

Crude Oil and Natural Gas Trade in North America: *Anything New?*

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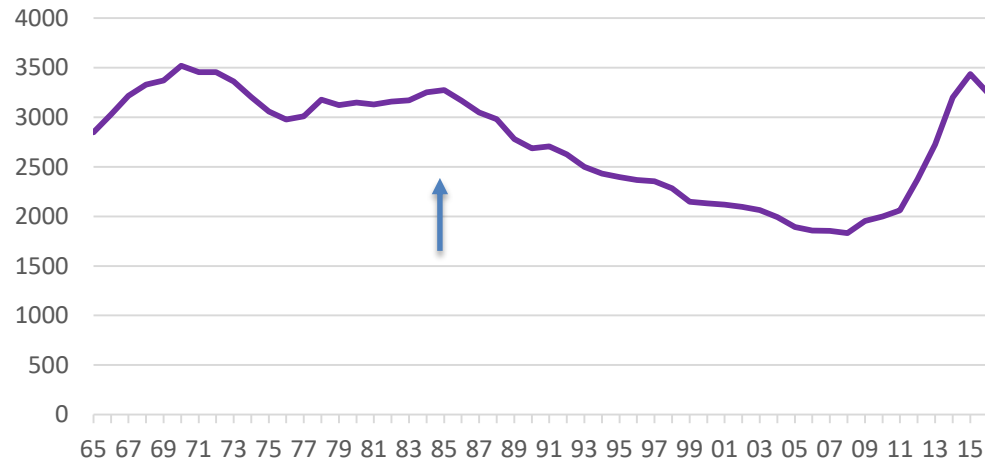
CRUDE OIL

All data from US Energy Information Administration
And Statistics Canada

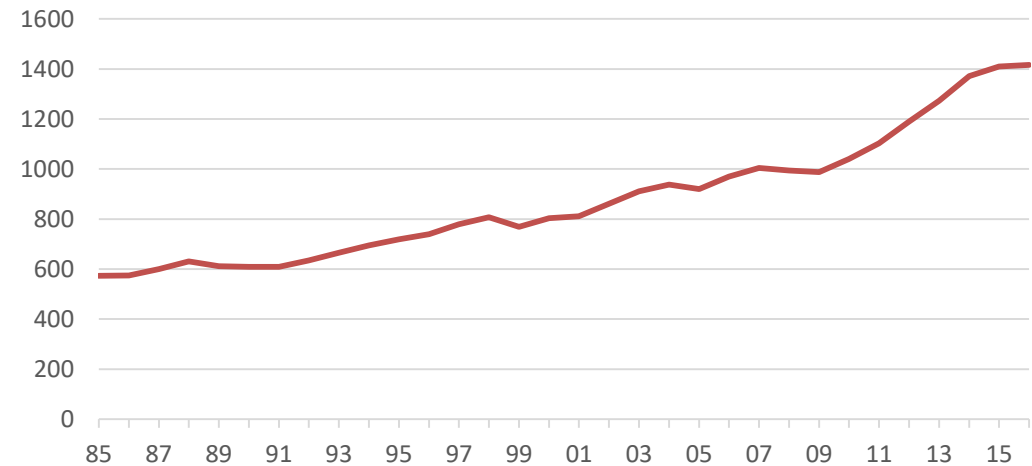
US & Canadian Production



US Crude Oil Production, 1965 to 2016
millions of barrels per year



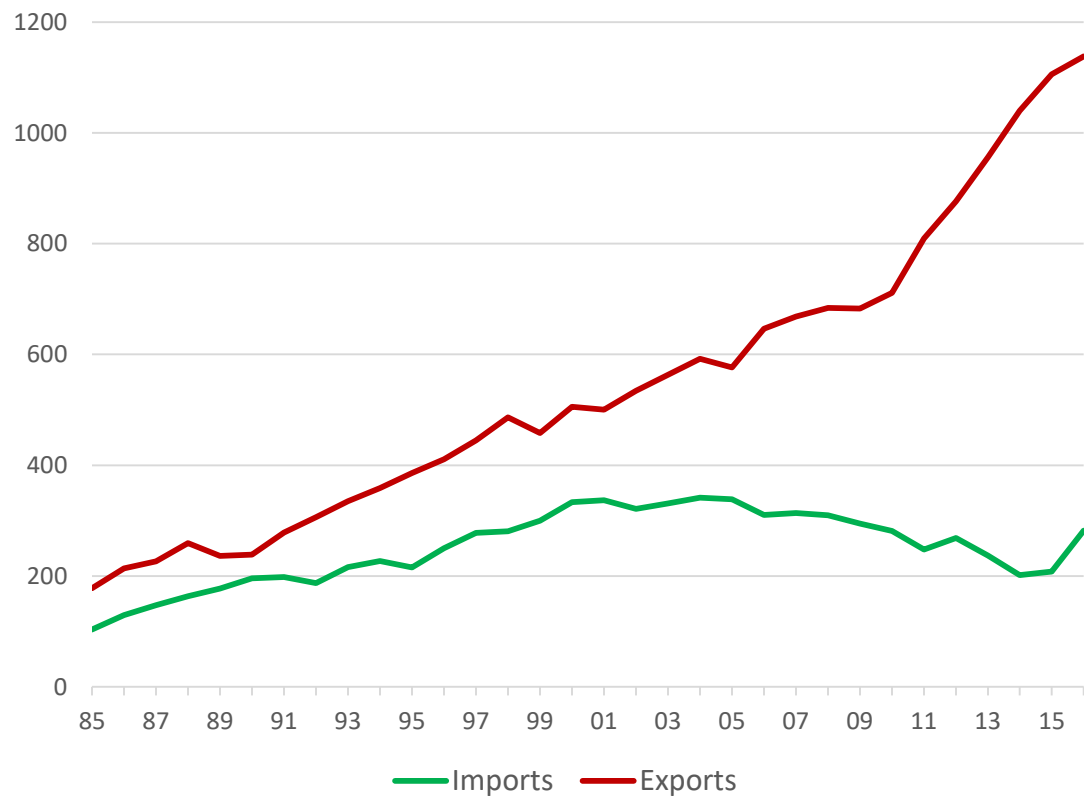
Canadian Crude Oil Production, 1985 to 2016
millions of barrels per year



Canadian Imports & Exports



Canadian Crude Oil Imports and Exports, 1985 to 2016
millions of barrels per year

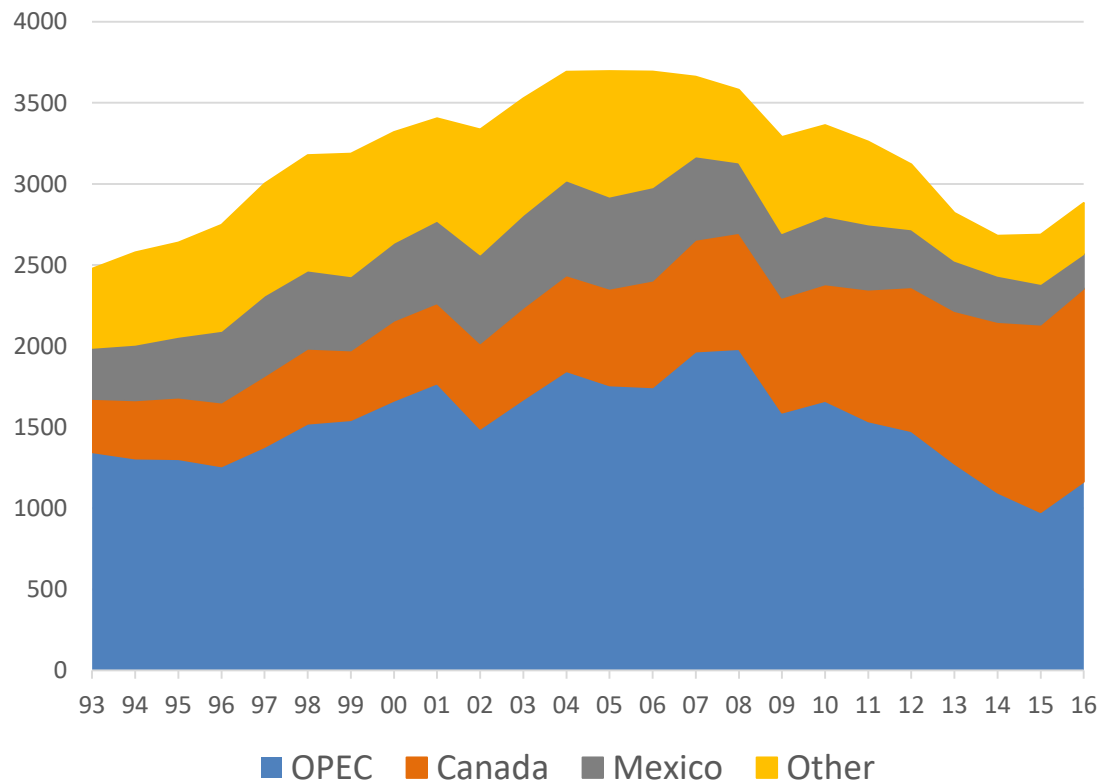


- Canadian crude oil export volumes have grown by more than 500% since 1985 (deregulation)
 - More than doubled since 2000
 - (Almost) all destined to USA
- Canadian import volumes about the same in 2015 as in 1990
- **IDEA:** huge growth in Canadian exports has occurred with little increased reliance on imports to meet domestic requirements

US Imports



US Crude Oil Imports, 1993 to 2016
millions of barrels per year

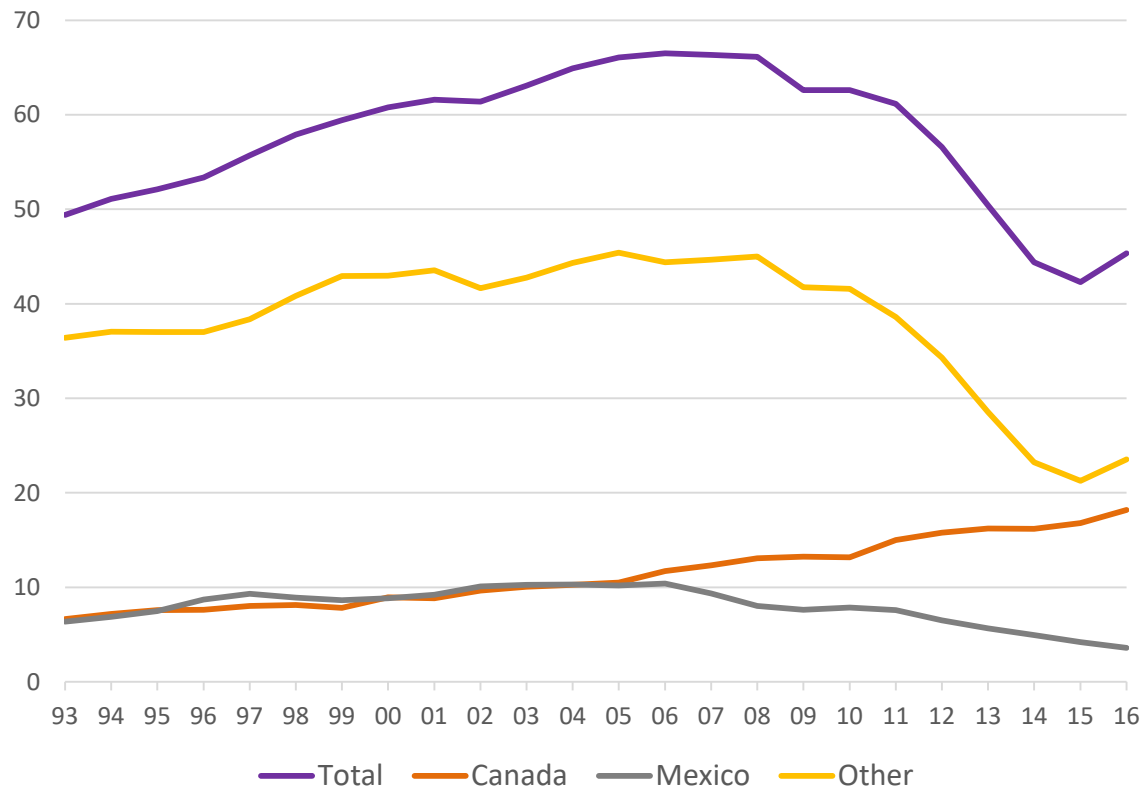


- Volumes of US imports of Canadian crude oil have increased steadily since 1993
- By 2015, US imports more crude oil from Canada than from ALL OPEC countries combined
- In contrast, US import volumes from Mexico have shrunk over the last decade or so

Role of Imports in Meeting US Needs



Net Imports as Share of US Crude Oil Use, 1993 to 2016
percent



- Net imports as share of US crude oil use reached 66% in 2005-2007
 - Decreased sharply since 2011
 - “*Shale Revolution*”
- Despite all this...share of net imports from Canada has **grown** steadily, especially since 2005 – *almost doubled*
- Share of net imports from Mexico and all Others combined has **fallen** since mid-2000s – especially so since 2011

Bottom Line: Crude Oil



- “Shale Revolution” in USA is having important trade effects
- **BUT...** long-standing Canada-US trade pattern has, if anything, become even more pronounced
 - *Absolute (volumes) and relative (share of use) importance of Canadian production in US crude oil market has increased*
- The reverse is true for Mexico: importance in US crude oil market has decreased
- **Increased US production & increased US imports from Canada have displaced / replaced US imports from “other” countries**
- **Issues**
 - How sustainable are US production increases? Canadian production increases?
 - What is the role of Keystone XL and Canadian pipeline projects?



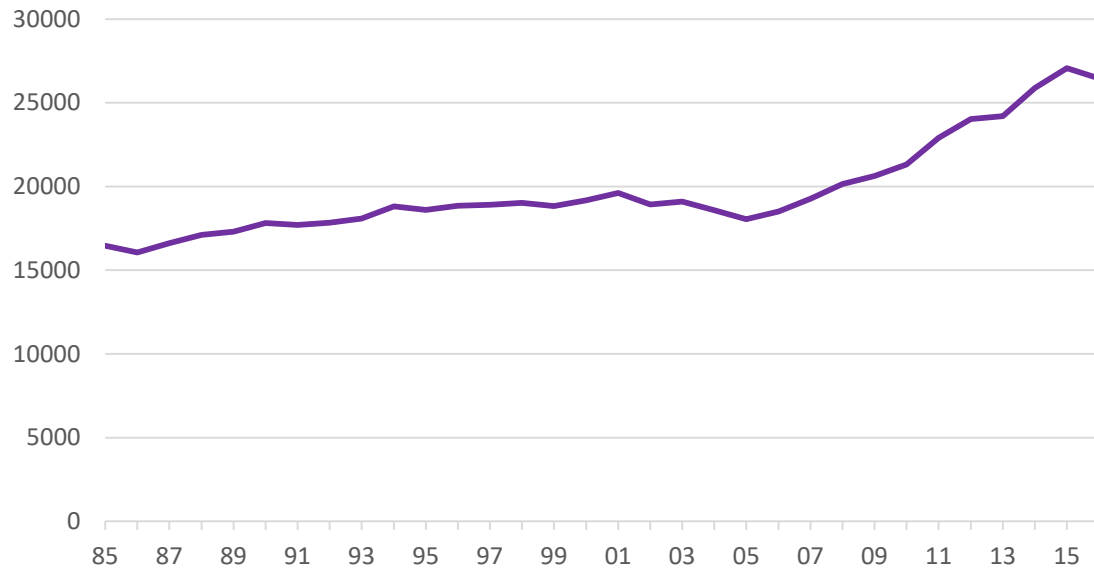
NATURAL GAS

All data from US Energy Information Administration
and Statistics Canada

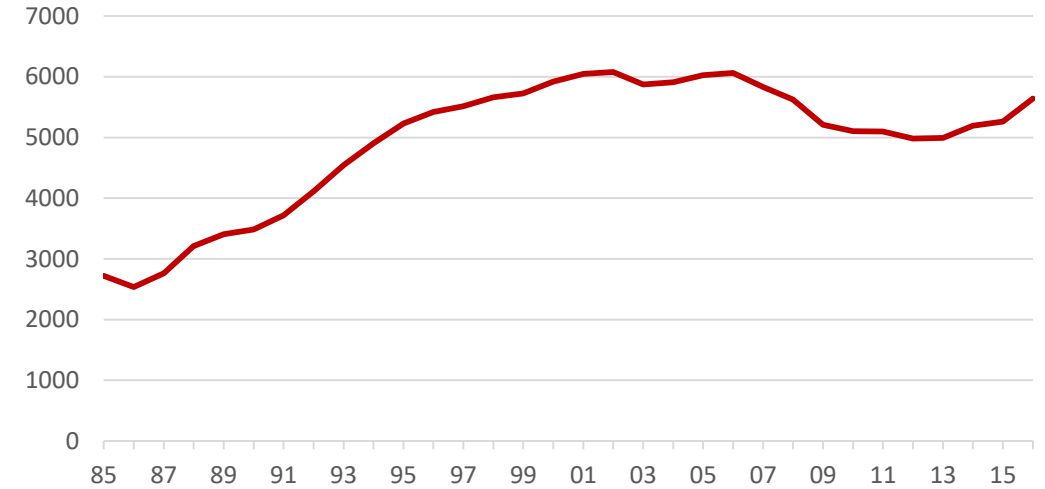
US & Canadian Production



US Natural Gas Production, 1985 to 2016
billion cubic feet per year



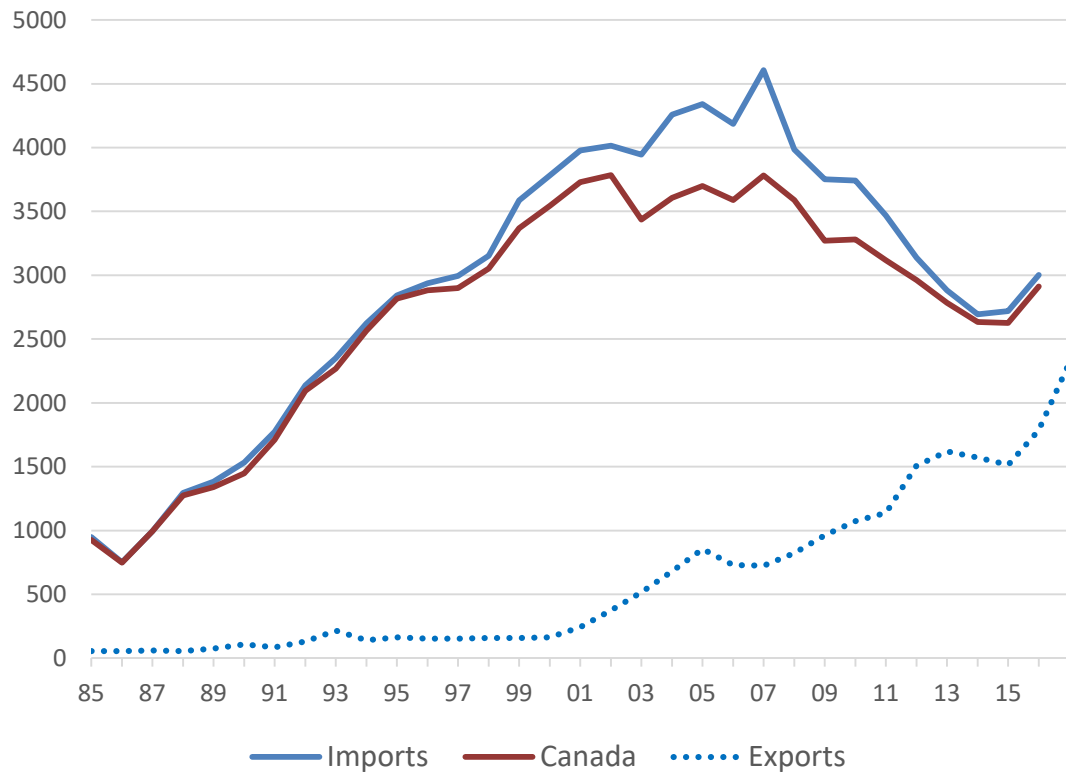
Canadian Natural Gas Production, 1985 to 2016
billion cubic feet per year



US Imports & Exports



US Natural Gas Imports & Exports, 1985 to 2016
billion cubic feet per year

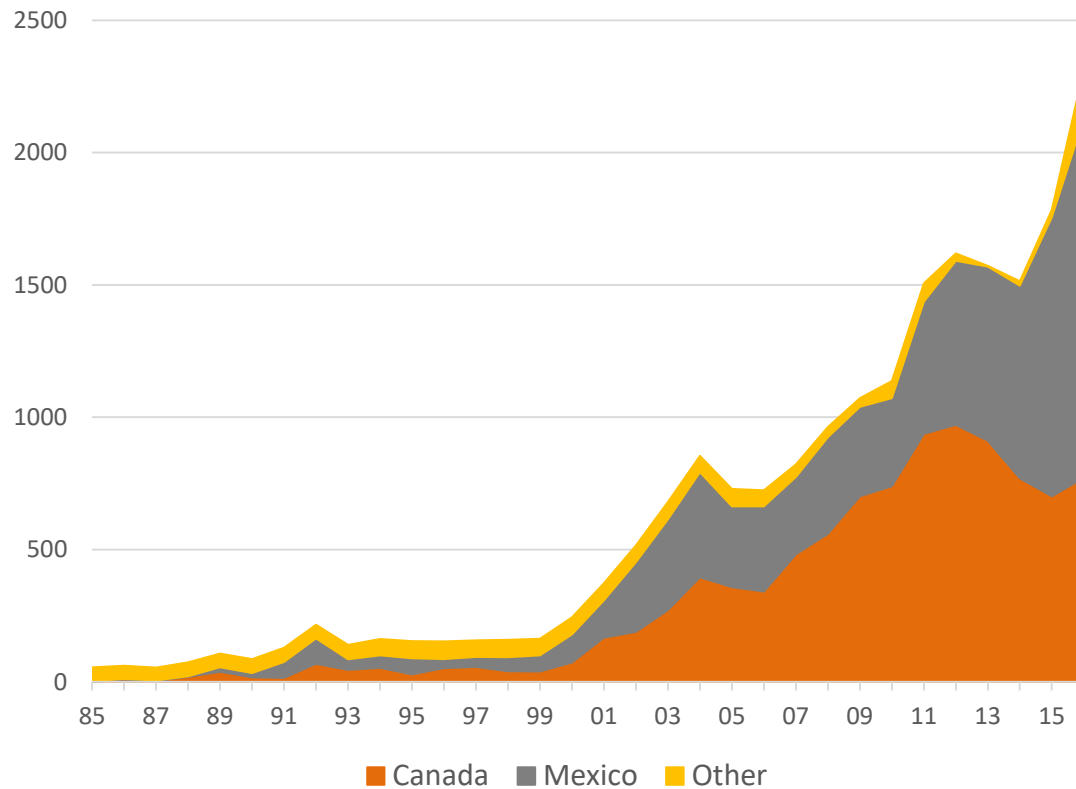


- Canadian natural gas exports to the USA have **fallen** for last decade or so (exception 2016)
 - After having been essentially flat for previous decade or so
 - *In 2001, net imports from Canada accounted for 16% of US gas use*
 - *In 2015, that share was down to 7%*
- BUT...Canada back to being source of (almost) all US natural gas imports
 - Note the LNG “interlude”
- **BIG STORY** is sustained increase in US gas exports...since beginning of 2000s

US Natural Gas Exports



US Natural Gas Exports, 1985 to 2016
billion cubic feet per year

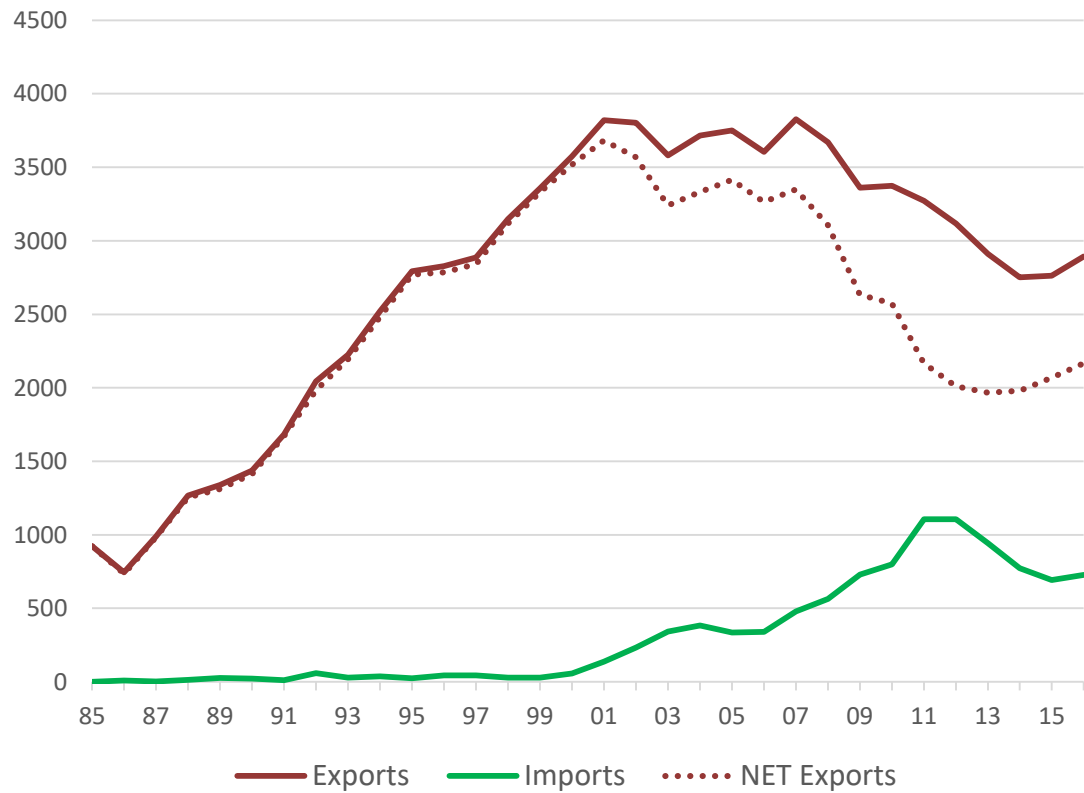


- By 2016, almost 8.5% of US natural gas production is exported
 - *Mostly to Canada and Mexico*
- Some long-standing LNG exports from Alaska...recent “blip” from Lower 48 States
- Overall, US natural gas trade still almost entirely North American in scope

Canadian Imports & Exports



Canadian Natural Gas Trade Flows, 1985 to 2016
billion of cubic feet per year

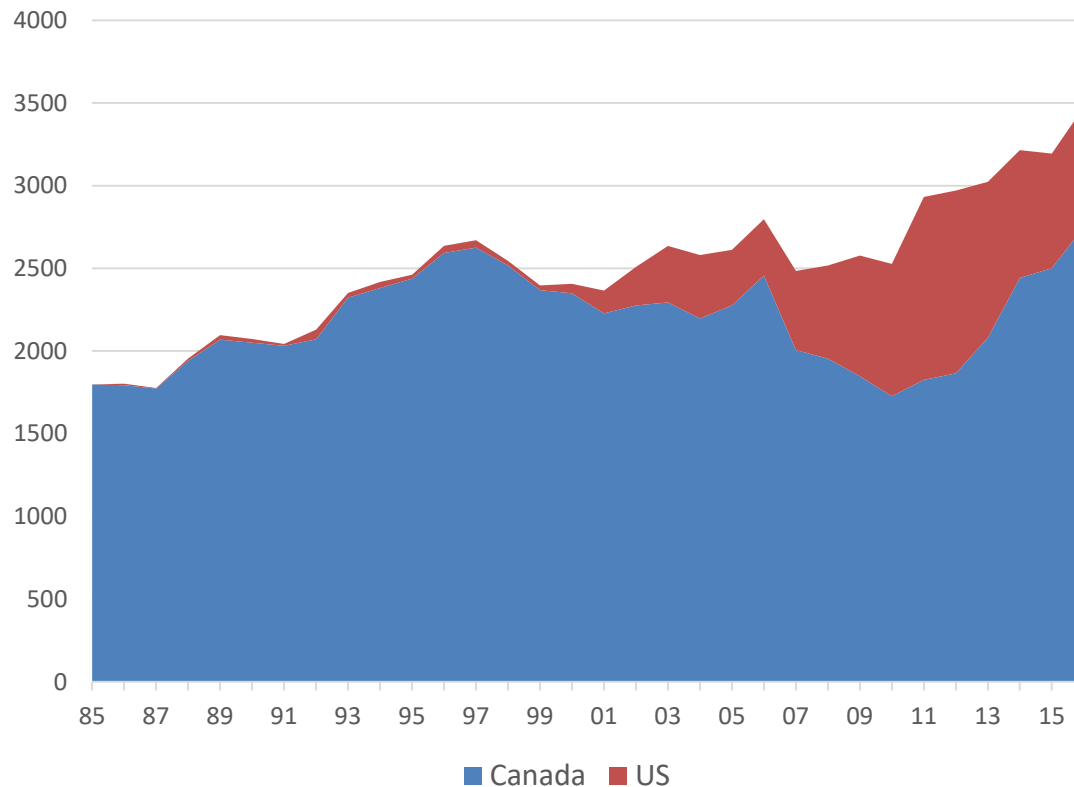


- There are two stories here...
 - The flat-lining then decrease in Canadian natural gas export volumes
 - The increase in Canadian natural gas import volumes – sustained for the first decade of the 2000s, still high thereafter

Sources of Natural Gas Used in Canada



Sources of Canadian Natural Gas Use, 1985 to 2016
billion cubic feet per year



- Over the last fifteen years or so, imports from the USA have played a growing / larger role in meeting Canadian natural gas use requirements
 - From about 1% as recently as 1999, to 37% in 2011 & 2012, and remained above 20% since then

Bottom Line: Natural Gas



- US “Shale Revolution” has changed the structure of North American natural gas trade
 - From one-way trade (Canada to USA) to many-way trade (Canada -> USA; USA -> Canada; USA -> Mexico)
- In both absolute (volumes) and relative (share of use) terms, Canadian natural gas a “smaller” player in the USA
- Conversely, natural gas imports from the USA now play a **bigger role** in meeting Canadian natural gas needs
- Mexico remains a minor partner in all this...
- **KEY ISSUE...**
 - the future of LNG & the North American natural gas “island”