12 US refineries import crude oil from Mexico[6]; as an example, the three largest US refineries in terms of imports of crude oil from Mexico employ over 5000 thousand workers[7].

3. NAFTA helps to make energy more affordable in the US.

NAFTA promotes a highly complex integrated and interdependent North American energy market, allowing the US to take advantage of the economic efficiencies of comparative advantages with Mexico and Canada, making energy more affordable in the US.

[4] Source: ExxonMobil, Joliet Refinery.
[5] Source: BP, Whiting Refinery.
[6] Source: US Energy Information Administration (EIA). *US Crude Import Tracking Tool*.
[7] Sources: Shell, *Deer Park Manufacturing Site*; LyondellBasell, *Houston Refinery*; and Valero, *Port Arthur*.

4. NAFTA enhances energy security and affordable energy for US allies, including our North American neighbors.

In addition to enhancing US energy security and energy affordability, NAFTA provides similar benefits for Canada and Mexico because it opens Canada and Mexico markets, especially for exports of US oil, natural gas and refined products.

NAFTA enables Mexico as a key export market for US natural gas and refined products. The US is a net exporter to Mexico of natural gas and refined products, and Mexico is the #1 export market for US pipeline natural gas, total refined products, finished motor gasoline, distillate fuel oil, rubber, and plastics.[8]Significant portions of US crude oil imports from Mexico are manufactured in the US into refined products that are *exported back* to Mexico.

NAFTA also enables Mexico as a key export market for US oil and gas equipment. According to the US Department of Commerce, Canada and Mexico are the two largest markets for US upstream oil and natural gas equipment, with US exports reaching $6.5 billion in 2016 and projected to increase to $10 billion in 2020. In 2015, Mexico was the second largest destination for US exports of oil and gas equipment, totaling $3.4 billion and 15% of such global US exports. These US exports to Mexico have grown over 200% from $1.1 billion in 2004 to $3.4 billion in 2015 and are expected to grow steadily through 2019. The Department of Commerce predicts that Canada and Mexico will remain the largest destinations for US exports of oil and natural gas equipment and that US exports to Canada and Mexico will reach nearly $10 billion in 2020.[9]

In part as a result of NAFTA, Mexico is increasingly reliant on US energy – especially for natural gas and refined products. Since 2000, Mexico's net imports of gasoline and diesel have tripled, most of which are supplied by refineries in the US.[10] The six refineries in Mexico, all owned and operated by PEMEX, were built before 1980. They cannot meet Mexico's increases in domestic demand for fuels, and some of their existing capacity is not configured to process the increasingly heavy crude that Mexico produces.[11] Mexico therefore exports crude to refineries in the US, which manufacture refined products that are subsequently *exported back* to Mexico. The US EIA states that "while Mexico hopes to reduce its imports of refined products by improving domestic refining capacity, analysts contend that Mexico does not have a natural competitive advantage in refining, given the country's close proximity to a sophisticated US refining center."[12]

[8] Source: US Energy Information Administration (EIA). *Petroleum & Other Liquids – Exports by Destination, Source: World Integrated Trade Solutions (WITS). United States Plastic or Rubber Exports by Country.*
[9] Source: US Department of Commerce International Trade Administration (ITA). 2017. *Top Markets Report – Upstream Oil and Gas Equipment* and *Top Markets Report – Upstream Oil and Gas Equipment – Country Case Study: Mexico.*
[10] Source: International Energy Agency (IEA). 2016. *Mexico Energy Outlook*, p. 23.
[11] Source: ibid.
[12] Source: US Energy Information Administration (EIA). 2017. *Mexico Overview*.

Refineries on the Gulf Coast: Supporting US Jobs by Importing Crude Oil from Mexico and Exporting Refined Products back to Mexico

The API member company **Shell, in partnership with Mexico's PEMEX, operates the Deer Park Refinery in Texas** along the Houston Shipping Channel. Its crude capacity is 340,000 barrels of oil per day and operates under 50-50 joint venture with Pemex. The refinery imports roughly 170,000 barrels of Mexican heavy Maya crude each day. The plant supports nearly 3000 workers, who add value to a commodity, then sell some of it back to Mexico. For example, in 2015 and 2016, Deer Park sold nearly nine million barrels of gasoline back to Mexico.[13]

The API member company **Chevron Pascagoula Refinery in Mississippi** processes 330,000 barrels of crude oil per day, including significant quantities of heavy crude oil from Mexico. The facility produces 5.6 million gallons of gasoline per day. The plant supports over 1500 workers and approximately 2500 contractors.[14]

The Deer Park and Pascagoula Refineries are examples of the link in a value chain enabled by NAFTA that provides jobs for American workers and strengthens North American energy security.

Mexico also relies heavily on the US for natural gas. Mexico's gas imports from the US have increased at an annual average rate of 26% from 2011 to 2016; the US now supplies 40% of Mexico's natural gas consumption demand.[15]

[13] Source: Shell, *Deer Park Manufacturing Site*
[14] Source: Chevron, *Chevron Pascagoula Refinery*.
[15] Source: International Energy Agency (IEA). 2016. *Mexico Energy Outlook*, p. 24.

Table 1. Mexico as US Energy Export Market, with Reliance on US Energy – 2016

Product	Mexico as Export Market for US[16]	Mexico's Reliance on US Energy
Crude Oil	• US is a net importer of crude oil from Mexico; but significant portions of this crude are manufactured in the US into refined products that are *exported back* to Mexico.	• Mexico relies on refined products imports from the US – see details below.
Natural Gas	• 64% of all US pipeline natural gas exports are shipped to Mexico (1.36 Bcf/d) • 15% of all US LNG exports shipped to Mexico (.27 Bcf/d) • Mexico: #1 US export market for pipeline natural gas and #2 US export market for LNG (Chile is #1)	• 40% of Mexico's natural gas consumption comes from US imports[17]
Total Refined Products	• Mexico: #1 US export market • 19% of all US exports are shipped to Mexico (879 KB/D)	• 19% of all US exports are shipped to Mexico (879 KB/D)
Finished Motor Gasoline	• Mexico: #1 US export market • 52% of US exports are shipped to Mexico (329 KB/D)	• 93% of Mexico imports from US • 54% Mexico consumption from US imports
Motor gasoline blending components	• Mexico: #1 US export market • 56% of US exports are shipped to Mexico (73 KB/D)	• 84% of Mexico imports from US • 58% Mexico consumption from US imports
Distillate fuel oil	• Mexico: #1 US export market • 15% of US are shipped to Mexico (182 KB/D)	• 97% of Mexico imports from US • 55% Mexico consumption from US imports
Kerosene type jet fuel	• Mexico: #2 US export market (Canada is #1) • 19% of US exports are shipped to Mexico (33 KB/D)	• 33% of Mexico imports from US • 58% Mexico consumption from US imports
Petroleum coke	• Mexico: #2 US export market (Japan is #1) • 9% of US exports are shipped to Mexico (52 KB/D)	• 3% of Mexico imports from US • 1% Mexico consumption from US imports
Rubber	• Mexico: #2 US export market (Canada is #1) • 25% of US exports are shipped to Mexico (3.2 Billion US$)[18]	[Data not available]
Plastics	• Mexico: #1 largest destination for US exports of plastic products (Canada is #2)[19] • 28% of US exports are shipped to Mexico (16 Billion US$)	[Data not available]

[16] Source: US Energy Information Administration (EIA). *Petroleum & Other Liquids – Exports by Destination*,
[17] Source: International Energy Agency (IEA). 2016. *Mexico Energy Outlook*, p. 24.
[18] Source: US Census Bureau. 2016. US International Trade Data.
[19] Source: US Census Bureau. 2016. US International Trade Data.

NAFTA also enables Canada as a key export market for US crude oil, natural gas and several refined products. Canada is the #1 export market for US crude oil, motor gasoline blending components and kerosene type jet fuel.[20]

Table 2. Canada as US Energy Export Market – 2016

Product	Canada as Export Market for US[21]
Crude Oil	• Canada: #1 US export market • 58% of all US are shipped to Canada (301 KB/D)
Natural Gas	• Canada: #2 US export market • 36% of all US pipeline natural gas exports are shipped to Canada (0.77 Bcf/d)
Total Refined Products	• Canada: #2 US export market • 12% of all US exports shipped to Canada (564 KB/D)
Motor gasoline blending components	• Canada: #1 US export market • 22% of US exports shipped to Mexico (29 KB/D)
Kerosene type jet fuel	• Canada: #1 US export market • 21% of US exports shipped to Canada (33 KB/D)
Pentanes Plus	• Canada: #1 US export market • 98% of US exports shipped to Canada (194 MBPD)
Rubber	• Canada: #1 US export market • 30% of US exports are shipped to Canada (3.8 Billion US$)[22]
Plastics	• Canada: #2 largest destination for US exports of plastic products[23] • 21% of US exports are shipped to Canada (12 Million US$)

5. NAFTA Enables US Companies to Compete in Canada and Win Bid Rounds in Mexico.

US Oil & Natural Gas Investments in Canada. In 2015, US companies' foreign direct investment (FDI) in Canada totaled $4.52B for oil and gas extraction and $8.80B in petroleum refining.[24]

US companies and API member companies have invested billions of dollars in Canada. Investments in the upstream/exploration and production include production in the oil sands of Alberta, the fields of the McKenzie Delta in the Arctic and offshore in the Maritimes of Newfoundland and Labrador. Investments in the midstream include pipelines across the country, US-Canada cross-border pipelines and in the downstream, investments include refineries and retail and marketing assets.

NAFTA has solidified free and integrated energy markets between the US and Canada in the last generation, and it has the potential to do the same between the US and Mexico in the next generation. The 1988 Canada-US Free Trade Agreement (CUSFTA), followed by NAFTA in 1994, represented an aligned approach to free markets for oil and natural gas in both the US and Canada. NAFTA's promotion of free trade and free markets in Canada and US marked a significant shift from Canada's policies in the 1970s and early

[20] Source: US Energy Information Administration (EIA). *Petroleum & Other Liquids – Exports by Destination*,
[21] Source: US Energy Information Administration (EIA). *Petroleum & Other Liquids – Exports by Destination*,
[22] Source: US Census Bureau. 2016. US International Trade Data.
[23] Source: US Census Bureau. 2016. US International Trade Data.
[24] Source: US Bureau of Economic Analysis (BEA). US Direct Investment Position Abroad on a Historical-Cost Basis: Industry Detail for Selected Countries, 2015.

1980s, which set a national price for oil, restricted foreign investment in Canada's oil and natural gas sector and taxed oil and natural gas exports. Starting in 1984, Canada reversed course and instituted policies oriented more towards free markets and free trade, which the CUSFTA and NAFTA subsequently solidified. Today, as Mexico similarly has adopted reforms to promote foreign investment in oil and natural gas and free markets, NAFTA has the potential to solidify these reforms and all their benefits to Mexico and the US alike.

US Oil & Natural Gas Investments in Mexico. Mexico's hydrocarbon sector is just now opening to FDI for the first time in nearly a century. Mexico nationalized the oil industry in 1938 and created a monopoly for the state-owned company Petróleos Mexicanos (PEMEX), which grew to become the largest company in Mexico and one of the largest oil companies in the world. However, over time, Mexico's total oil production has declined substantially, falling 32% from its peak in 2004, in 2015 reaching its lowest level since 1981.[25] In 2013, to address declining production and the need for competition and foreign investment to modernize the energy sector, Mexico enacted historic constitutional reforms to end PEMEX's monopoly and open Mexico's market to foreign investment.

US strength in oil and natural gas has positioned US companies to meet Mexico's needs for technical expertise and capital to modernize their energy sector. In 2015, US companies' FDI in Mexico totaled $420M for oil and gas extraction, $1.96B for support activities for oil and gas extraction.[26] In December 2016, API member companies BP, BHP Billiton, Chevron, ExxonMobil, Murphy, Statoil and Total were selected among winning bidders in Mexico's most recent and most-subscribed bid round of deepwater blocks in the Gulf of Mexico; each company's investment may be greater than $1 billion.[27]

BHP Billiton-PEMEX Trion Joint Venture in Mexico

In 2016, API member BHP Billiton Trion was awarded a 60% stake and operatorship of the Trion joint venture with PEMEX. The Trion venture is an already discovered field comprising Blocks AE-0092 and AE-0093, located just south of the US-Mexico maritime border in the Gulf of Mexico.

BHP won a competitive bid for Trion venture with an overall bid of $624 million, including an upfront cash payment of $62.4 million and a commitment to a Minimum Work Program estimated at $320 million.[28] PEMEX estimates that a total of $11B will be invested in Trion and that production from Trion will start in 2023, with output reaching 120,000 boe/d in 2025.[29]

BHP Billton's global headquarters for its Petroleum unit is in Houston, Texas. Jobs in Mexico and the US will support BHP's development of the Trion venture.

[25] Source: US Energy Information Administration (EIA). 2017. *Mexico Overview*.
[26] Source: US Bureau of Economic Analysis (BEA). US Direct Investment Position Abroad on a Historical-Cost Basis: Industry Detail for Selected Countries, 2015.
[27] Source: Rigzone. 5 December 2016. *BHP, CNOOC, European majors among winners for Mexican deepwater blocks*.
[28] Source: BHP Billiton. 4 March 2017. *BHP Billiton and PEMEX sign agreement for deep-water oil discovery in Mexico*.
[29] Source: Rigzone. 5 December 2016. *BHP, CNOOC, European majors among winners for Mexican deepwater blocks*.

API member companies are also investing in Mexico's downstream sector. In March 2017, BP opened its first gas station in Mexico, the Mexico City metro area, the first of a planned five-year investment that will open around 1500 such stations across the country. [30]. In May 2017, ExxonMobil announced it would make a $300M investment in service stations in the coming decade in Mexico.[31]

NAFTA underpins and facilitates US companies' and API member companies' access to Mexico's newly-opened oil and natural gas market. NAFTA provides "national treatment" for US investors market access to Canada and Mexico. Although Mexico's hydrocarbon market was excluded in the original NAFTA, Mexico's subsequent constitutional reforms trigger a "ratchet clause" in NAFTA that provides "national treatment" for US investors' market access to Mexico. In addition, NAFTA's provisions protect US foreign investments against egregious actions such as expropriation.

US companies and API member companies are undertaking multi-million (and potentially multi-billion) dollar investments in Mexico in large part because of NAFTA's provisions for market access and investment protection. As these investments also underpin Mexico's energy reforms, the US and Mexico have a mutual interest to retain the free trade enabled by NAFTA, to benefit their citizens as energy consumers and to benefit their oil and natural gas industries. International Energy Agency (IEA) scenarios to 2040 indicate that without Mexico's reforms, oil production would fall further, electricity costs would be higher and household spending would be diminished – which would have the overall effect of reducing Mexico's gross domestic product by 4% in 2040, resulting in a total cumulative loss of one trillion US dollars in economic output.[32]

NAFTA Enables US Companies to Compete and Win Bid Rounds in Mexico

In Mexico's December 2016 bid round of deepwater blocks, US companies were successful in capturing five of the eight blocks awarded. One block was won a venture led by the Malaysian state-owned oil company Petronas, and the other two blocks were won by CNOOC, the Chinese state-owned oil company. CNOOC's two blocks – Blocks 1 and 4 in the Perdido Fold Belt – are considered especially promising because they are located near the Trion field (an already-discovered field, see Box on *BHP-Billiton-PEMEX Trion Joint Venture in Mexico*) and just sound of the US-Mexico maritime border in the Gulf of Mexico.

The CNOOC success in the recent bid round shows that Mexico has options for foreign investors in its newly-opened energy sector. The CNOOC success is in line with China's recent strategies to secure energy supplies globally and strengthen its ties with hydrocarbon-rich countries.

NAFTA – especially with its provisions for market access and investment protection – underpinned the US companies' bids and success in winning blocks in the December 2016 bid round. This illustrates that US companies are highly competitive globally and have access to key foreign markets because of free trade and trade agreements like NAFTA. Without NAFTA, the US oil and natural gas industry would be disadvantaged in its competition with to access oil and natural gas in Canada in Mexico.

[30] Source: BP. 10 March 2017. *BP unveils first retail fuels site in Mexico*; and BP. *Nuestra primer estación de servicio BP ya está lista*.
[31] Source: Reuters. 17 May 2017. *Exxon says to open gas stations in Mexico, invest $300 million*.
[32] Source: International Energy Agency (IEA). 2016. *Mexico*.

Tariff Elimination. NAFTA lowered tariffs of US imports for crude oil and the refined products that are traded in the highest volumes between the US, Canada and Mexico – see the comparison of tariff rates in *Table 3*.

Table 3. US, Canada & Mexico Import Tariff Rates on Key Hydrocarbon Goods

Hydrocarbon Product by US HTS Heading/Subheading and Article Name	Unit of Quantity	US Tariff Rate under NAFTA	US NTR Tariff Rate without NAFTA	Mexico Tariff Rate under NAFTA	Mexico MFN Tariff Rate without NAFTA	Canada Tariff Rate under NAFTA	Canada MFN Tariff Rate without NAFTA
2709 - Crude Petroleum	barrels	$0.000	$0.0525 under 25 degrees API $0.105 if more than 25 degrees API	$0.000	$0.000	$0.000	$0.000
2711.11.1000 - Nat Gas (LNG)	thousand cubic meters	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
2711.21.0000 - Nat Gas (gaseous)	cubic meters	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
2710.12.1510 - Gasoline (L and UL)	barrels	$0.000	$0.525	$0.000	$0.000	$0.000	$0.000
2710.12.18 - Motor Fuel Blending Stock (general)	barrels	$0.000	$0.525	$0.000	$0.000	$0.000	$0.000
2710.19 - Distillate Fuel Oil	barrels	$0.000	$0.0525 if under 25 degrees API $0.105 if more than 25 degrees API	$0.000	$0.000	$0.000	$0.000
2710.20.1500 - Kerosene Type Jet Fuel	barrels	$0.000	$0.525	$0.000	$0.000	$0.000	$0.000
2713.11.00 - Petroleum Coke - Not Calcined	tons	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000
2713.12.00 - Petroleum Coke - Calcined	tons	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000

Sources: US International Trade Commission. *Official Harmonized Tariff Schedule*.
Mexico Secretariat of the Economy. *Sistema Integral de Información de Comercio Exterior*.
Canada Border Services Agency. *Department Consolidation of the Customs Tariff 2016*.

North American ENERGY

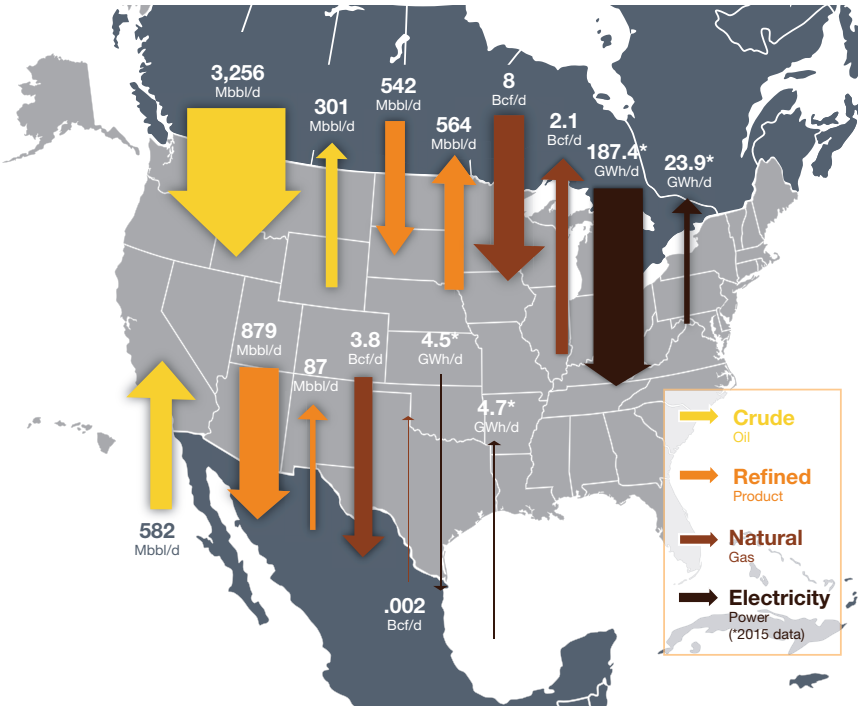
energy API
AMERICAN PETROLEUM INSTITUTE

Today's highly integrated and interdependent North American energy markets (oil, natural gas, electricity) benefit the United States by expanding the size of our energy markets which create economies of scale that attract private investment, lower capital costs, and reduce energy costs for consumers. Energy system integration enhances U.S. energy security by enabling North American energy self-sufficiency and by providing export markets for the U.S. as the world's largest producer of oil and natural gas.

NORTH AMERICAN ENERGY FLOWS

North American energy markets (oil, natural gas, electricity) are integrated and interdependent with energy infrastructure and trade crossing the borders of the U.S., Canada and Mexico. The trade in crude oil, natural gas, refined products such as gasoline and petrochemicals, and electricity between the U.S., Canada and Mexico is multi-directional.

FIGURE 1. NORTH AMERICA ENERGY FLOWS BY COMMODITY, 2016



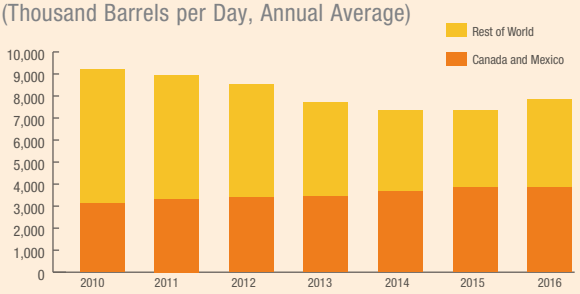
CRUDE OIL

Oil production from shale resources, made available by hydraulic fracturing and horizontal drilling, has led a U.S. revolution in crude oil production. As a result, **imports of crude oil by the U.S. decreased from 9,213 thousand barrels per day (Kb/d) in 2010 to 7,877 Kb/d in 2016.** At the same time, imported crude oil from Canada and Mexico now account for a larger percentage of total U.S. imports, growing from 33.9% in 2010 to 48.7% in 2016.

Canada is a major producer of heavy crude oil, which is suited for the complex refineries in the U.S. Midwest and Gulf regions. **Canada supplies virtually all of the heavy oil processed at Midwest refineries** and a large percentage of the heavy oil processed at Gulf Coast refineries. Mexico also produces heavier crude oil, which is well-suited for U.S. refineries.

FIGURE 2. U.S. CRUDE OIL IMPORTS, 2010–2016

(Thousand Barrels per Day, Annual Average)



NATURAL GAS

The U.S. is a net importer of natural gas from Canada, although at declining rates, and the U.S. is a net exporter of natural gas to Mexico. The U.S. produces 90% of the natural gas it uses, importing most (97%) of the rest from Canada.[1] Natural gas pipeline constraints have made Canadian imports of **natural gas more cost effective for U.S. customers** in certain U.S. markets, especially in the Northern U.S. In addition to consumer benefits, the interconnectedness of the Canadian and U.S. and Mexican natural gas markets **enhances system flexibility and reliability**.

U.S. and Mexican natural gas markets are also becoming more interconnected: **U.S. pipeline capacity for natural gas exports to Mexico has rapidly expanded** in the past few years and currently stands at 7.3 billion cubic feet per day (Bcf/d) and is expected to nearly double in the next three years.[2] **Mexico is also a new market for U.S. liquefied natural gas (LNG)**, with 27,845 Mcf of natural gas shipped from the U.S. in 2016. Mexico's energy reforms, strong growth in natural gas demand in the power sector, declining domestic production, and the lower prices of U.S. pipeline gas compared with more expensive LNG imports have all created an opportunity to **increase energy trade between the U.S. and Mexico**.

REFINED PRODUCTS

The United States, Canada, and Mexico form a highly-integrated products market, which allows for greater efficiency in responding to local advantages (such as lower cost energy sources) and constraints – both natural and artificial. For instance, access to abundant natural gas for refining and processing operations provides an advantage for U.S. refineries in the Gulf Coast, which are increasing diesel production for export to Mexico and to other South American destinations. The EIA reports the U.S. is the source for most of Mexico's refined product imports, and at the same time the destination for most of Mexico's crude oil exports.

FIGURE 3. NORTH AMERICA REFINED PRODUCT FLOWS, 2016

PRODUCT – 1,000 B/D	U.S. TO CANADA	U.S. FROM CANADA	U.S. TO MEXICO	U.S. FROM MEXICO
Finished Motor Gasoline	30	31	329	-
Motor Gasoline Blending Components	29	149	73	14
Distillate Fuel Oil	33	104	182	1
Kerosene-Type Jet Fuel	37	9	33	-
Petroleum Coke	22	1	52	-

New England relies heavily on imported energy. Shipping products from the U.S. Gulf Coast requires Jones Act vessels, which generally make these products more costly[4] than foreign imports. Canada's largest refinery, located 65 miles north of the border, sends over 80% of its production to the U.S., accounting for a large portion of U.S. gasoline imports. And most U.S. imports of distillate fuel are supplied into the East Coast from Canada.

ELECTRICITY & LINKAGES TO NATURAL GAS

The United States and Canada benefit from a relatively seamless border that allows electricity grid managers to optimize electricity generation assets on both sides of the border in order to improve electric reliability and efficiency. Currently, there are more than 30 active major transmission connections (69 kilovolts or greater) between the two countries.

Although the predominant flow of trade moves from north to south, it is not entirely one-sided. Canada is an overall net exporter of energy to the United States, but the roles are reversed in certain regions, particularly where there are infrastructure constraints. The U.S. and Mexico trade a smaller amount of electricity currently along the border regions where Mexico imports some power from California and Texas. However, **Mexico's recent energy reforms present a huge opportunity for electricity and natural gas trade with the U.S.** Mexico's growth in its domestic electricity market has largely been met with generation from new natural gas-fired plants, driving the increase in U.S. natural gas exports to Mexico.

NORTH AMERICAN ENERGY SELF-SUFFICIENCY

North America is on the verge of achieving energy self-sufficiency with respect to liquid fuels, when measured by production of liquid fuels exceeding consumption of the same across the U.S., Canada and Mexico. According to the U.S. Energy Information Administration 2017 Annual Energy Outlook, a benchmark publication of potential future energy needs, the quantity of petroleum and other liquid energy sources produced by the U.S., Canada and Mexico[5] will soon outpace the quantity of petroleum and other liquid energy sources that those countries will consume. In fact, according to the EIA, this will happen as soon as 2020.

TABLE 1. NORTH AMERICA LIQUIDS PRODUCTION VS. CONSUMPTION, 2015-2040 (Source: EIA, Annual Energy Outlook 2017, Table 21)

	Petroleum and Other Liquids Production					Petroleum and Other Liquids Consumption			
mb/d	United States (50 states)	Canada	Mexico and Chile	NAFTA Supply	NAFTA Supply - NAFTA Demand	United States (50 states)	Canada	Mexico and Chile	NAFTA Demand
2015	14.99	4.55	2.66	22.19	-2.05	19.55	2.39	2.30	24.24
2016	14.64	4.88	2.62	22.14	-2.16	19.59	2.39	2.32	24.29
2019	16.64	5.33	2.52	24.49	-0.44	20.19	2.39	2.36	24.93
2020	17.01	5.42	2.49	24.92	0.02	20.14	2.39	2.38	24.90
2025	17.61	5.38	2.44	25.43	0.93	19.77	2.38	2.36	24.51
2030	17.72	5.55	2.49	25.76	1.73	19.13	2.39	2.50	24.02
2035	17.34	5.73	2.80	25.87	1.76	19.00	2.44	2.67	24.11
2040	17.47	6.00	3.26	26.73	2.02	19.34	2.51	2.87	24.72

SOURCES: Compiled by API's Steve Crookshank, Katie Ehly, Michael Flickinger, Bryan Just, Marcus Koblitz and Aaron Padilla

Figure 1: U.S. Energy Information Administration (EIA). Petroleum & Other Liquids Exports by Destination and U.S. Imports by Country of Origin; Refined Products Exports by Destination and U.S. Imports by Country of Origin; U.S. Natural Gas Exports and Re-Exports by Country and U.S. Natural Gas Imports by Country; Canada National Energy Board (NEB) for Canada-U.S. Electricity Flows. Mexico Centro Nacional de Control de Energía (CRE-CENACE) for Mexico-U.S. Electricity Flows.

Figure 2: Energy Information Administration. Petroleum & Other Liquids: U.S. Imports by Country of Origin.

Figure 3: U.S. Energy Information Administration (EIA).Refined Products Exports by Destination and U.S. Imports by Country of Origin.

Table 1: Energy Information Administration, Annual Energy Outlook 2017, Appendix A, Table A21. Chile is a small producer and consumer, accounting for 0.5% of combined production and 14% of combined consumption. NAFTA Supply includes Chile. Also, due to logistical issues, some imports and exports outside of NAFTA will remain necessary in the EIA projection.

[1] Government of Canada. Canada- U.S. Relations: Energy – Natural Gas.

[2] Energy Information Administration (EIA). 1 December 2016. New U.S. border-crossing pipelines bring shale gas to more regions in Mexico.

[3] U.S. Department of Energy. October 2016. LNG Monthly (YTD 2016

[4] U.S. Energy Information Administration (EIA). 2012. Potential Impacts of Reductions in Refinery Activity on Northeast Petroleum Markets

[5] The EIA data group Mexico and Chile, although Chile is a minimal producer and small consumer compared to Mexico.

U.S. Trade Representative
Trade Policy Staff Committee
"Negotiating Objectives Regarding Modernization of
North American Free Trade Agreement with Canada and Mexico"

Written Testimony of Aaron Padilla, Ph.D.
Senior Advisor, International Policy
The American Petroleum Institute
June 27, 2017

Members of the Trade Policy Staff Committee, thank you for the opportunity to speak with you. My name is Aaron Padilla, and I am Senior Advisor for International Policy with the American Petroleum Institute (API). API is the only national trade association representing all facets of the oil and natural gas industry.

Today's North American energy market, including oil and natural gas, is highly integrated and interdependent, which has been facilitated by the North American Free Trade Agreement (NAFTA).

A critical component of the North American energy market is the U.S. energy renaissance. The United States is now the largest producer of oil and natural gas in the world.[1] According to the EIA, the U.S. is projected to surpass the historical 1970 peak of crude oil production by 2018.[2] Since 2005, natural gas production in the U. S. has increased by 47 percent.

[1] https://www.eia.gov/beta/international/
[2] 1970 Production Peak - https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPU.S.2&f=A
EIA forecast - https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf

The United States, Canada and Mexico together form a unique global energy center. According to EIA, North America is on the verge of achieving energy self-sufficiency with the production of liquid fuels expected to exceed consumption across the United States, Canada, and Mexico by 2020.[3] Energy flows between the U.S., Canada, and Mexico are multi-directional, as depicted in the graphic from the API *North American Energy* backgrounder.

Canada is the top export market for U.S. crude oil, motor gasoline blending components, and kerosene type jet fuel.[4] Mexico is the largest export market for U.S. pipeline natural gas, total refined products, finished motor gasoline, and distillate fuel oil.[5] In addition, significant U.S. crude oil imports from Mexico are manufactured in the U.S. into the refined products that are exported back to Mexico. As for natural gas, in 2016 the United States exported 2.1 trillion cubic feet of natural gas by pipeline to Canada and Mexico.[6] U.S. pipeline capacity for natural gas exports to Mexico has rapidly expanded in the past few years and is expected to nearly double in the next three years.[7] Mexico is also a new market for U.S. LNG, receiving 67 billion cubic feet of natural gas shipped since February 2016.[8]

[3] www.eia.gov/outlooks/aeo/pdf/appa.pdf
[4] https://www.eia.gov/dnav/pet/pet_move_expc_dc_NUS-Z00_mbblpd_a.htm
[5] https://www.eia.gov/dnav/pet/pet_move_expc_dc_NUS-Z00_mbblpd_a.htm
[6] https://www.eia.gov/dnav/ng/ng_move_expc_s1_a.htm
[7] https://www.eia.gov/todayinenergy/detail.php?id=28972
[8] https://energy.gov/sites/prod/files/2017/05/f34/LNG%20Monthly%202017_1.pdf

U.S. refineries also receive crude oil from Canada and Mexico, which supports U.S. jobs. In 2016, 69 U.S. refineries, primarily in the Midwest, processed heavy sour crude oil from Canada.[9] In 2016, twelve (12) U.S. refineries along the Gulf Coast imported crude oil from Mexico,[10] producing refined products for both U.S. and Mexican markets. Since 2000, Mexico's net imports of gasoline and diesel have tripled, most of which are supplied by refineries in the United States.[11]

Canada and Mexico are also significant markets for U.S. investment in oil and natural gas. Mexico's hydrocarbon sector is just now opening to foreign investment for the first time in nearly a century. In Mexico's December 2016 bid round of deepwater blocks, U.S. companies were successful in capturing five of the eight blocks awarded.

As the President, USTR and Congress begin to consider possible changes to the NAFTA, we urge them to keep in mind the important role this agreement has played in fostering the dynamic energy relationship between our countries. As an energy superpower, with the United States as the world's leading producer of oil and natural gas, NAFTA has allowed U.S. oil, natural gas, and derived products to flow to and from both Canada and Mexico. API urges the U.S. Government to retain the following in a modernized NAFTA:

[9] https://www.eia.gov/petroleum/imports/browser/#/?e=201701&f=m&s=200901&vs=PET_IMPORTS.WORLD-US-ALL.M
[10] Ibid
[11] International Energy Agency (IEA). 2016. *Mexico Energy Outlook*, p. 23.

- Zero Tariffs. NAFTA eliminated tariffs for crude oil, gasoline, motor fuel blending stock, distillate fuel oil and kerosene type jet fuel.
- Full Trade Liberalization. As a free trade agreement between the U.S., Canada and Mexico, NAFTA also liberalizes trade in energy, including the automatic liberalization, per the Natural Gas Act, of U.S. natural gas exports to Canada and Mexico.
- Market Access that is non-discriminatory, providing "national treatment" to US products and investors. NAFTA also plays a critical role for U.S. foreign direct investment in Canada and Mexico. Although Mexico's hydrocarbon market was excluded originally in NAFTA, Mexico's subsequent energy reforms trigger a "ratchet clause" in NAFTA that provides access to Mexico's market, on par with such access provided in NAFTA to Canada's oil and natural gas market.
- Investment Protection. In addition, NAFTA's provisions for strong investment protections, which are consistent with U.S. law, are essential for U.S. oil and natural gas investments in Canada and Mexico.

In conclusion, NAFTA supports U.S. jobs and manufacturing in energy, helps to make energy more affordable for American families, enhances energy security and affordable energy for U.S. allies, and enables U.S. companies to compete in Canada and gain opportunities for development in Mexico. We look forward to working with the Administration and Congress to continue the U.S. energy renaissance and our energy linkages to North America and the rest of the world. Thank you, and I would be happy to answer any questions that you may have.