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The Impact of Shale Oil Production Growth in the US

19 May 2014



Presentation to IMSF, Copenhagen
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What is Shale Oil

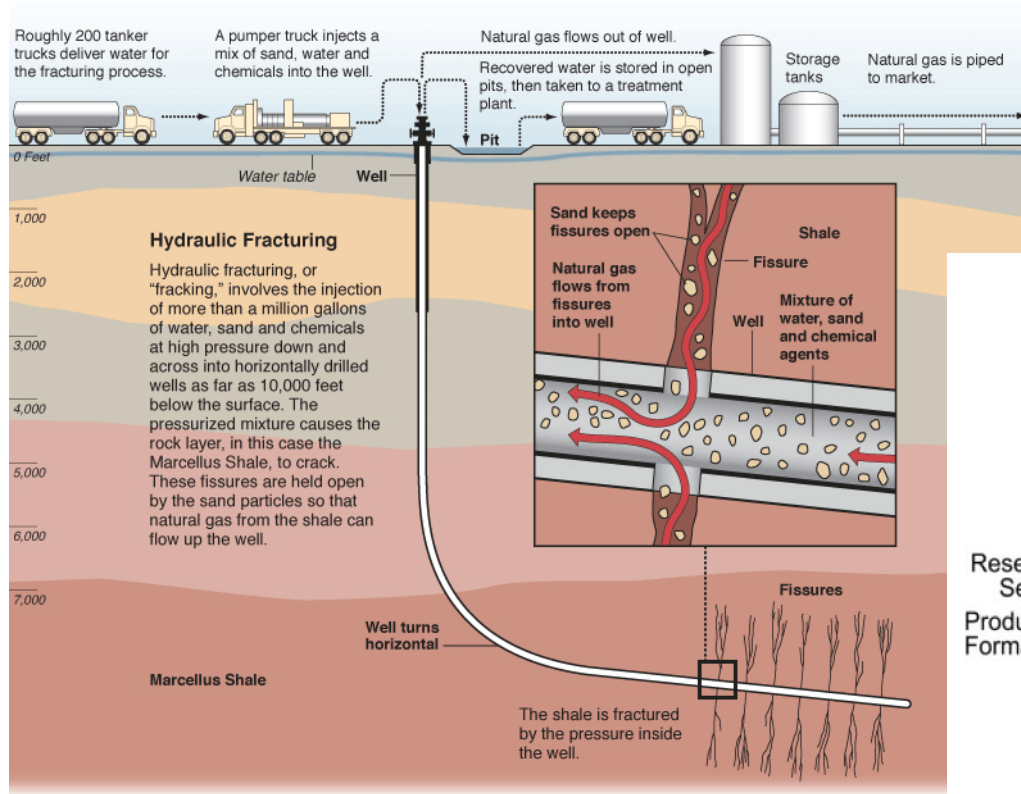
- Shale oil (Light Tight Oil) refers to light crude oil produced from shale, or other very low-permeability rocks, by using the same horizontal drilling and hydraulic fracturing technologies used in production of shale gas.
- Oil shale is a fine-grained sedimentary rock containing a waxy organic known as Kerogen.
- Shale oil and oil shale differs by the API gravity and viscosity of the fluids, as well as the method of extraction.



Oil Shale

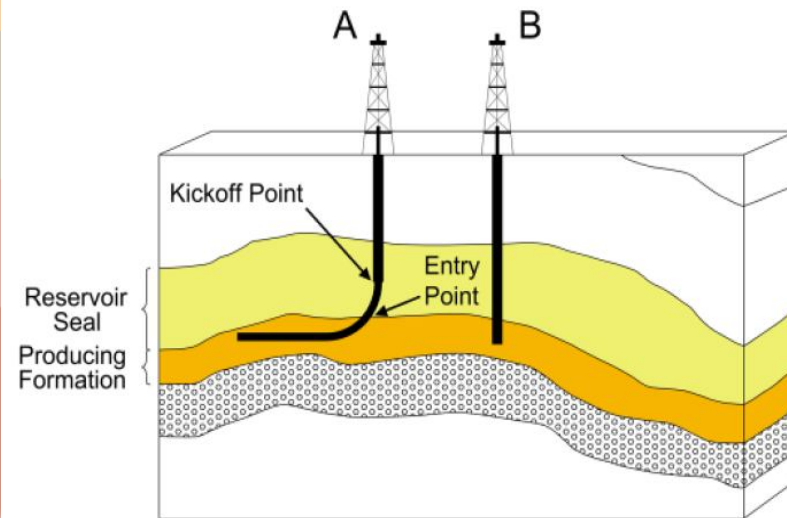


Hydraulic Fracturing & Horizontal Drilling



Graphic by Al Granberg

Greater length of producing formation exposed to the wellbore in a horizontal well A than in a vertical well B



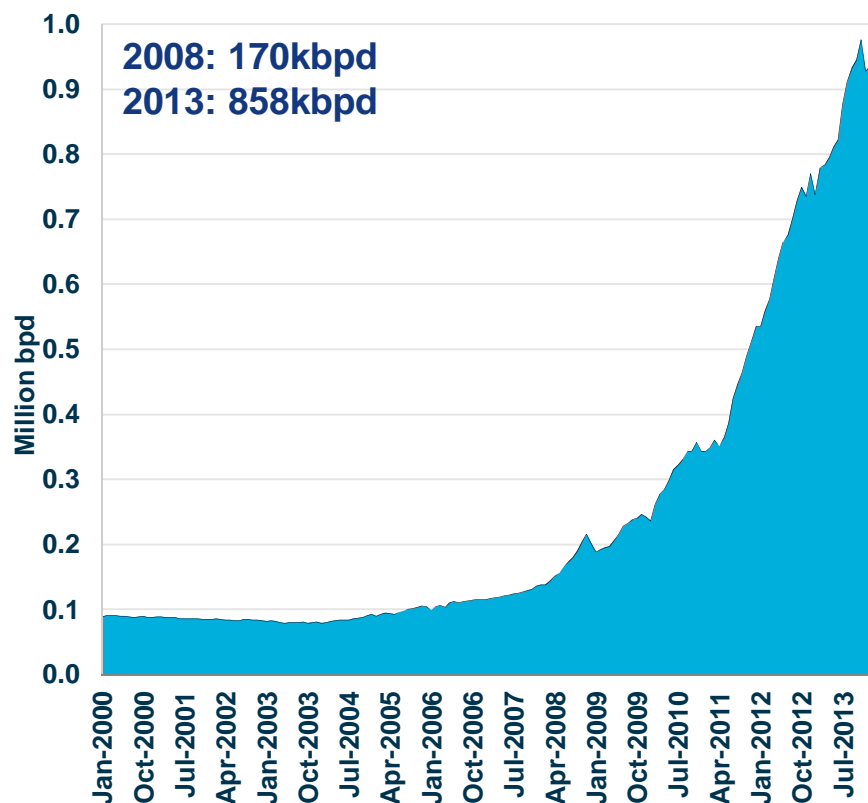
Source: EIA



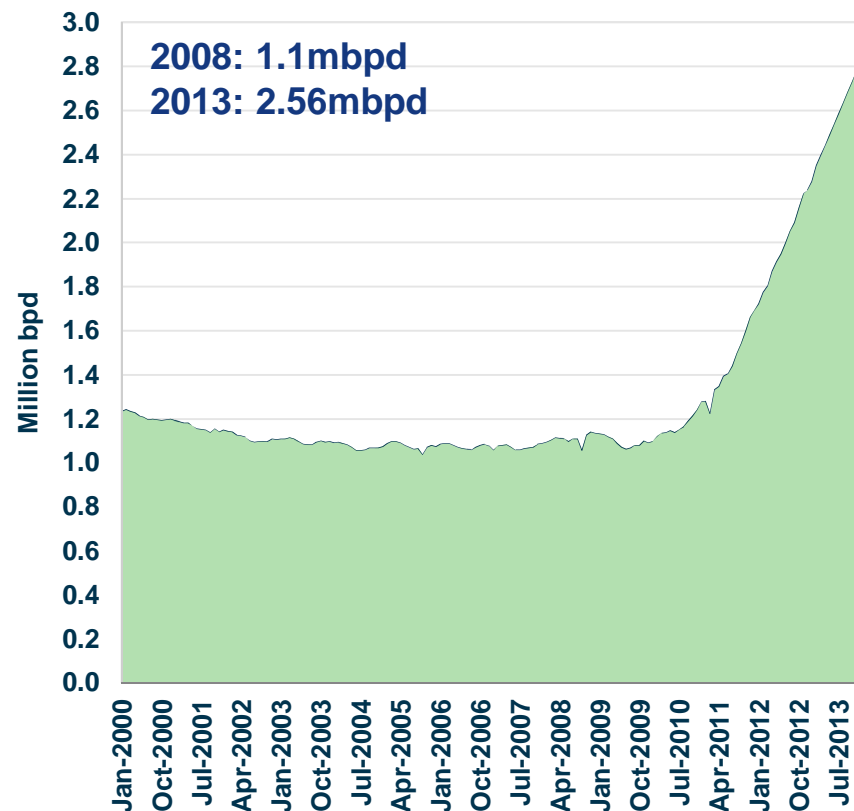


US Crude Oil Production

North Dakota



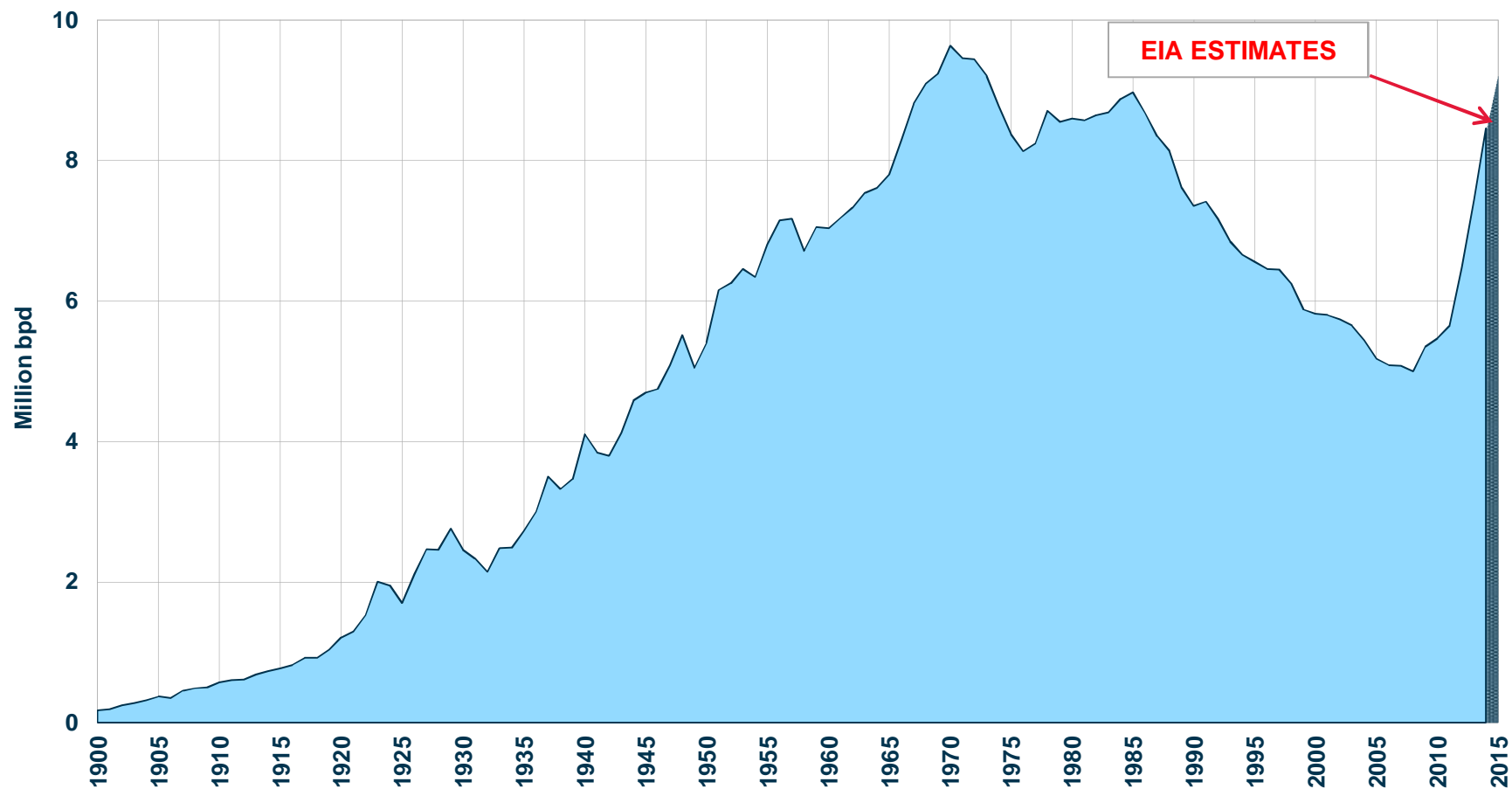
Texas



Data Source: EIA



US Crude Oil Production – Annual Averages

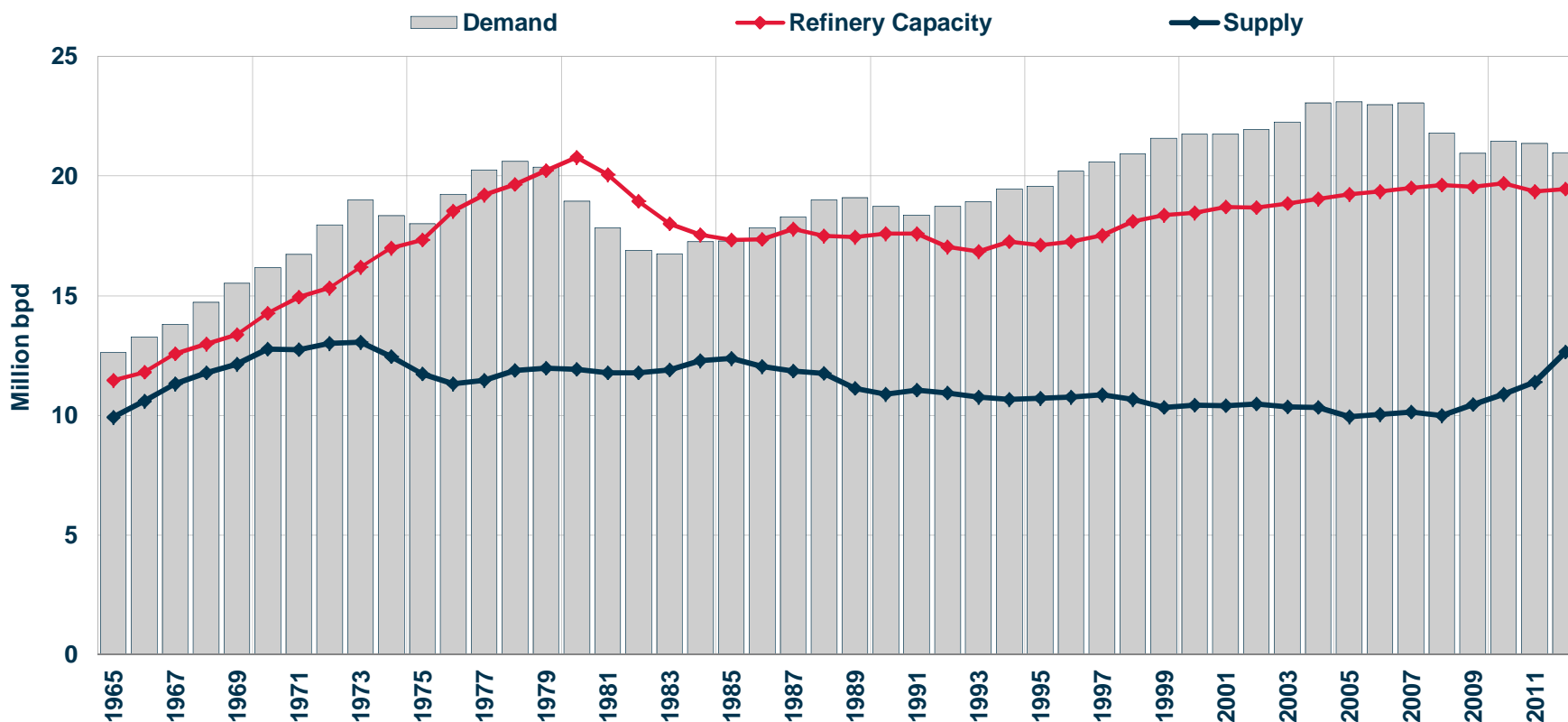


Data source: EIA. Updated May 2014



North American Oil Market

U.S. & Canadian Supply, Demand and Refining Capacity

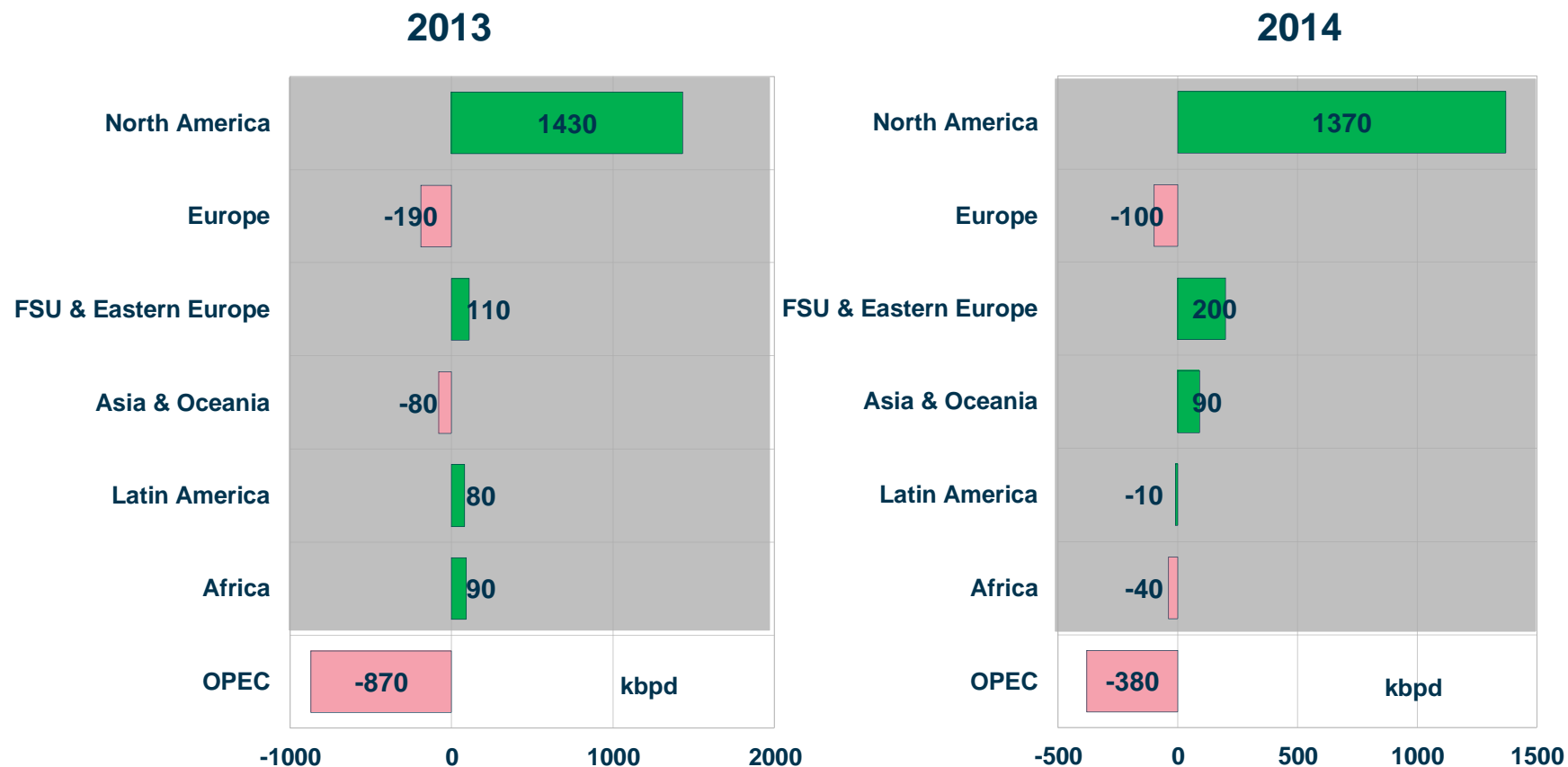


Data source: EIA & BP Stats

U.S. and Canadian Supply includes shale oil, oil from oil sands and NGLs, excludes biofuels



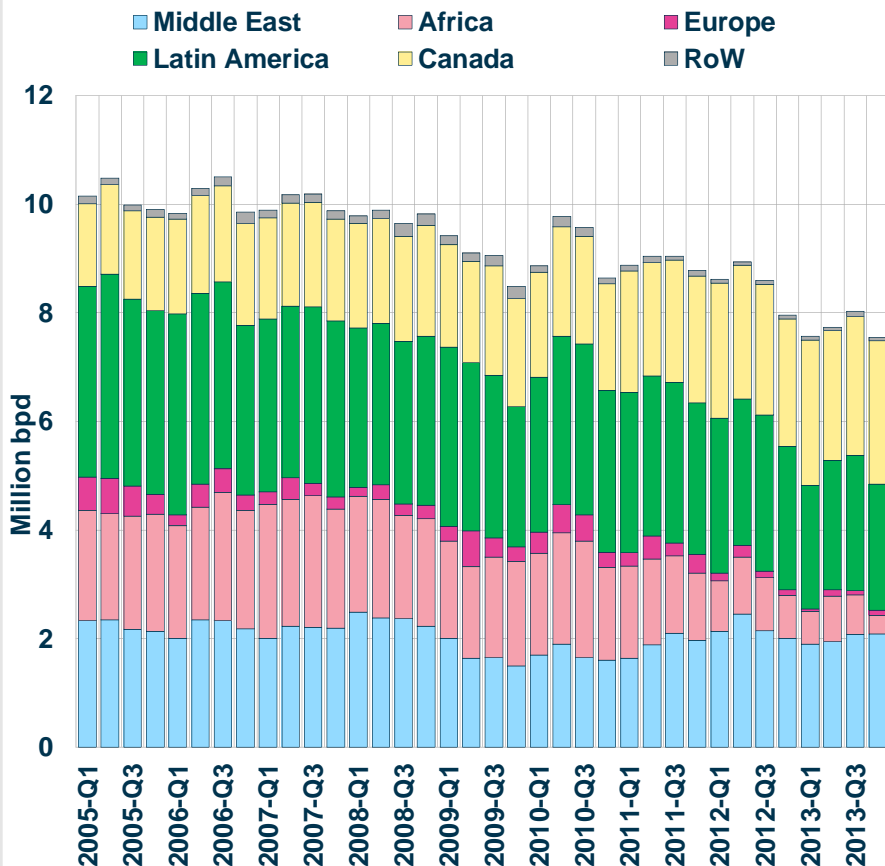
Oil Supply Growth*



Updated to May 2014
* Shaded Areas are Non-OPEC only
Data source: EIA

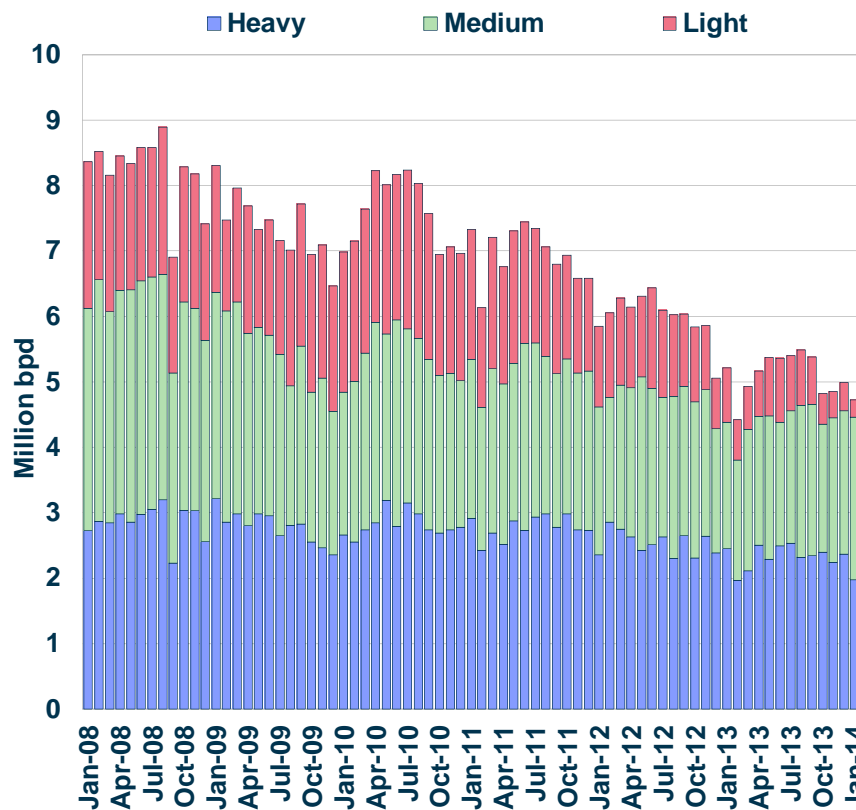


US Crude Oil Imports



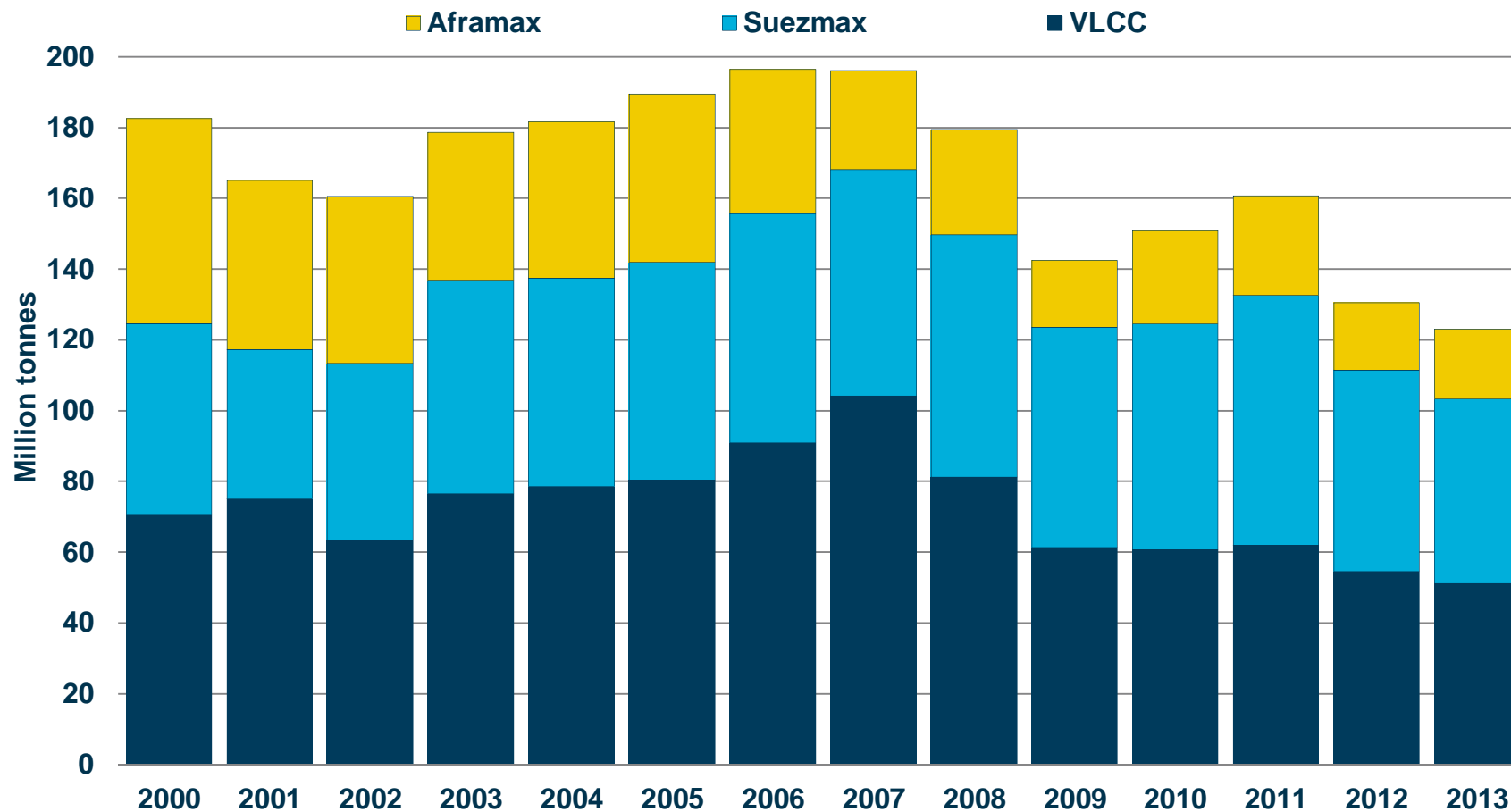
Data Source: EIA

US Crude Seaborne Imports by Type





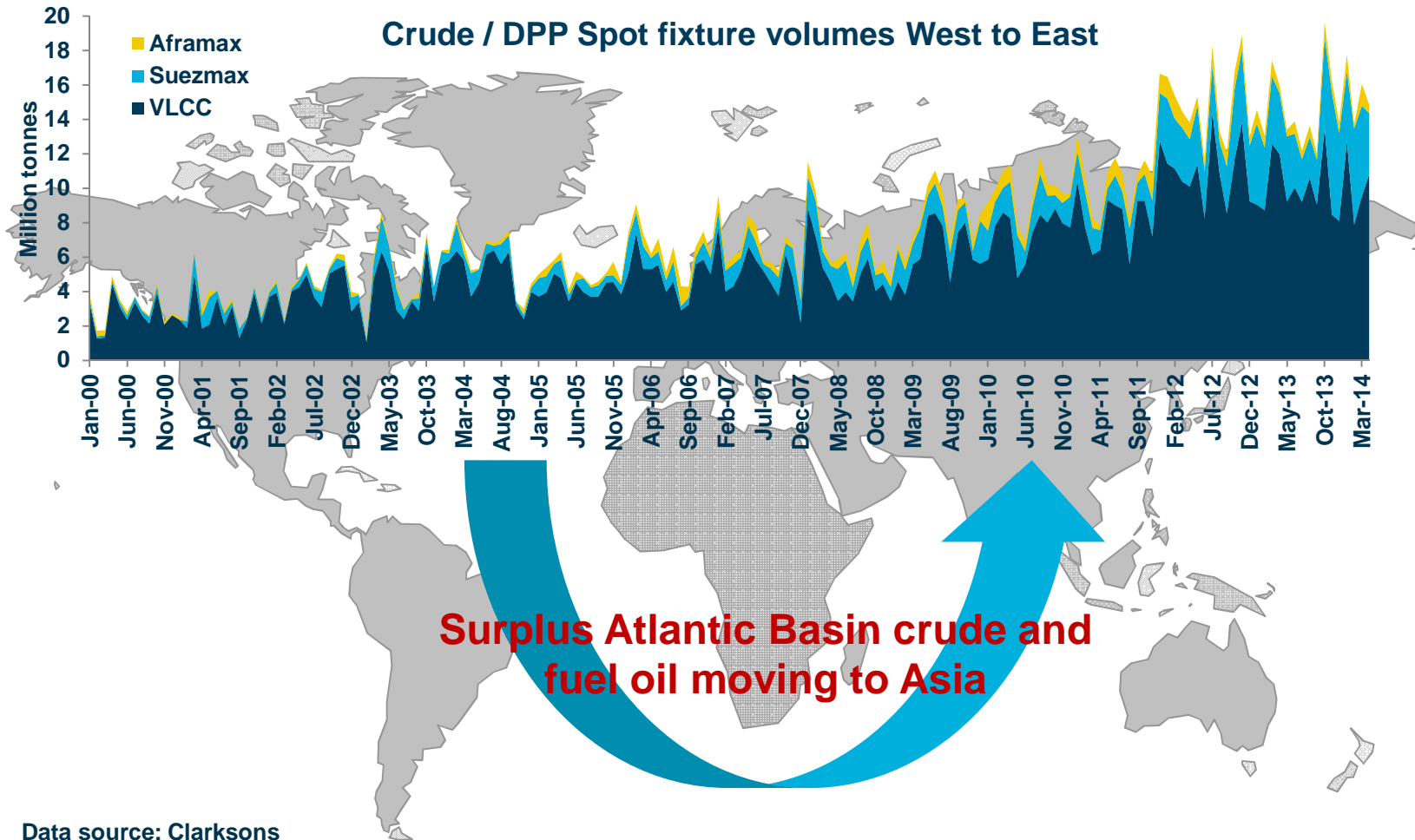
US Crude Spot Market Imports



Data source: Clarksons

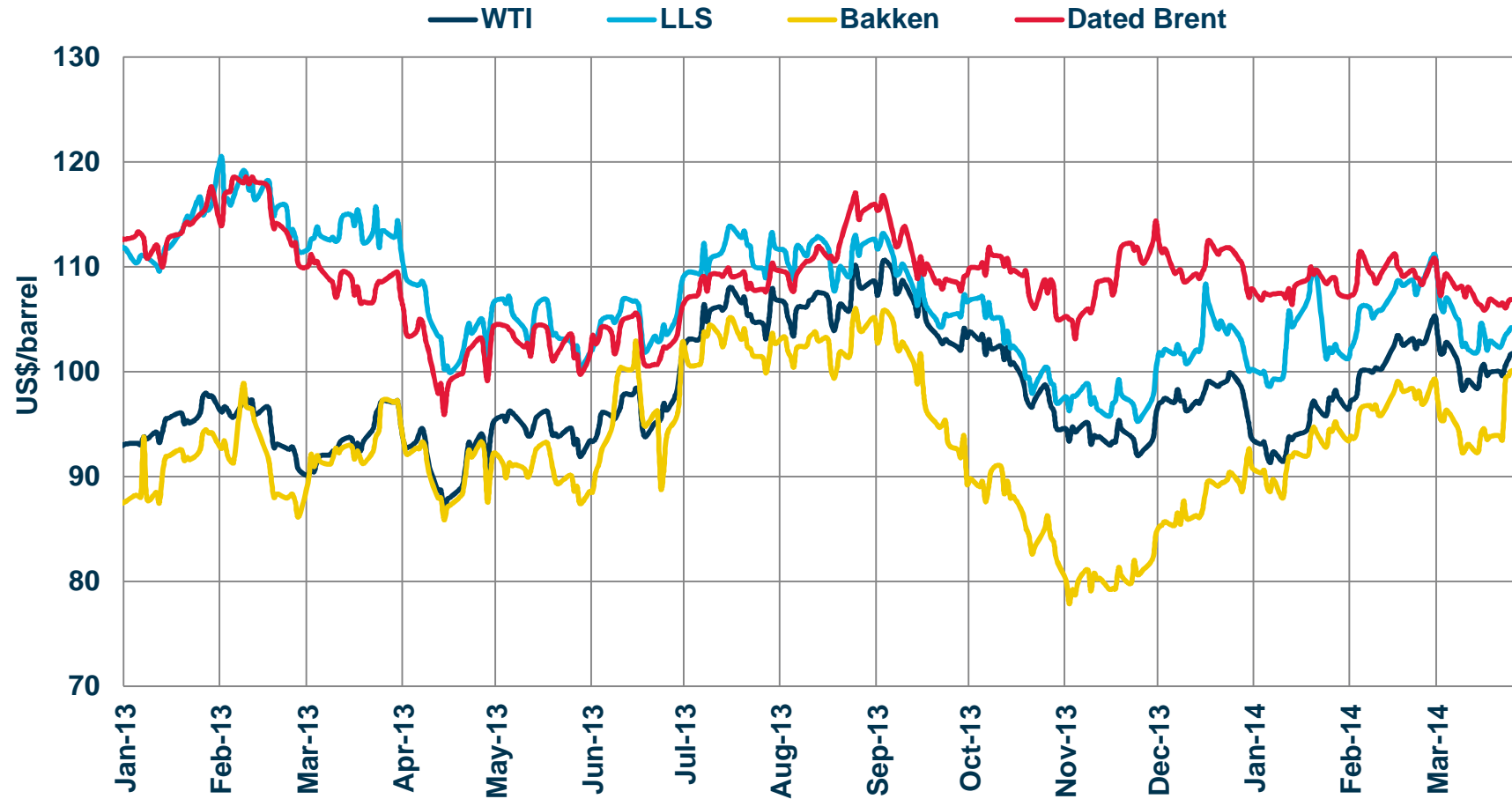


Changing Crude and Fuel Oil Trade Patterns





Crude Prices

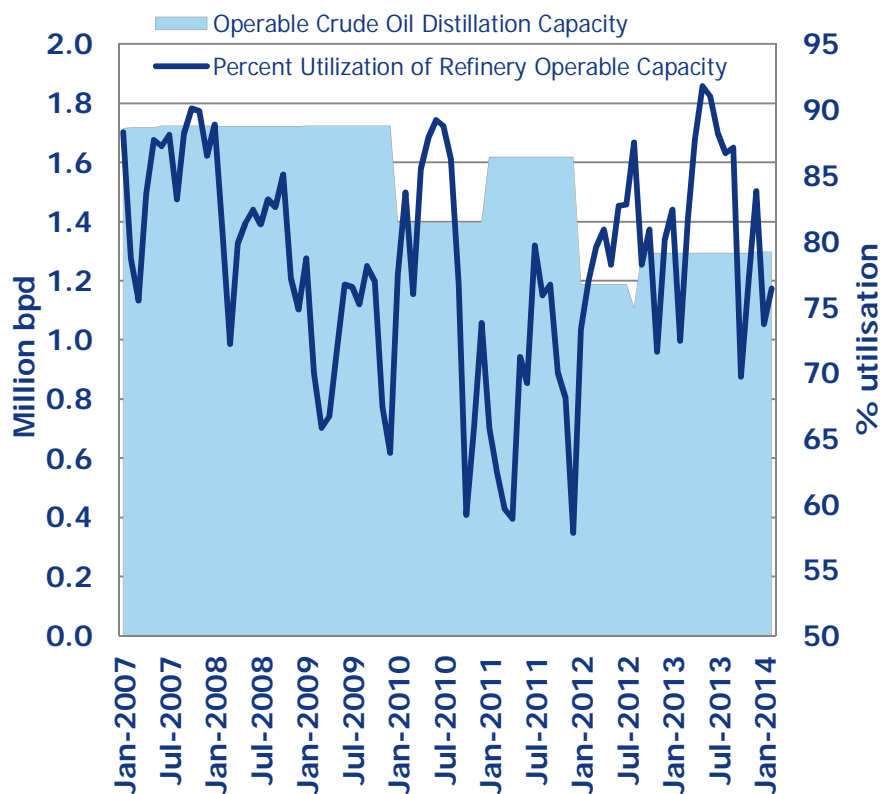


Data Source: Reuters



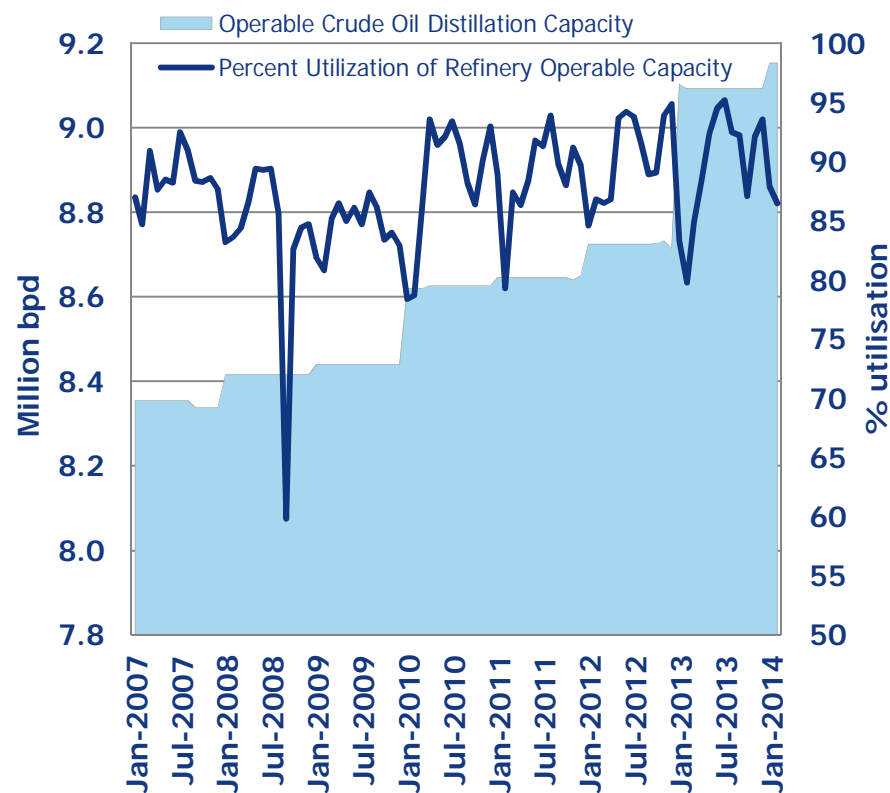
US Refinery Utilisation

US East Coast



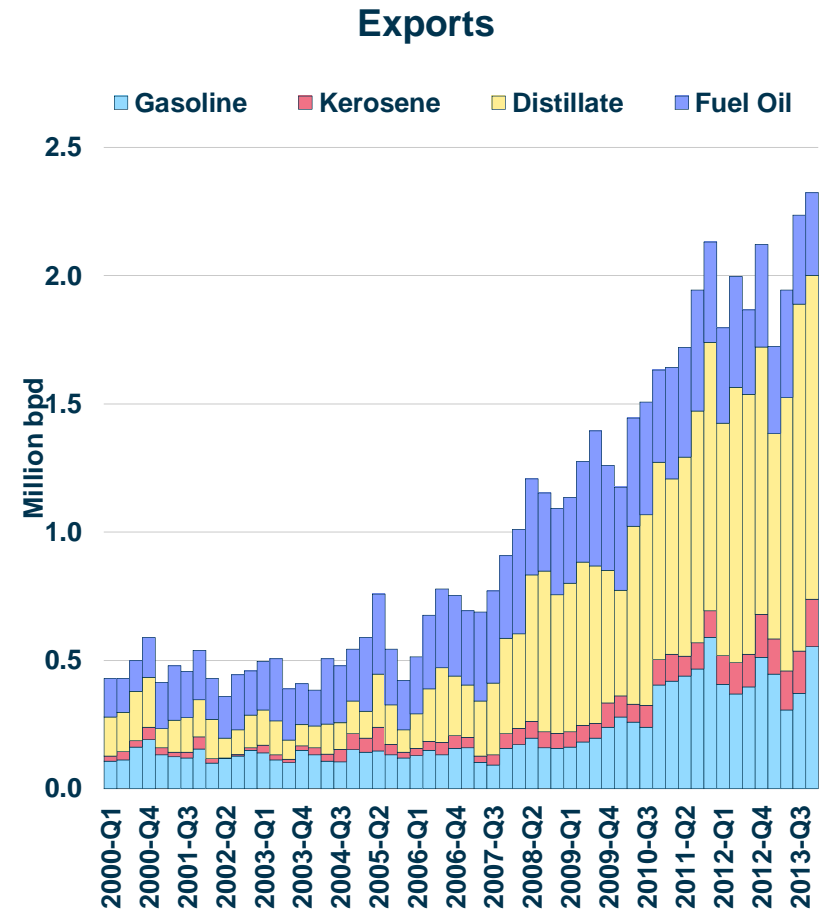
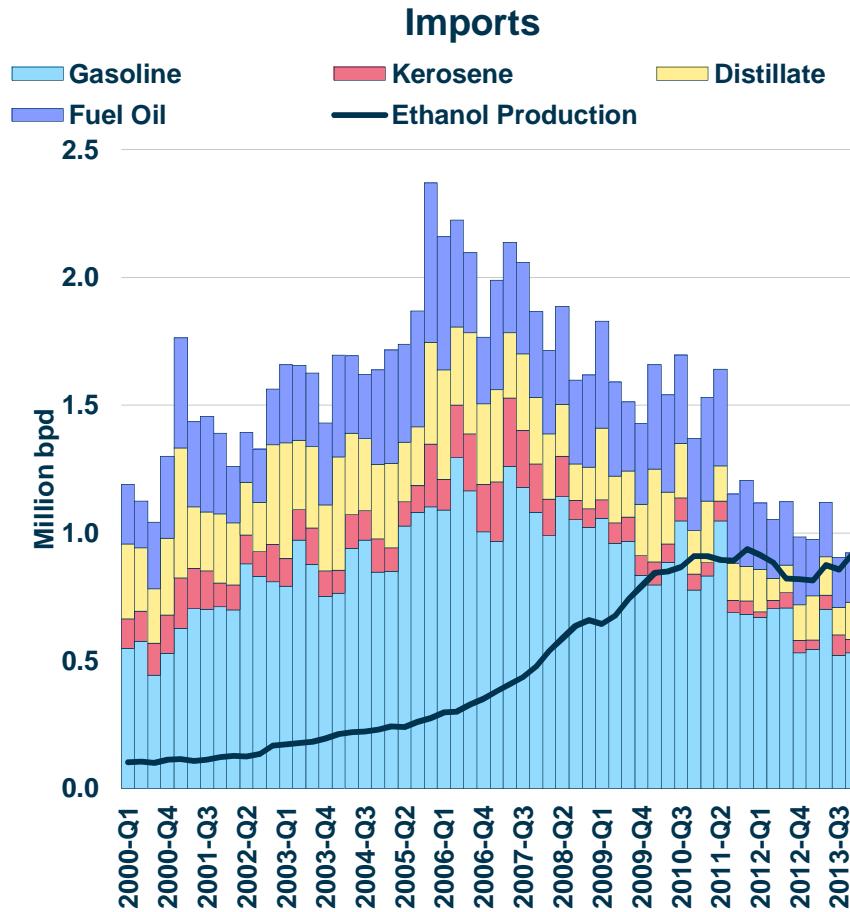
Data source: EIA

US Gulf





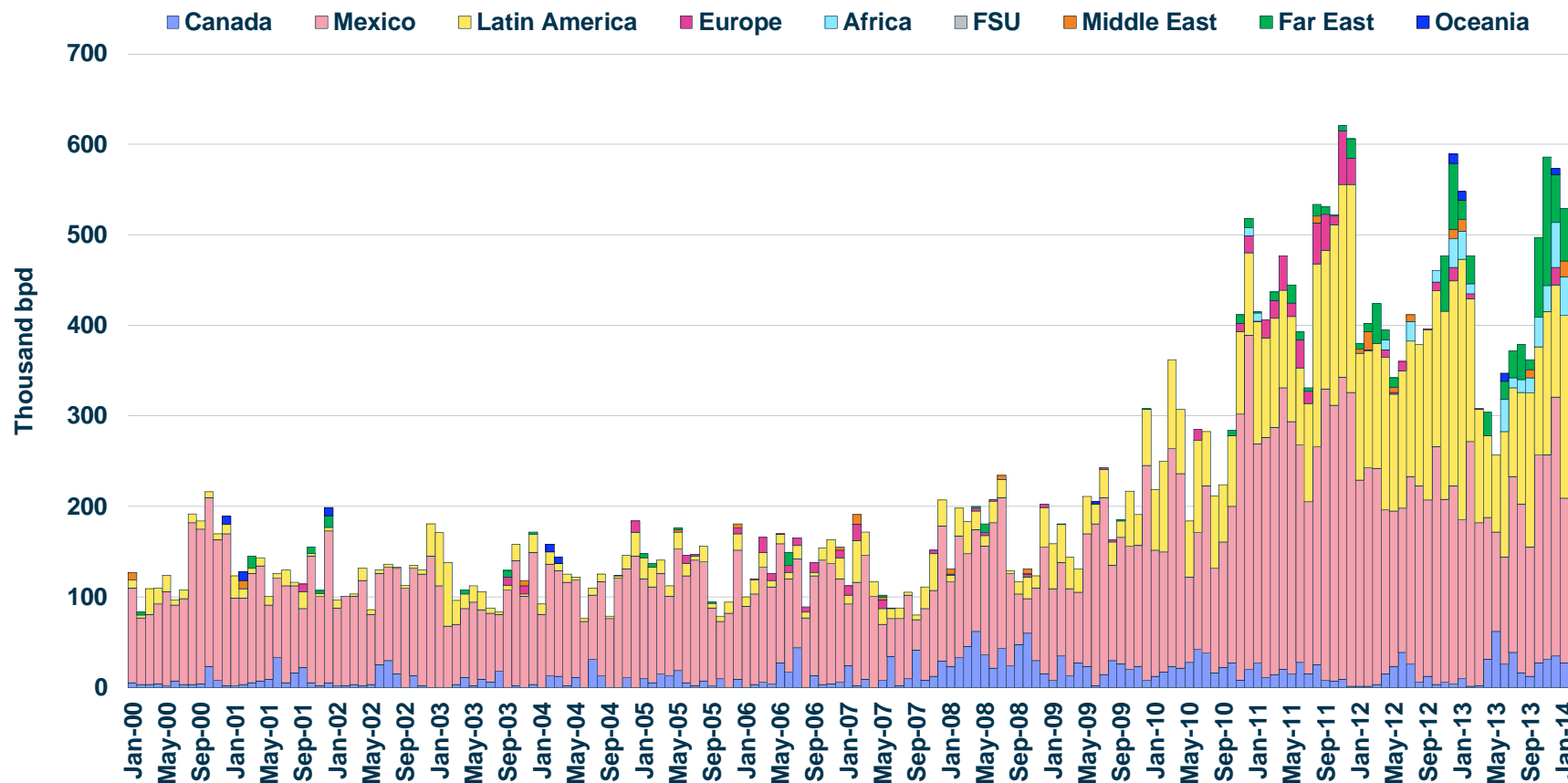
US Petroleum Products Trade



Data Source: EIA



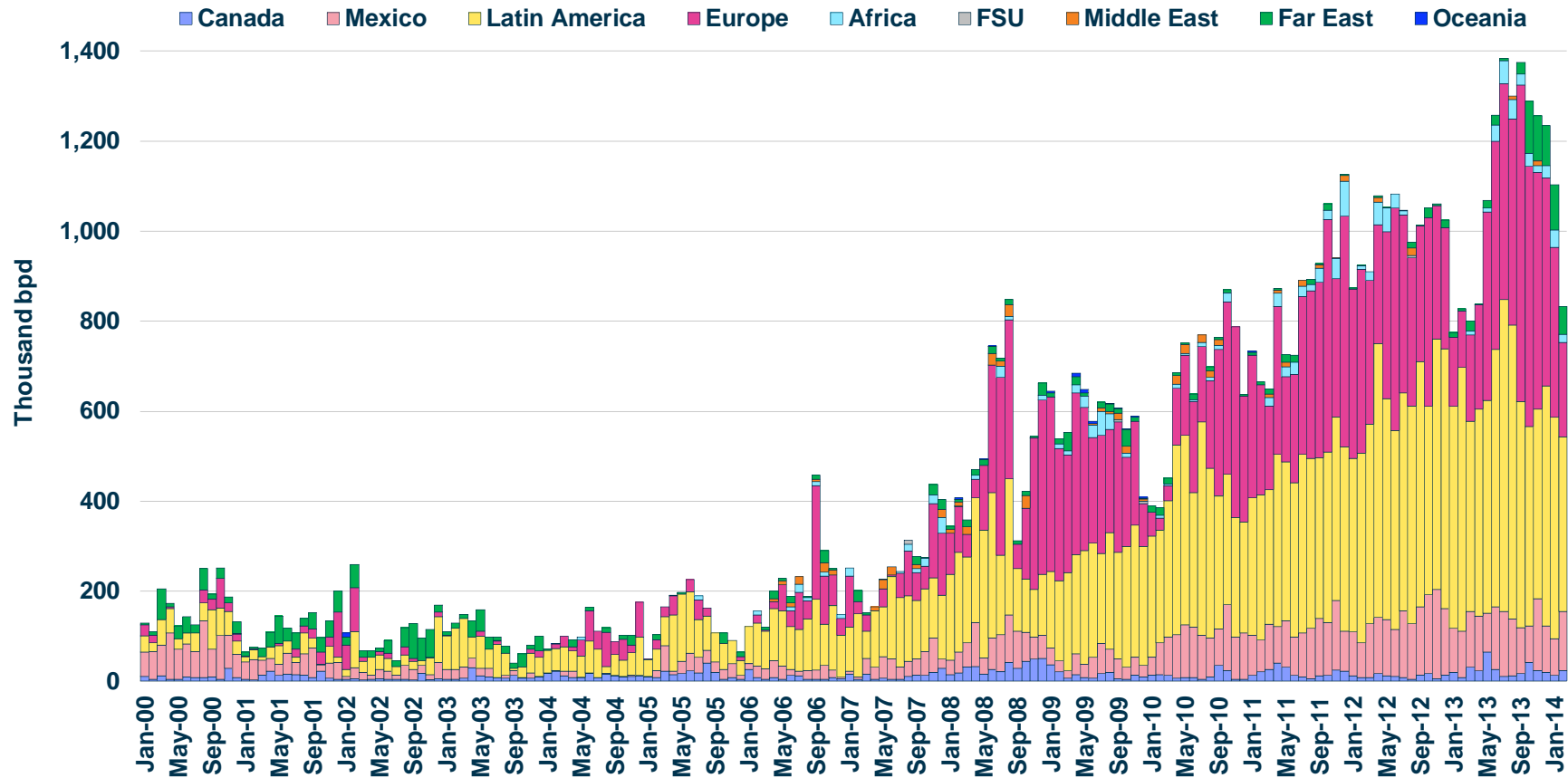
US Gasoline Exports by Regions



Data Source: EIA



US Distillate Fuel Oil Exports by Regions



Data Source: EIA



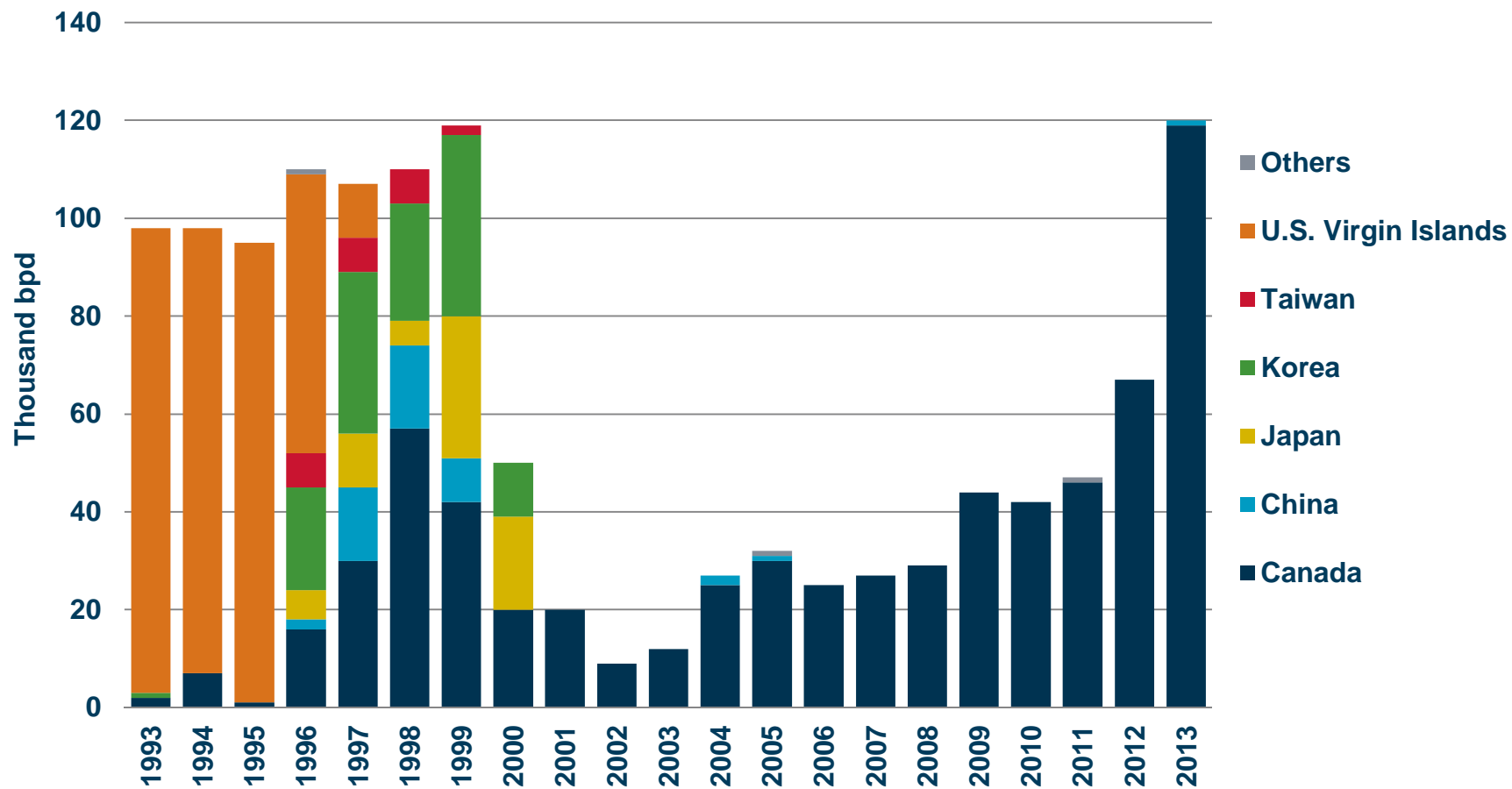
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Thank You



US Crude Oil Exports by Destination



Data Source: EIA



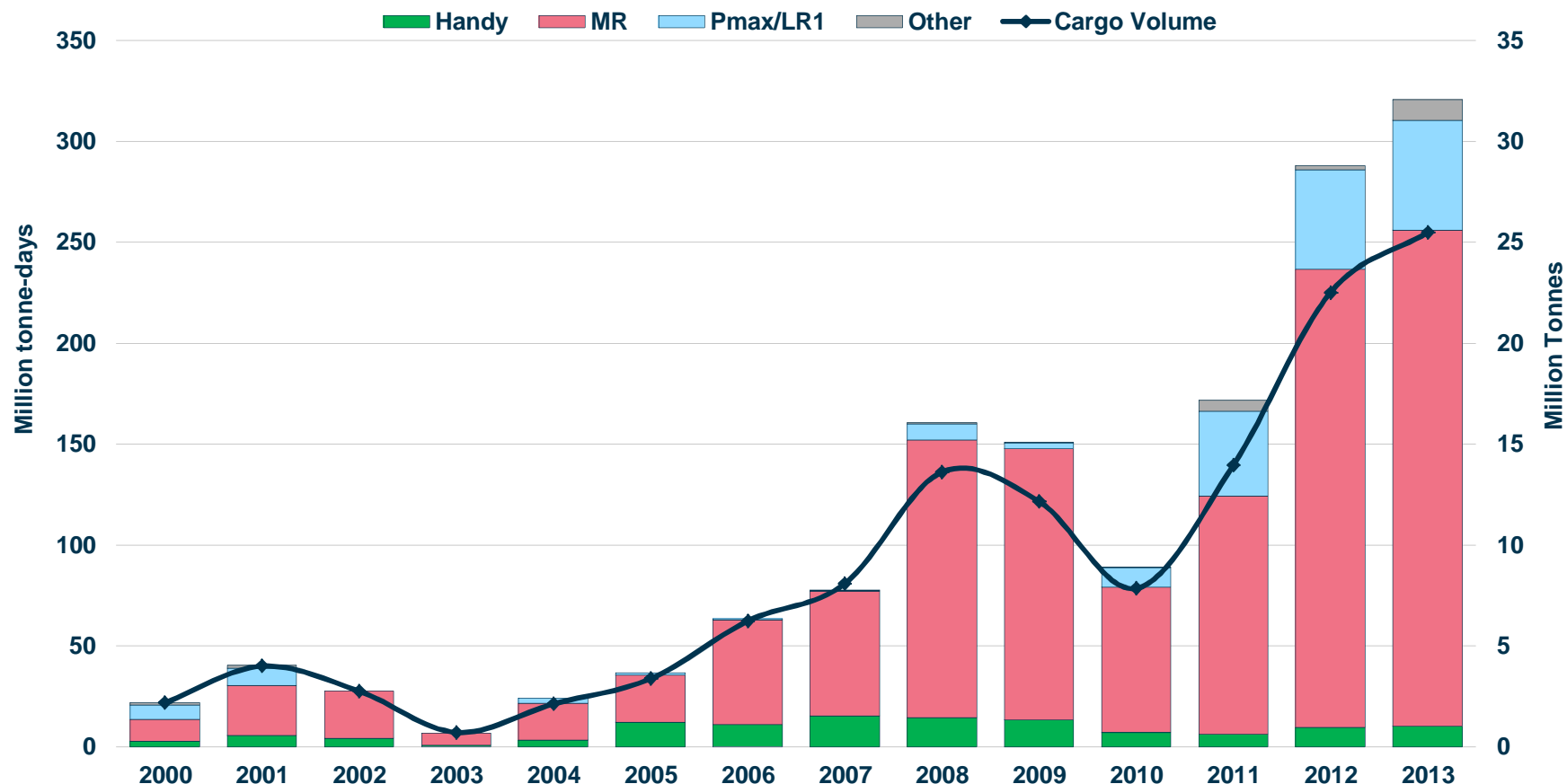
Exemptions to the US crude oil export ban

- Crude oil derived from fields under the State waters of Alaska's Cook Inlet;
- Alaskan North Slope crude oil;
- Certain domestically produced crude oil destined for Canada, for consumption therein;
- Shipments to U.S. territories;
- Up to an average of 25,000 bbl/d of California heavy crude oil;
- In connection with refining or exchange of Strategic Petroleum Reserve oil;
- Foreign-origin crude oil where, based on written documentation satisfactory to BIS, the exporter can demonstrate that the oil is not of U.S. origin and has not been commingled with oil of U.S. origin;
- Exports that are consistent with findings made by the President under an applicable statute;

Source: EIA



US Spot Clean Loadings by Vessel Type

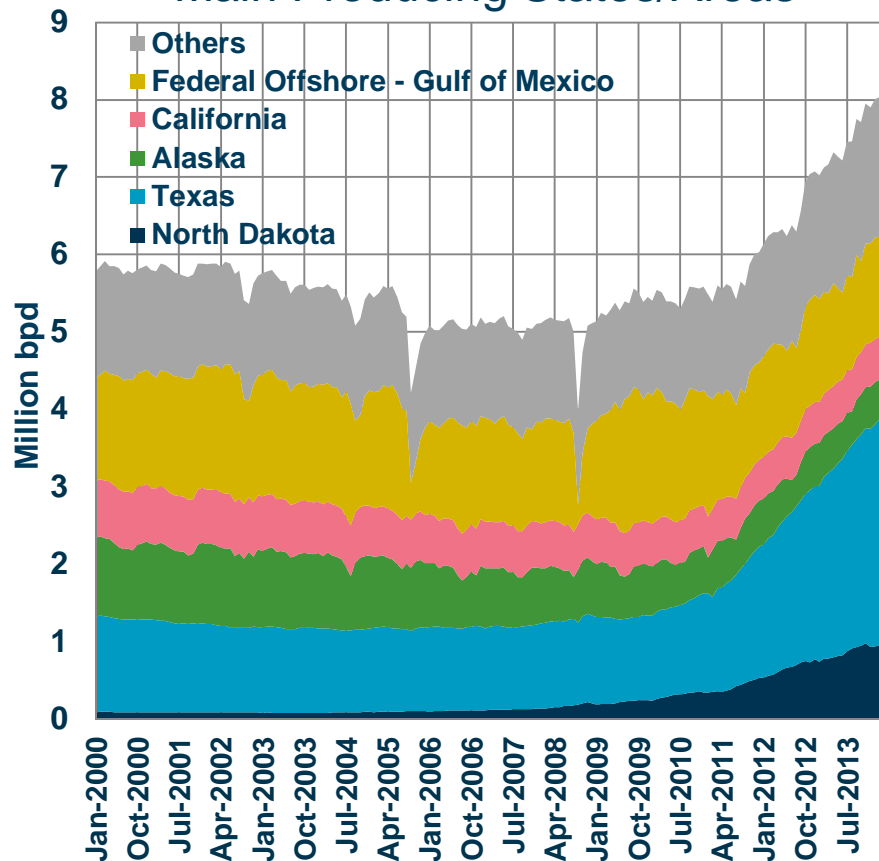


* Laden days based on 14 knots
Data Source: Clarksons



US Crude Oil Production

Main Producing States/Areas



Data source: EIA

Changes in Annual Output '08-'13

