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Committee on Foreign Affairs
Subcommittee on the Western Hemisphere
"Energy Opportunities in North America"

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Chairman Duncan, Ranking Member Sires, and Members of the subcommittee, thank you for the opportunity to speak with you about North American energy within the Western Hemisphere. My name is Aaron Padilla, and I am a 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, 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.

Today's North American energy market, including oil and natural gas, is highly integrated and interdependent (see attached API *North American Energy* backgrounder). This energy partnership benefits the United States by expanding the size of our energy markets, creating economies of scale that attract private investment, lowering capital costs, and reducing energy costs for consumers. Energy system integration enhances U.S. energy security by enabling North American energy independence and creating opportunities to export.

A critical component of the strong and dynamic North American energy market are the technological breakthroughs in the oil and natural gas industry that have unleashed a U.S. energy renaissance, moving us from an era of energy scarcity to an era of energy abundance. The United States is now the largest producer of oil and natural gas in the world.[1] The U.S. regions with most significant growth in oil and natural gas production include the Bakken play in North Dakota and Montana, Eagle Ford play in the south Texas, and Permian basin in west Texas and eastern New Mexico. According to the U.S. Energy Information Administration (EIA), the United States is projected to surpass the historical 1970 peak of crude oil production by 2018.[2] Natural gas production also continues to demonstrate significant growth. Since 2005, natural gas production in the U. S. has increased by 47 percent, and EIA projects a 42 percent increase in total natural gas production from 2016 to 2040.

[1] https://www.eia.gov/beta/international/
[2] 1970 Production Peak - https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPUS2&f=A
EIA forecast - https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf

In recent years, U.S. companies have experienced unprecedented productivity gains, as more oil and natural gas is produced from fewer rigs in less time,[3] enhancing the ability of U.S. producers to quickly increase production in response to changing global market demand. For example, in 2011 a typical rig operating in the Bakken would create 234 barrels per day of new oil production in a month. Today Bakken rigs are nearly 5 times more productive, generating over 1,100 barrels per day of new oil production every month. Similar drilling productivity gains are seen in U.S. natural gas basins. In one month, a rig operating in the Marcellus basin today creates over 13 million cubic feet per day of new natural gas production, over 5 times the production level in 2011.[4] Increased energy production has created jobs right here at home, helped to reduce energy costs for U.S. families and bolster U.S. manufacturing. At the same time, carbon emissions are at their lowest levels in almost 25 years[5], primarily due to fuel switching to natural gas.

In recent years, greater export market opportunities have emerged for U.S. energy, creating U.S. jobs, incentivizing increased domestic production, helping to further integrate U.S. energy in the world market, and enhancing our national security interests abroad. At the end of 2015, Congress and the President lifted the 40-year old ban on crude oil exports. In 2016, the United States exported more than 190 million barrels of crude oil to 26 countries, including 11 countries in the Western Hemisphere.[6] That same year, the U. S. began shipments of liquefied natural gas (LNG) from the lower 48 states. Since February 2016 through March 2017, the U. S. exported 331 billion cubic feet of LNG to 21 countries, including six in the Western Hemisphere.[7] This also adds to the robust exports of U.S. refined products, in particular to Central America, South America, and the Caribbean where local refineries face challenges meeting increasing local demand.[8] In 2016, the United States exported 1.7 billion barrels of total products to 152 countries, including 44 in the Western Hemisphere, which represents 61 percent of these exports.[9]

The U.S. energy boom is also shifting global energy markets. Greater U.S. oil and natural gas production and exports, and reduced imports, have increased supplies and put downward pressure on global prices, impacting production decisions around the world. For example, the Organization of the Petroleum Exporting Countries (OPEC) and several other countries recently agreed to limit oil production for another nine months, largely in response to U.S. shale oil production.[10] North American energy integration has also contributed to greater U.S. influence in global energy markets, which curtails the decades of influence OPEC has had on world markets.

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[3] https://www.eia.gov/petroleum/drilling/pdf/dpr-full.pdf
[4] Ibid
[5] U.S. DOE, Energy Information Administration, Monthly Energy Review March 2017. Lowest since 1992.
[6] https://www.eia.gov/dnav/pet/pet_move_expc_a_EPC0_EEX_mbbl_a.htm
[7] https://energy.gov/sites/prod/files/2017/05/f34/LNG%20Monthly%202017_1.pdf
[8] https://www.reuters.com/article/usa-refining-kemp-idUSL8N1IZ3SD
[9] https://www.eia.gov/dnav/pet/pet_move_expc_a_epp0_eex_mbbl_a.htm
[10] https://www.wsj.com/articles/how-american-shale-drillers-flipped-opecs-script-1495618203

Looking closer at the dynamics in North America, 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.[11] Energy flows between the U.S., Canada, and Mexico are multi-directional and robust. In 2016, the U.S. exported 1.6 billion barrels of crude oil and total products to Canada and Mexico.[12] That same year, the United States imported 1.4 billion barrels of crude oil and total products from Canada and Mexico.[13] While overall U.S. crude oil production has increased significantly, resulting in a decrease in crude oil imports from 3.4 billion barrels in 2010 to 2.9 billion barrels in 2016,[14] U.S. refineries continue to receive crude oil from Canada and Mexico. Imported crude oil from Canada and Mexico now accounts for a larger percentage of total U.S. imports, growing from 34 percent in 2010 to 49 percent in 2016.[15]

Canada and Mexico are top export markets for U.S. energy. Canada is the top export market for U.S. crude oil, motor gasoline blending components, and kerosene type jet fuel.[16] The United States is a net exporter to Mexico of natural gas and refined products, and Mexico is the largest export market for U.S. pipeline natural gas, total refined products, finished motor gasoline, and distillate fuel oil.[17] 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[18] while importing 2.9 trillion cubic feet from those countries.[19] The U.S. produces 90 percent of the natural gas it uses, importing 97 percent of the rest from Canada.[20] In addition, the United States exported 27 billion cubic feet of LNG to Mexico in 2016.[21]

This integrated energy market helps to reduce U.S. exposure to potential supply disruptions from other regions. The combination of the surge in U.S. shale production and the flexibility of the free market and of free trade means that the United States, as the leading oil and natural gas producer in the world, can respond to market forces to help the global market adjust to shortages or surpluses.

North American energy integration supports American jobs by opening the United States as a manufacturing destination for Canadian and Mexican crude oil. Both Canada and Mexico produce heavy crude oil, which sophisticated U.S. refineries in the Midwest and Gulf Coast regions are well-suited to process. In 2016 for example, 69 U.S. refineries, primarily in the Midwest, processed heavy sour crude

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[11] www.eia.gov/outlooks/aeo/pdf/appa.pdf
[12] https://www.eia.gov/dnav/pet/pet_move_expc_a_EP00_EEX_mbbl_a.htm
[13] https://www.eia.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbbl_a.htm
[14] https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRIMUS1&f=A
[15] https://www.eia.gov/dnav/pet/pet_move_impcus_a2_nus_epc0_im0_mbbl_a.htm
[16] https://www.eia.gov/dnav/pet/pet_move_expc_dc_NUS-Z00_mbblpd_a.htm
[17] https://www.eia.gov/dnav/pet/pet_move_expc_dc_NUS-Z00_mbblpd_a.htm
[18] https://www.eia.gov/dnav/ng/ng_move_expc_s1_a.htm
[19] https://www.eia.gov/dnav/ng/ng_move_impc_s1_a.htm
[20] Government of Canada. Canada- U.S. Relations: Energy – Natural Gas.
[21] https://www.eia.gov/dnav/ng/ng_move_expc_s1_a.htm

oil from Canada,[22] producing much needed refined products for U.S. consumers and supporting thousands of U.S. jobs. The United States and Mexico also form a similar interdependent energy partnership. In 2016, 12 U.S. refineries along the Gulf Coast imported crude oil from Mexico,[23] producing refined product 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.[24] The six refineries in Mexico, all owned and operated by the state-owned company Petróleos Mexicanos (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.[25] Mexico therefore exports crude oil to refineries in the United States, which manufacture refined products that are exported back to Mexico. 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 U.S. refining center."[26]

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; it currently stands at 7.3 billion cubic feet per day and is expected to nearly double in the next three years.[27] Mexico is also a new market for U.S. LNG, receiving 67 billion cubic feet of natural gas shipped since February 2016.[28] Mexico's energy reforms, strong growth in natural gas demand in the power sector, declining domestic production, and availability of U.S. natural gas have all created an opportunity to increase energy trade between the United States and Mexico.

The United States and Canada also 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 of electricity in 2014.[29] 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 United States 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 United States.

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[22] https://www.eia.gov/petroleum/imports/browser/#/?e=201701&f=m&s=200901&vs=PET_IMPORTS.WORLD-US-ALL.M

[23] Ibid

[24] International Energy Agency (IEA). 2016. *Mexico Energy Outlook*, p. 23.

[25] Ibid

[26] https://www.eia.gov/beta/international/analysis.cfm?iso=MEX

[27] https://www.eia.gov/todayinenergy/detail.php?id=28972

[28] https://energy.gov/sites/prod/files/2017/05/f34/LNG%20Monthly%202017_1.pdf

[29] US Department of Energy. 2015. *Quadrennial Energy Review (QER). Chapter VI: Integrating North American Energy Markets*.

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.

Canada and Mexico are significant markets for U.S. investment in oil and natural gas. For example, according to the U.S. Department of Commerce, Canada and Mexico are the two largest markets for U.S. upstream oil and natural gas equipment, with U.S. exports reaching $6.5 billion in 2016 and projected to increase to $10 billion in 2020.[30] In 2015, U.S. companies' foreign direct investment (FDI) in Canada totaled $4.52 billion for oil and natural gas extraction and $8.8 billion in petroleum refining.[31] In the upstream/exploration and production, these investments 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. In the midstream, these investments include pipelines across the country, U.S.-Canada cross-border pipelines. And in the downstream, these investments include refineries, retail, and marketing assets.

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, 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 percent from its peak in 2004, and in 2015 reaching its lowest level since 1981.[32] 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.

U.S. strength in oil and natural gas has positioned U.S. companies to meet Mexico's needs for technical expertise and capital to modernize their energy sector. In 2015, U.S. companies' FDI in Mexico totaled $420 million for oil and natural gas extraction and $1.96 billion for support activities for oil and gas extraction.[33] In Mexico's December 2016 bid round of deepwater blocks, 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 operating company's investment may be greater than $1 billion.[34] Considered another way, in Mexico's December 2016 bid round of deepwater blocks, U.S. companies were successful in capturing five of the eight blocks awarded. One block was won by a venture led by the Malaysian state-owned oil company Petronas, and the other two blocks were won by CNOOC, China National Offshore Oil Corporation – 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 and just south of the U.S.-

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[30] http://www.trade.gov/topmarkets/pdf/Oil_and_Gas_Top_Markets_Report.pdf

[31] Source: US Bureau of Economic Analysis (BEA). US Direct Investment Position Abroad on a Historical-Cost Basis: Industry Detail for Selected Countries, 2015.

[32] https://www.eia.gov/beta/international/analysis.cfm?iso=MEX

[33] Source: US Bureau of Economic Analysis (BEA). US Direct Investment Position Abroad on a Historical-Cost Basis: Industry Detail for Selected Countries, 2015.

[34] Rigzone. 5 December 2016. *BHP, CNOOC, European majors among winners for Mexican deepwater blocks*.

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.

The North American region has a strong and vibrant energy market, benefiting U.S. families, workers, and businesses – as well as those across Canada and Mexico. If we want to maintain and grow this important partnership, it is imperative that U.S. policy facilitates our energy renaissance, allowing for responsible domestic oil and natural gas development and continuing to foster the dynamic energy flows in the region.

We need sufficient infrastructure to ensure additional energy supplies can reach U.S. consumers and international markets. A recent ICF study[35] projects that by 2035 the United States will produce up to 12 million barrels of crude oil per day, up to 131 billion cubic feet of natural gas per day, and up to 19 million barrels of refined product per day. This will require up to $1.34 trillion in private oil and natural gas infrastructure investment by 2035 and support up to 1 million U.S. jobs annually. This infrastructure will be critical to maintaining the strong North American energy market.

As the President and Congress begin to consider possible changes to the North American Free Trade Agreement (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. NAFTA eliminated tariffs for crude oil, gasoline, motor fuel blending stock, distillate fuel oil and kerosene type jet fuel – all of which would increase without the free trade agreement. NAFTA also liberalizes trade in energy between the U.S., Canada and Mexico, including the automatic liberalization, per the Natural Gas Act, of U.S. natural gas exports to Canada and Mexico by virtue of NAFTA being a free trade agreement between the parties. 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. 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. Overall, 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.

In addition, the U.S., Canadian, and Mexican governments should continue and enhance consultations and dialogue to further bolster our energy partnerships. From the private sector perspective, we, along

[35] http://www.api.org/news-policy-and-issues/energy-infrastructure/oil-gas-infrastructure-study-2017

with the Canadian Association of Petroleum Producers (CAPP) and the Asociación Méxicana de Empresas de Hidrocárburos (AMEXHI, the Mexican upstream oil and natural gas industry association), have an ongoing and robust dialogue concerning industry practices and policies.

In conclusion, North America has a robust and dynamic energy market which facilitates the flow of oil and natural gas products between our countries and the world, supports U.S. jobs, and provides American consumers with access to affordable energy. We look forward to working with Congress and the Administration to continue the U.S. energy renaissance and our energy linkages to North America, the rest of the Western Hemisphere, and the world. Thank you and I would be happy to answer any questions that you may have.

North American ENERGY

energy API
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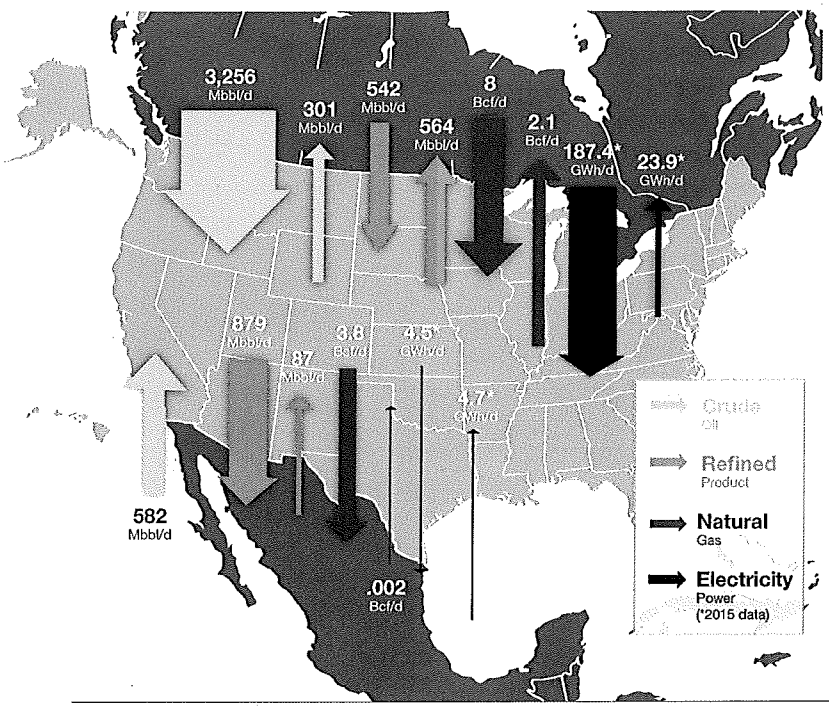
Today's highly integrated and interdependent North American energy markets (oil, natural gas, electricity) benefit the United States by expanding the size of our energy markets which create economies of scale that attract private investment, lower capital costs, and reduce energy costs for consumers. 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



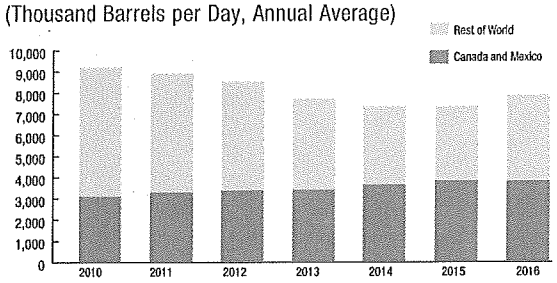
CRUDE OIL

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 Eddy, Michael Fickinger, 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.