A North American perspective on oil and gas trade with Asia

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Shanghai Derivatives Market Forum
1st IEF-SHFE Industry Advisory Committee

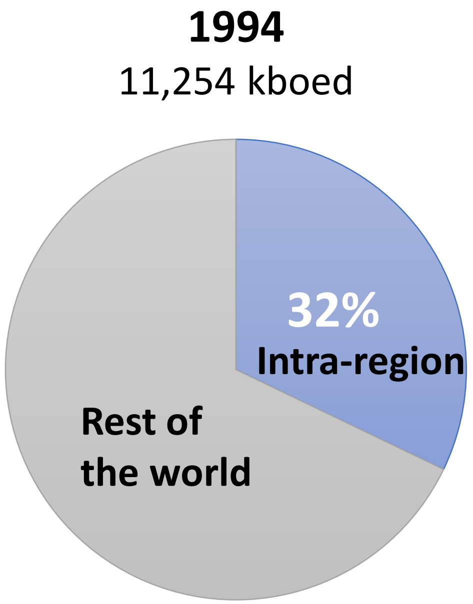
Shanghai | 29 May | 2019

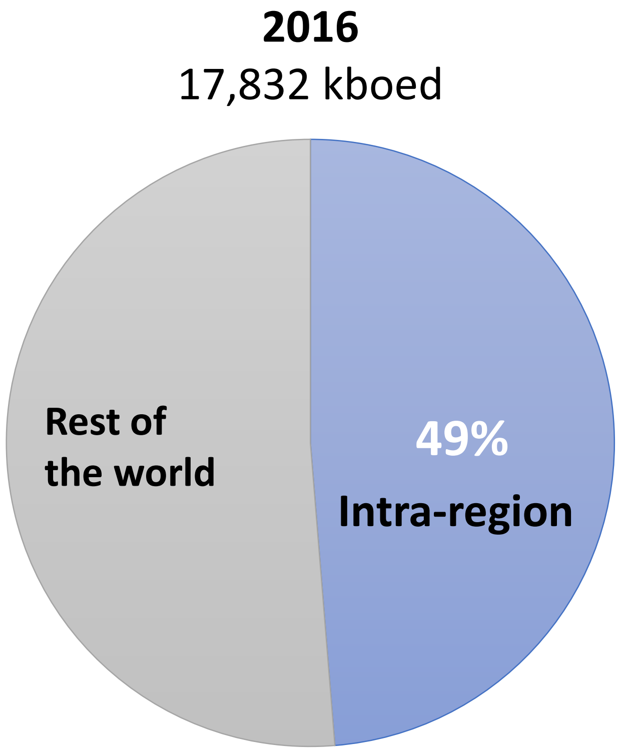
North America is set to become a net energy exporter in 2020

- Volumes available for Asia conditioned in part by the evolution of North American intraregional trade
- Prospects for more crude and LNG exports to Asia linked to the solution of infrastructure bottlenecks in the US and Canadian West Coasts
- Exports to Asian markets will turn increasingly attractive, possibly transforming the structure of Asian contracts

The volume of North American intraregional trade in oil and gas grew from one third to a half of the region's total trade in the last twenty years

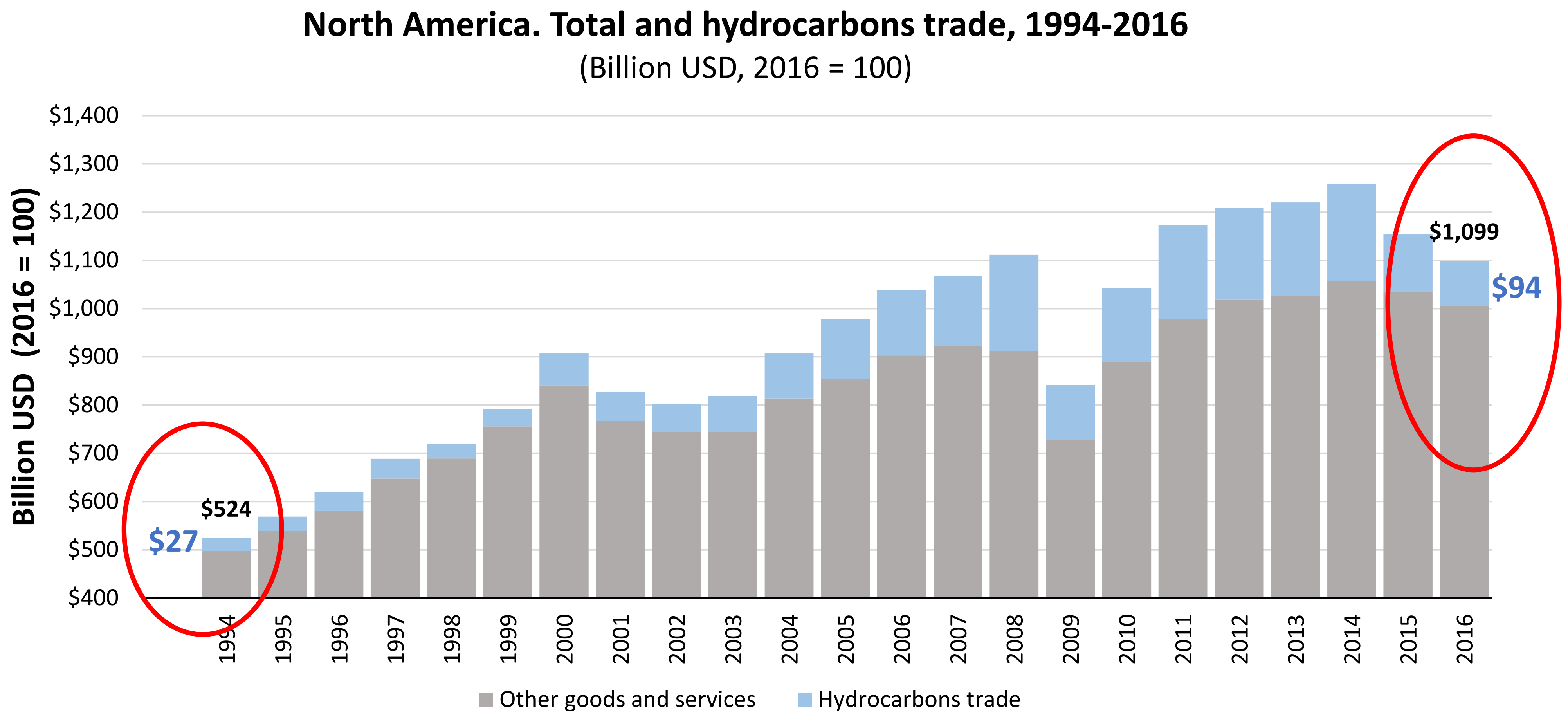
North America. Hydrocarbons trade, 1994 and 2016
(Thousand barrels of oil equivalent, kboed)





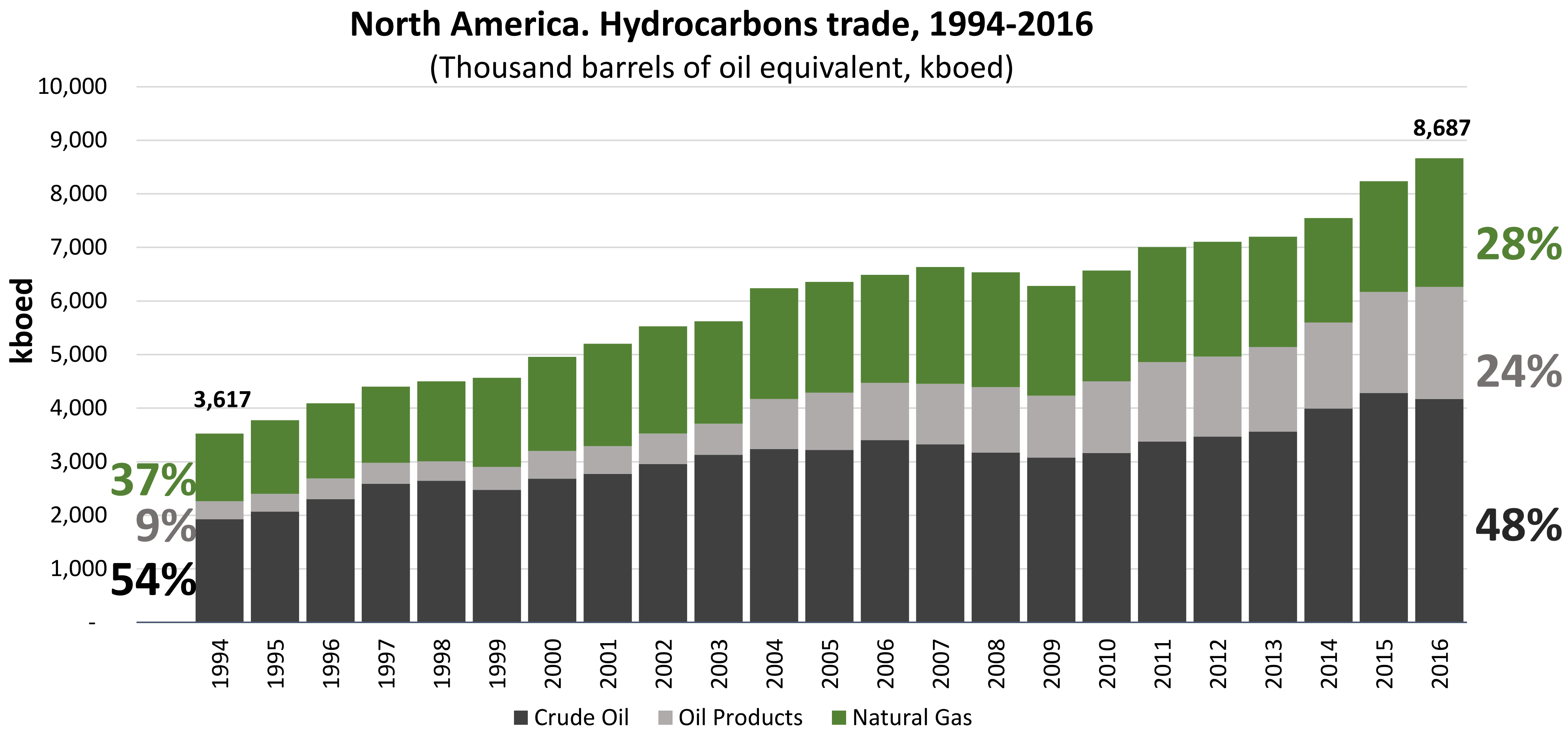
Source: US Energy Information Administration, SENER – SIE and Canada's International Trade Database

North America's oil and gas trade has grown twice as fast as trade in goods and services since 1994



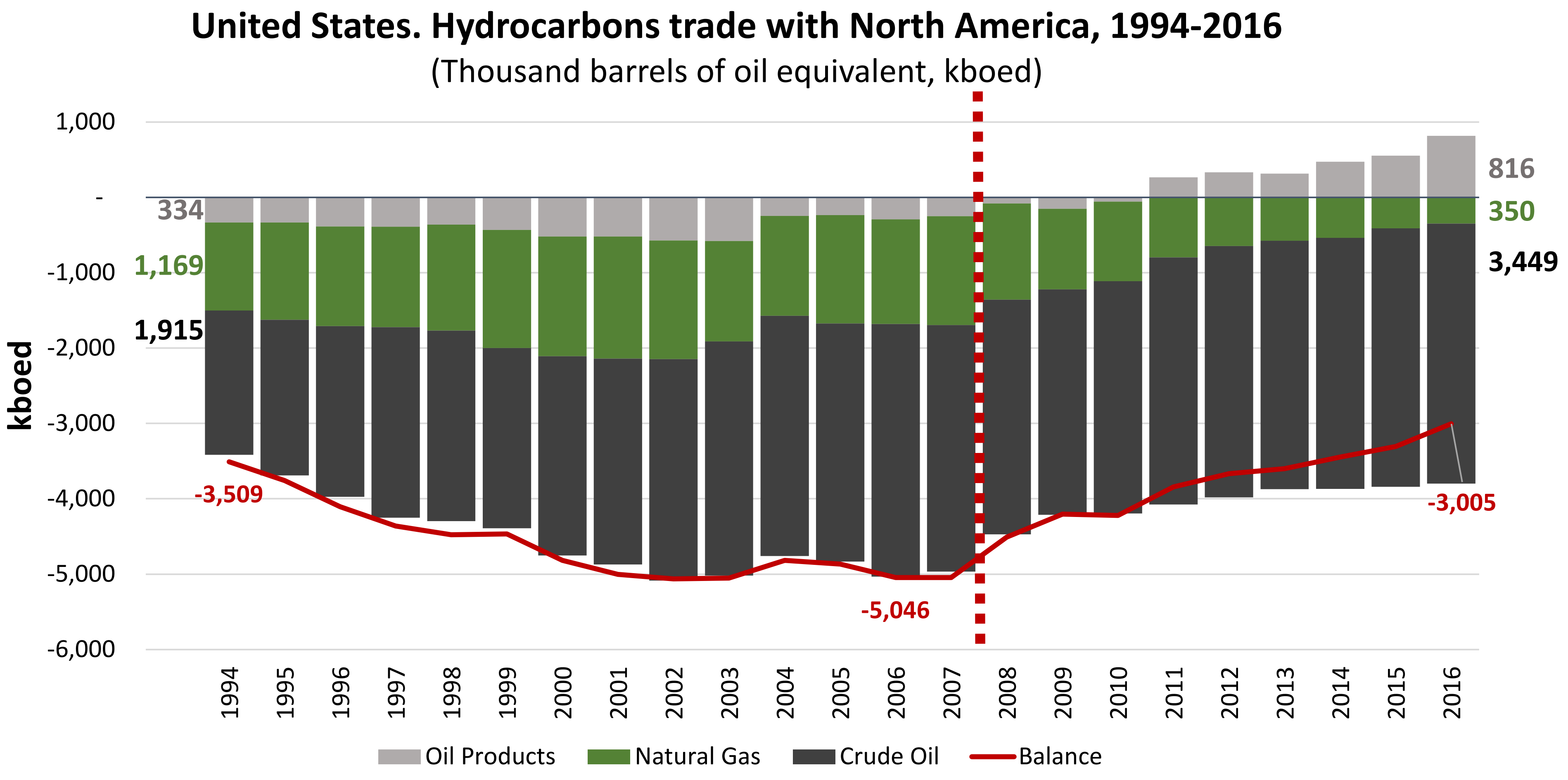
Source: Canada International Trade Database, US Census Bureau – International Trade Data; Secretaría de Economía

The composition of North America´s intraregional oil and gas trade has shifted towards oil products and away from natural gas



Source: US Energy Information Administration, SENER – SIE and Canada's International Trade Database

The direction of intraregional trade changed with the unconventional oil and gas revolution



Source: US Energy Information Administration

The number of cross-border, natural gas pipeline interconnections in North America has doubled since 1994

1994

20 Points of Entry

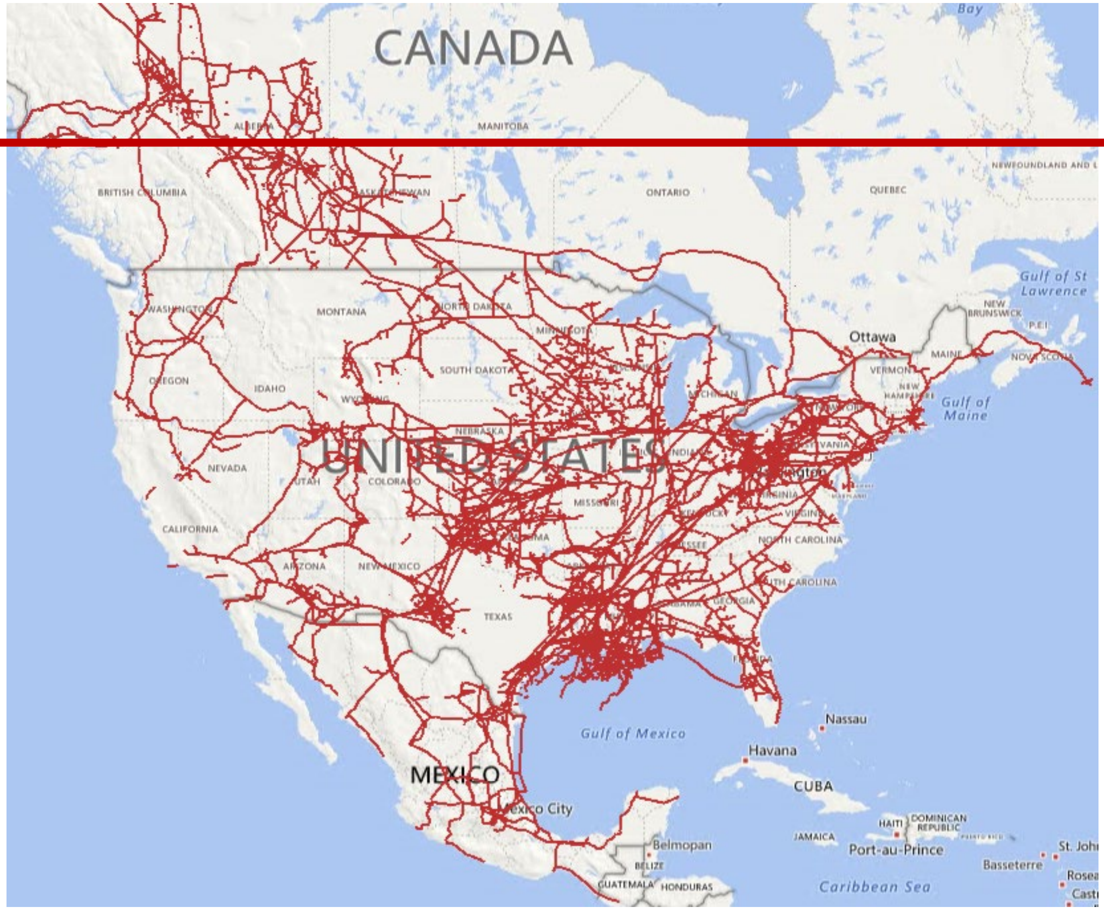
12.46 Bcfd capacity
$7.9 bn gas trade

Canada-US

15 Points of Entry
10.6 Bcfd exports
0.55 Bcfd imports

Mexico-US

5 Points of Entry
0.35 Bcfd exports
0.96 Bcfd imports



2017

41 Points of Entry

31 Bcfd capacity
$12 bn gas trade

Canada-US

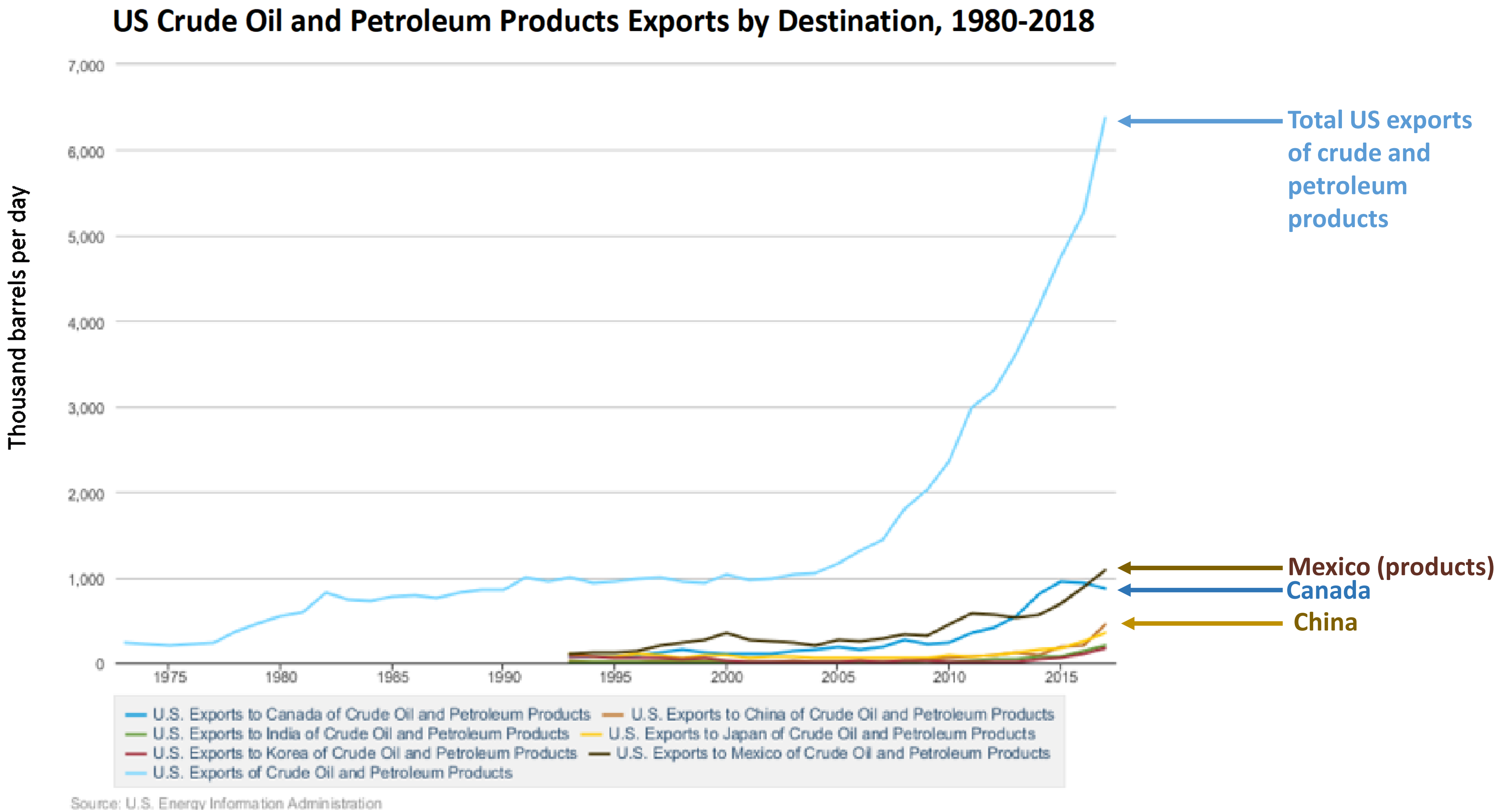
24 Points of Entry
18.1 Bcfd exports
3.6 Bcfd imports

Mexico-US

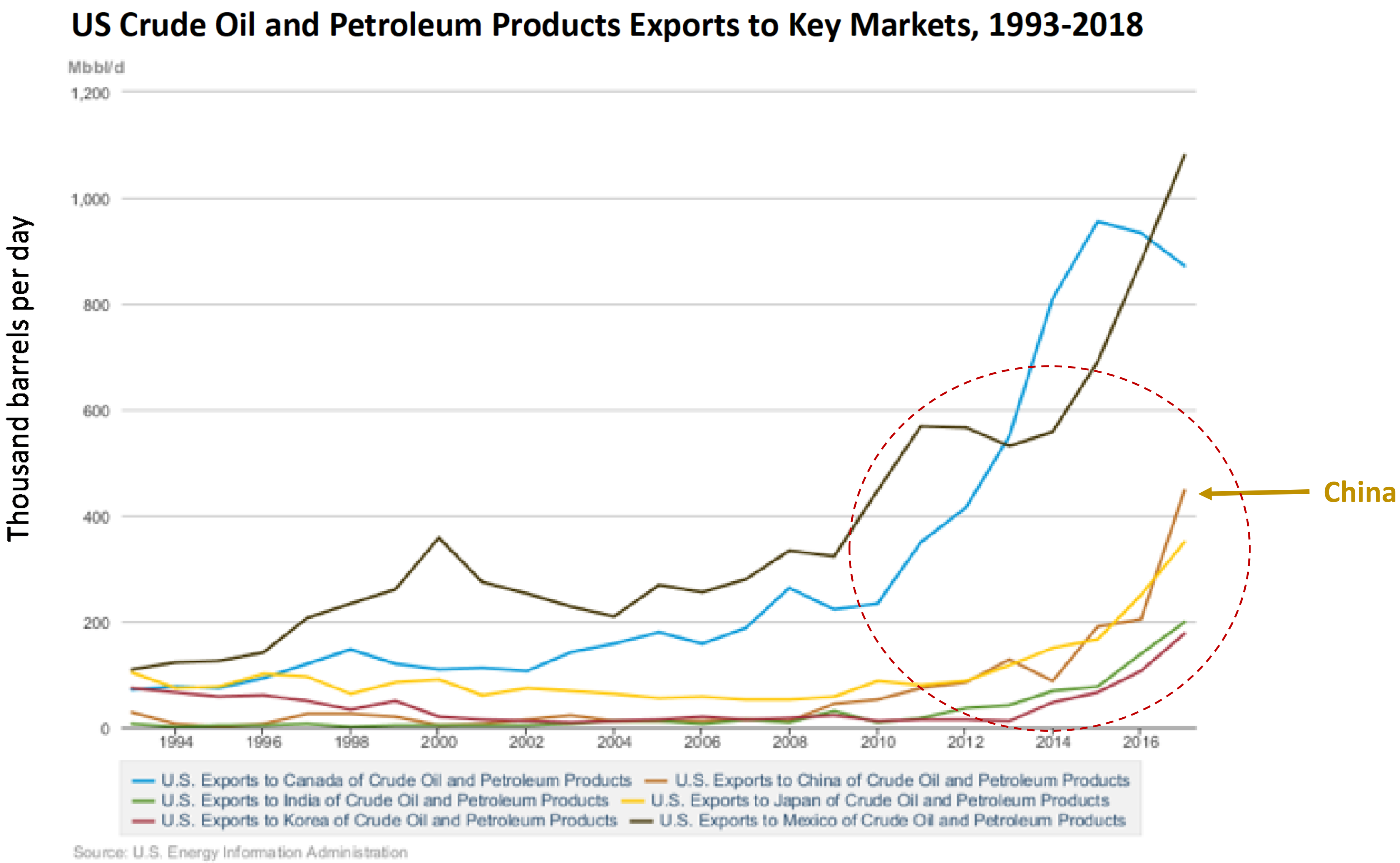
17 Points of Entry
1.5 Bcfd exports
7.8 Bcfd imports

Source: US Energy Information Agency and North American Cooperation on Energy Information (NACEI) and Reuters

US crude oil and petroleum products exports to key Asian markets are still significantly lower than sales to Mexico and Canada…

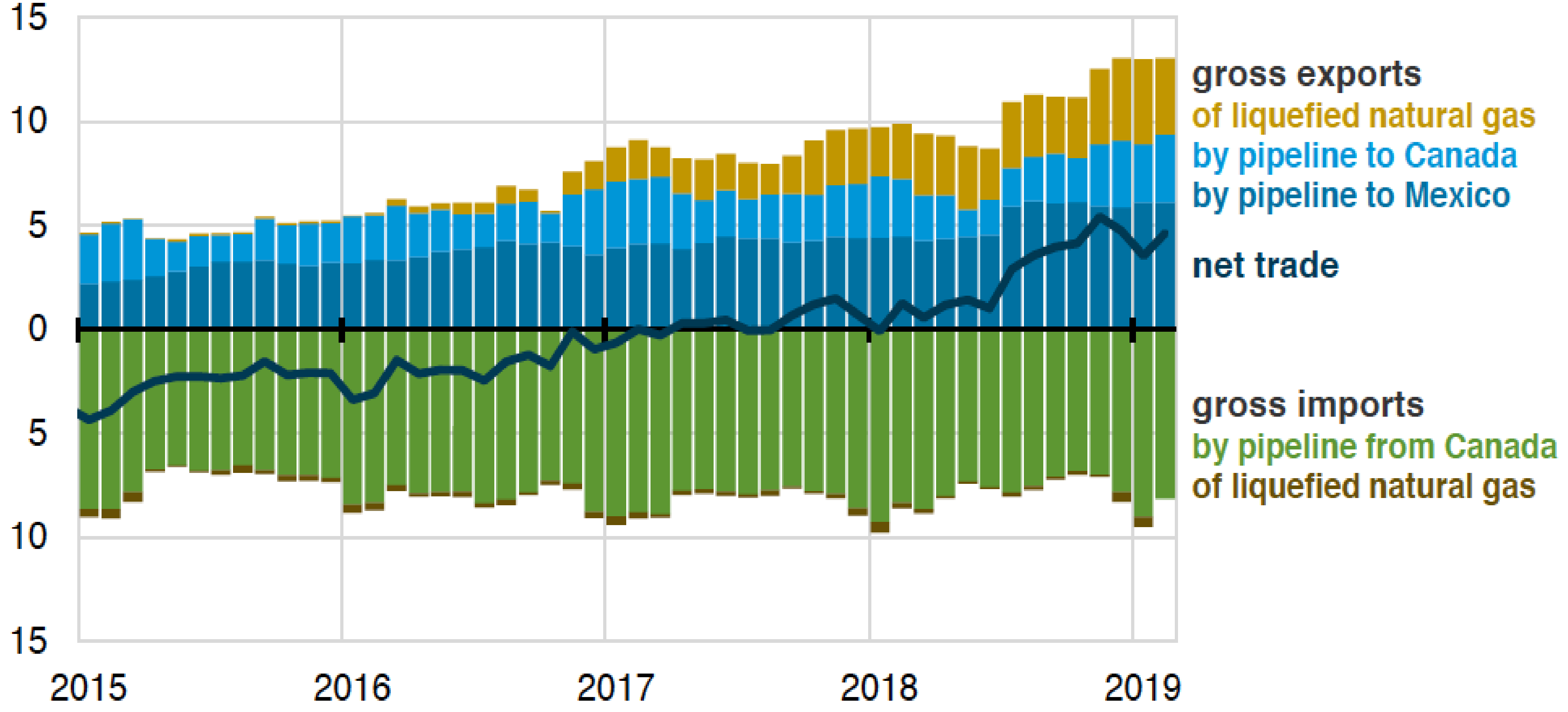


…but sales to Asia increased at a fast pace since the lifting on US export restrictions in December 2015 and after favorable WTI-Brent price spreads



The US is now a net exporter of natural gas

Monthly U.S. natural gas trade (Jan 2016-Feb 2019)
billion cubic feet per day



Source: U.S. Energy Information Administration, *Natural Gas Monthly*

Increasing exports of LNG (and crude) to Asia from the West Coasts US and Canada requires addressing infrastructure constraints

Producers in landlocked states, like **Colorado, Wyoming and Alberta,** are pushing for the construction of export terminals in coastal states

The governments **California, Oregon, Washington and British Columbia** oppose building oil and gas export infrastructure

Local communities and environmental groups reject this type of projects

The **Panama Canal** has restricted capacity for growth

Questions

- Will light crude demand match the increase in supply?
- Will price differentials continue to justify sending greater volumes of oil from North America to Asia?
- Will the Asian natural gas market delink from oil and set prices based on gas-to-gas competition?