



An Industry in Transition:

Where There is Oil & Gas There Will Be Pipelines

By Jeff Share

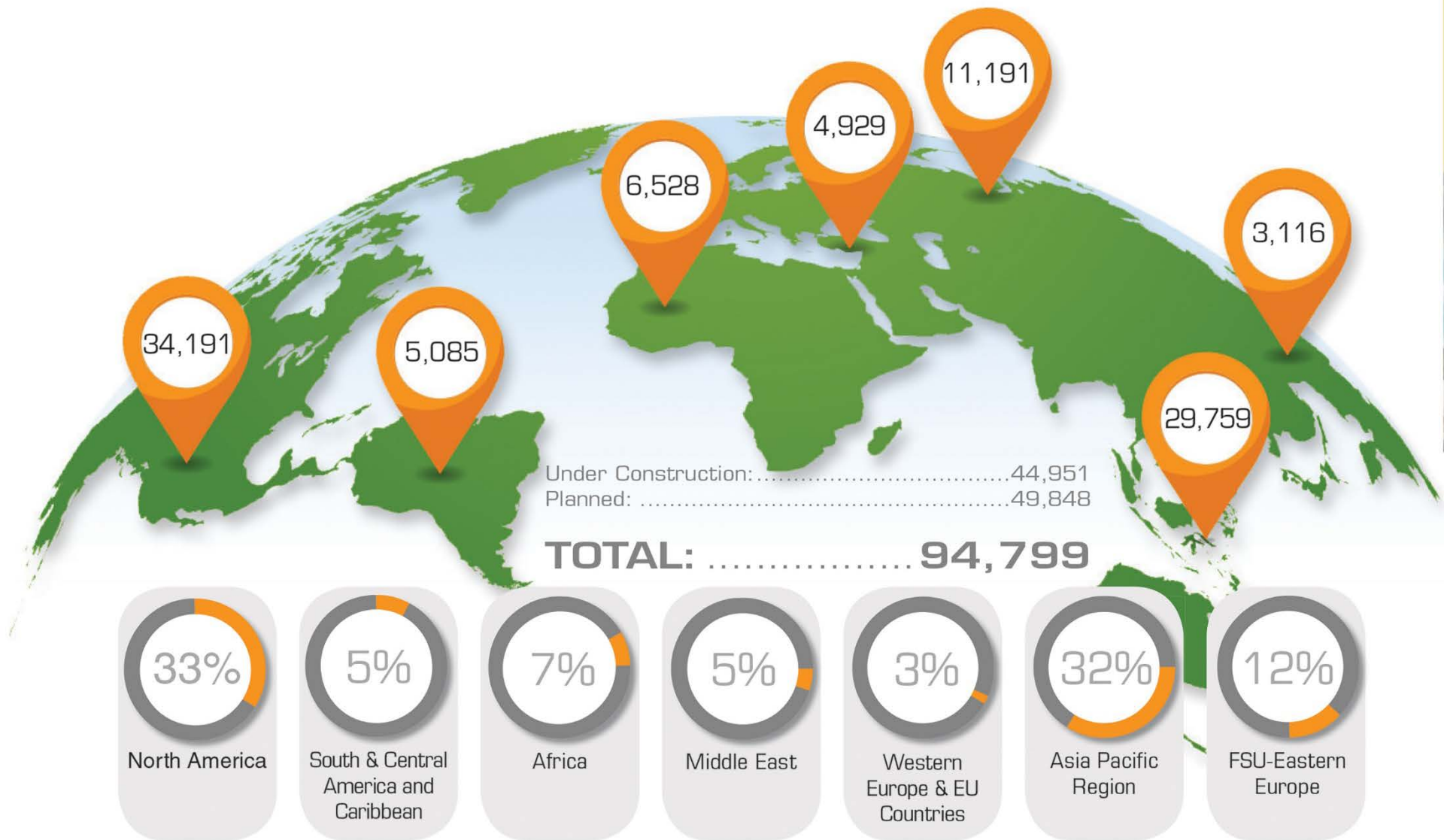
Pipeline & Gas Journal

connecting you to the pipeline industry worldwide



oildompublishing
company of texas, inc.

Pipeline Mileage Totals



P&GJ's 2016 survey figures indicate 94,799 miles of pipelines are planned and under construction worldwide. Of these, 49,848 miles represent projects in the engineering and design phase; 44,951 miles are in various stages of construction.

Following is a list of new and planned pipeline miles in:

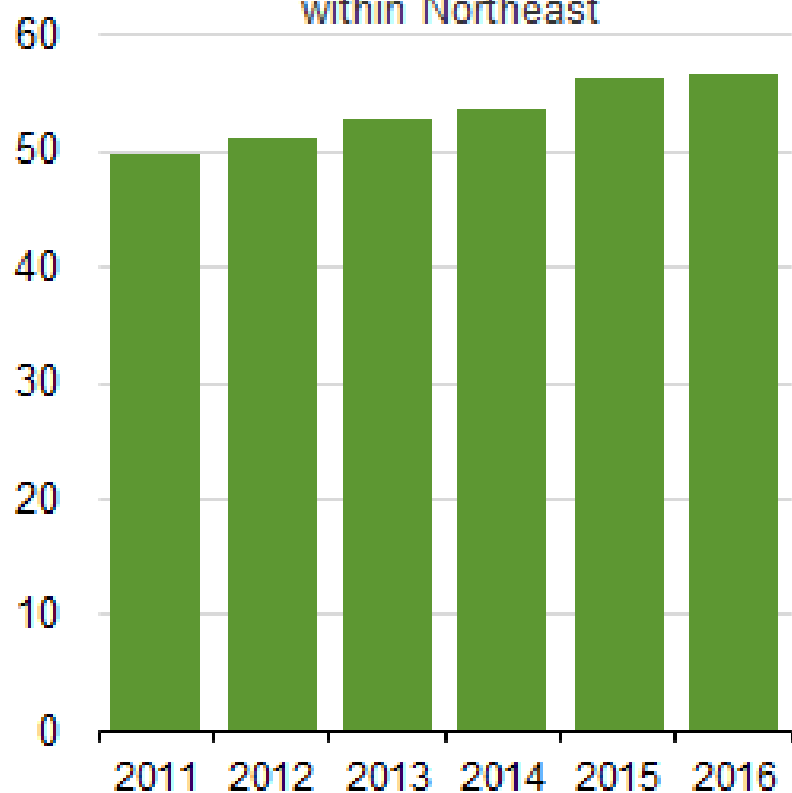
North America	34,122
South/Central America and Caribbean	5,085
Africa	6,528
Asia Pacific	29,759
Former Soviet Union and Eastern Europe	11,191
Middle East	4,929
Western Europe and European Union	3,116

TOTALS:

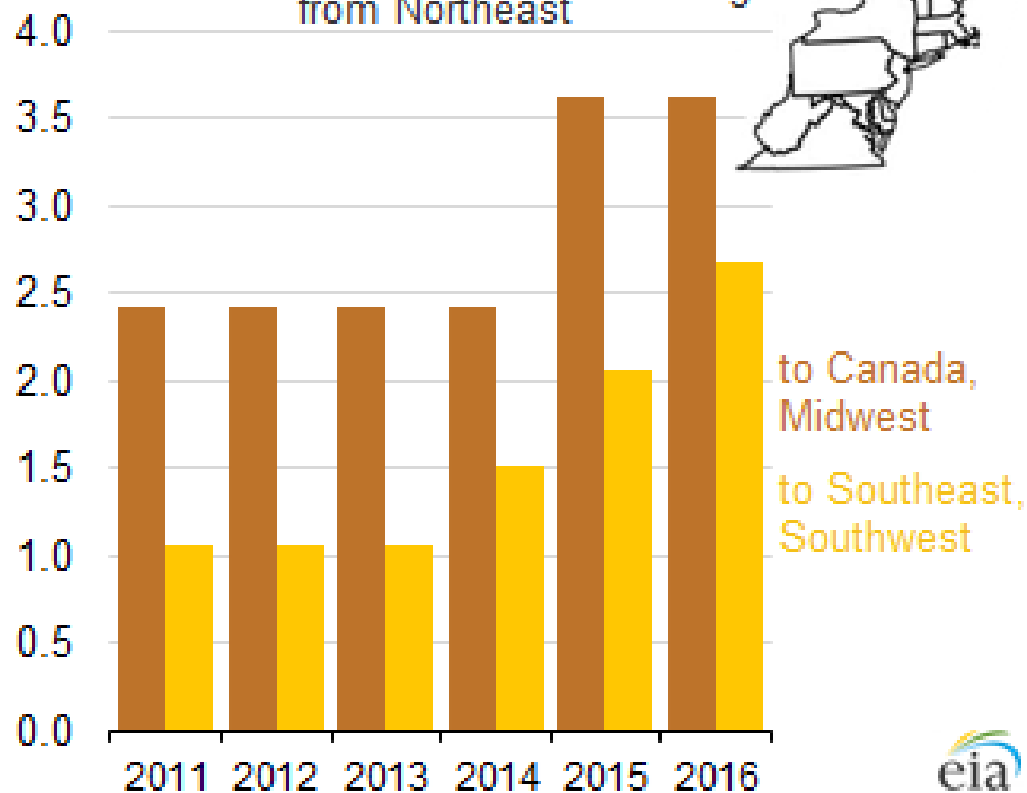
Pipeline Miles Under Construction	44,951
Pipeline Miles Planned	<u>49,848</u>
Total Miles	94,799

million cubic feet

within Northeast



from Northeast

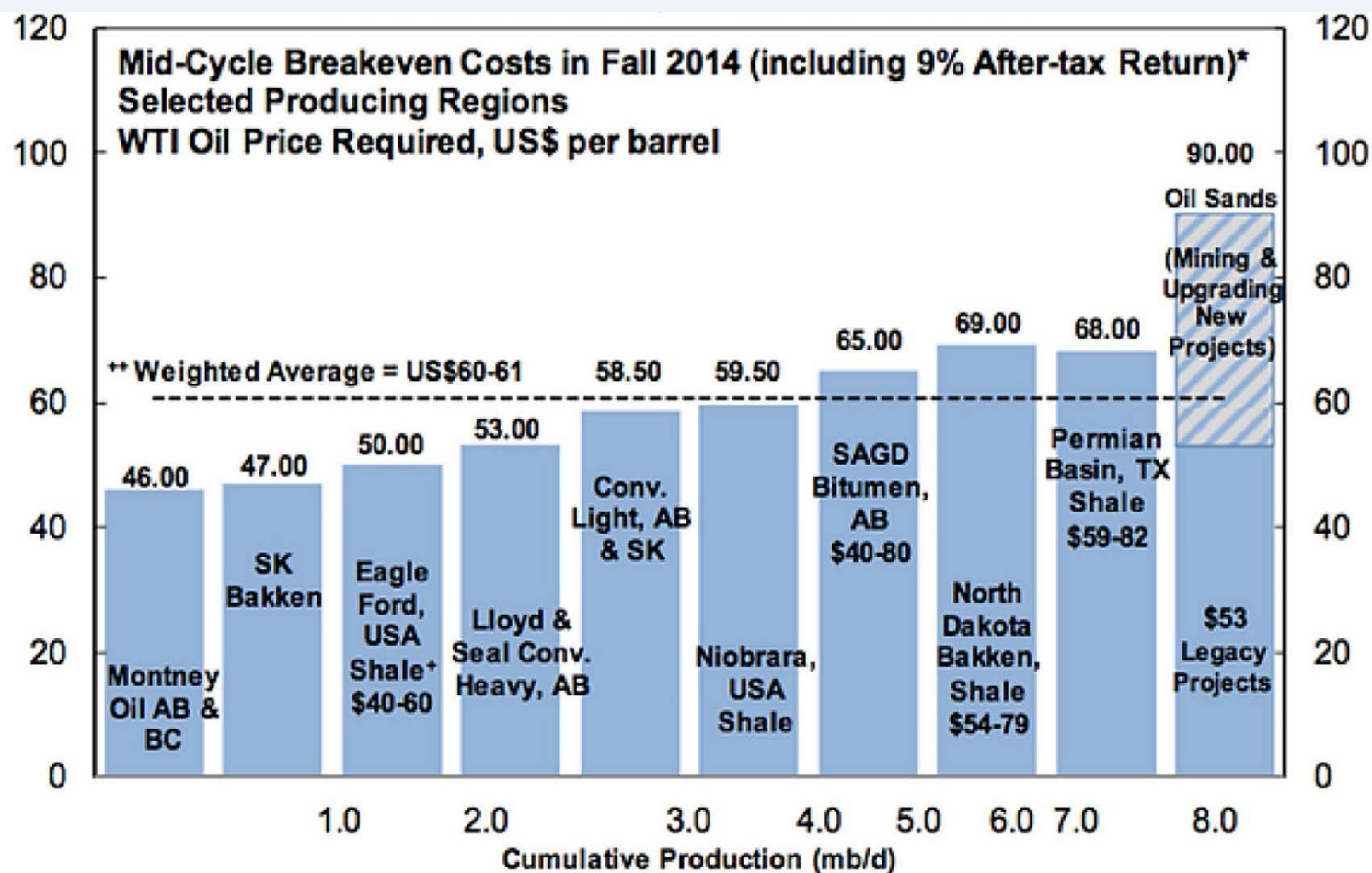


Northeast
region

to Canada, Midwest

to Southeast,
Southwest

Crude Oil Cost Curve



* Excludes 'up-front' costs (initial land acquisition, seismic and infrastructure costs): treats 'up-front' costs as 'sunk'. Rough estimate of 'up-front' costs = US\$5-10 per barrel, though wide regional differences exist. Includes royalties, which are more advantageous in Alberta/Saskatchewan.

+ Liquids-rich Eagle Ford plays, assuming natural gas prices of US\$3.80 per mmbtu.

++ Weighted avg. = US\$60-61 including existing Integrated Oil Sands at C\$53 per barrel.

Saudi Arabia: US\$10-25 per barrel.

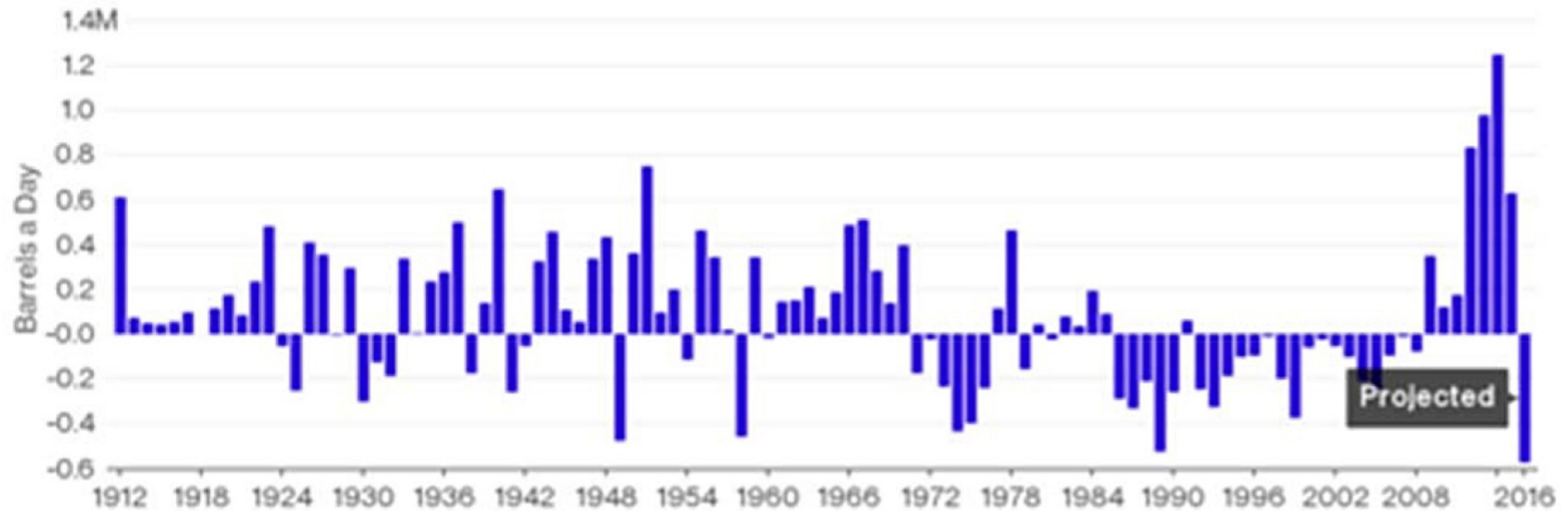
Data source: Scotiabank Equity Research and Scotiabank Economics.

U.S. Oil Output to suffer Record drop

U.S. Oil Output About to Suffer Record Drop

A collapse in the drilling rig count means 570,000 barrels a day less oil next year

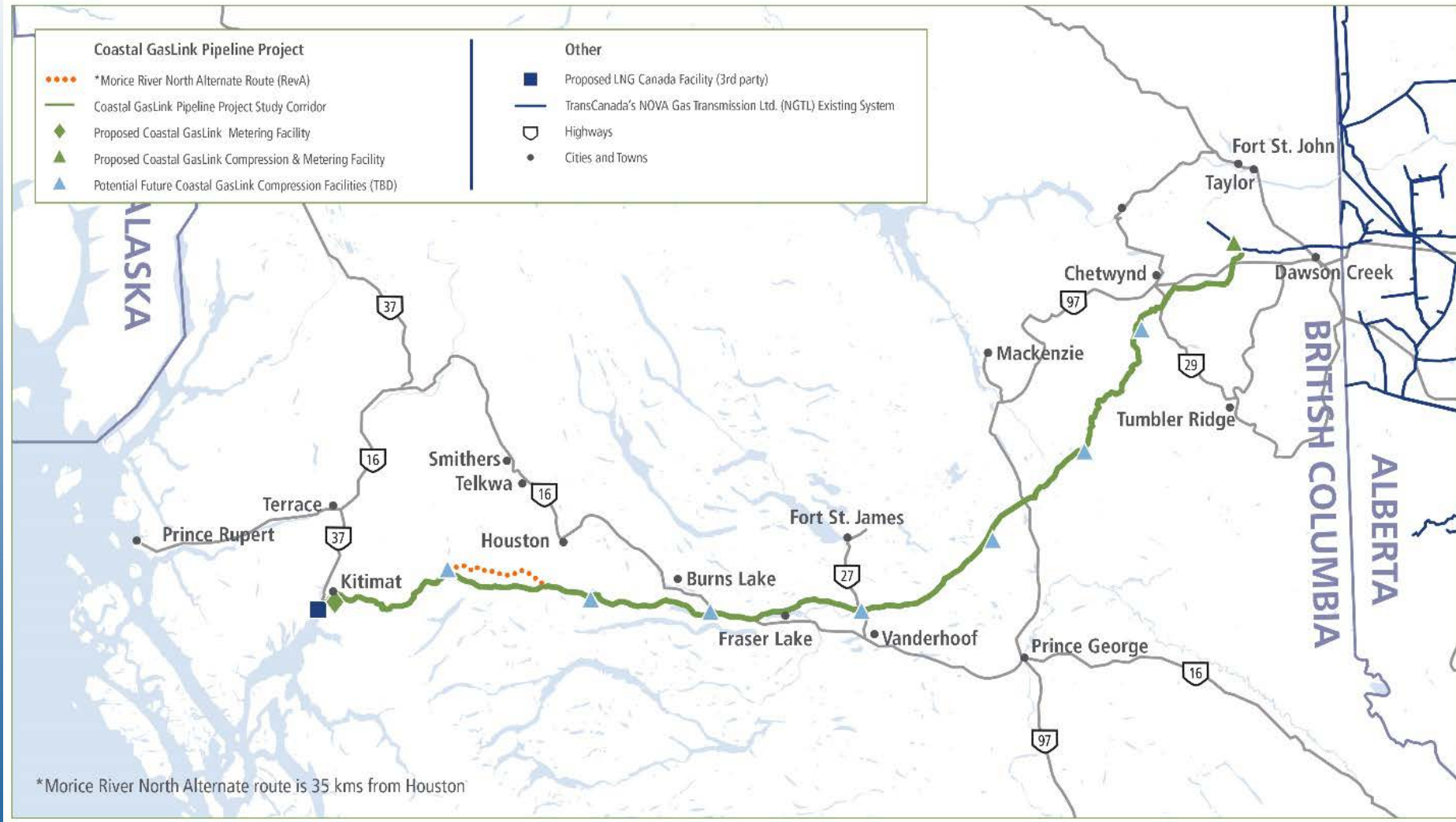
■ Annual Change in U.S. Oil Production



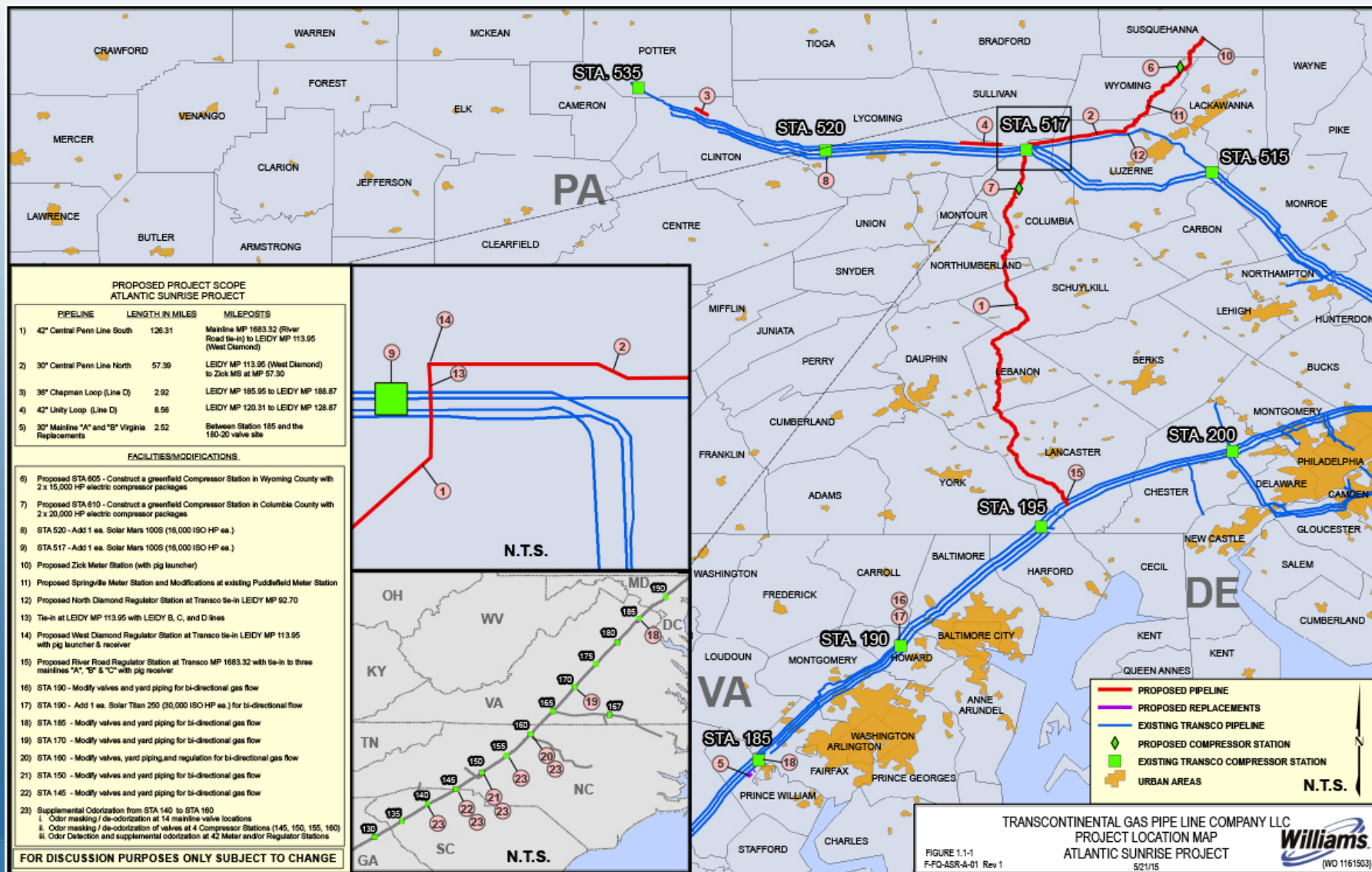
Source: Energy Information Administration

Bloomberg

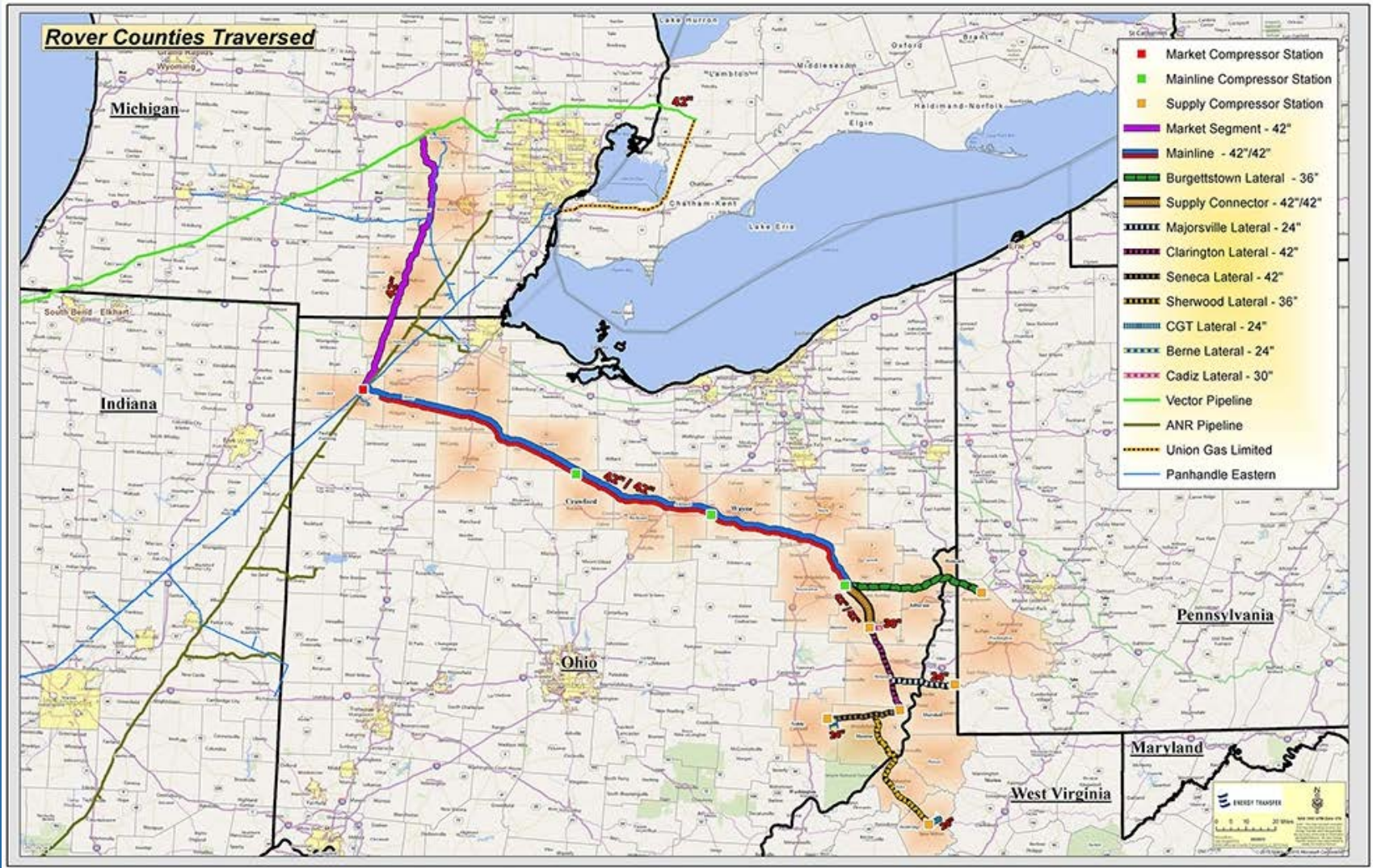
Coastal Gas Link Map



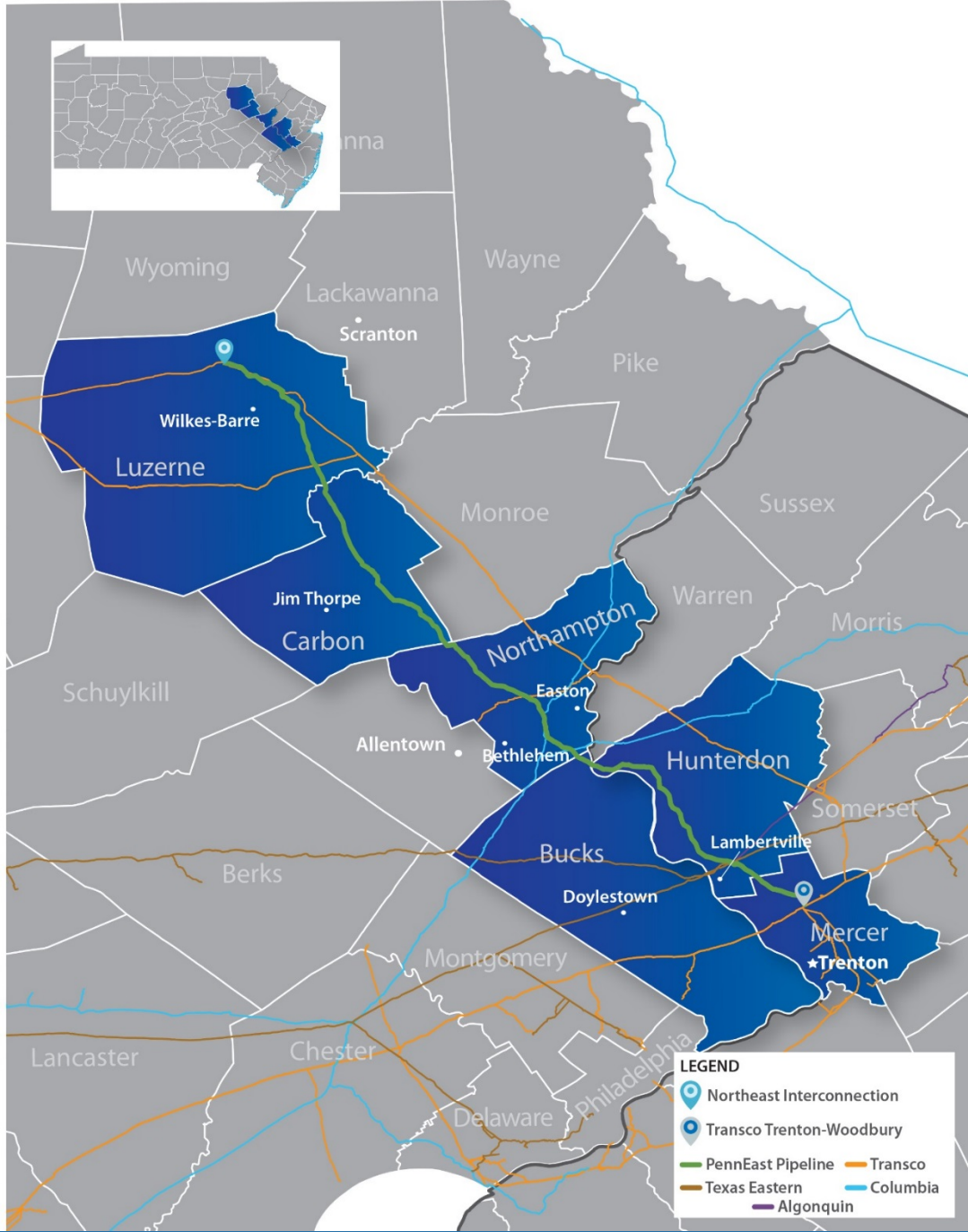
Atlantic Sunrise Map



Rover Pipeline Map



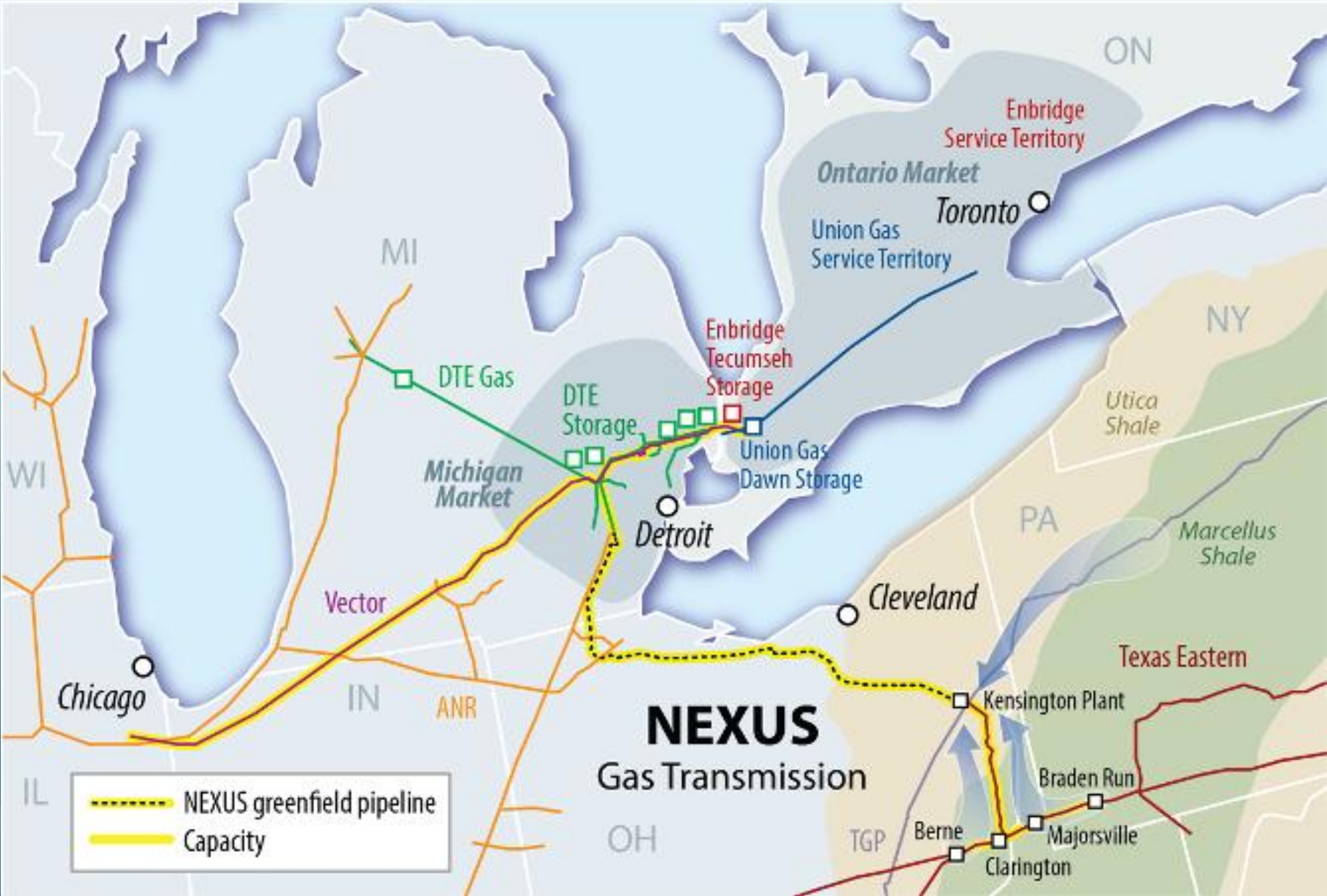
PennEast Map



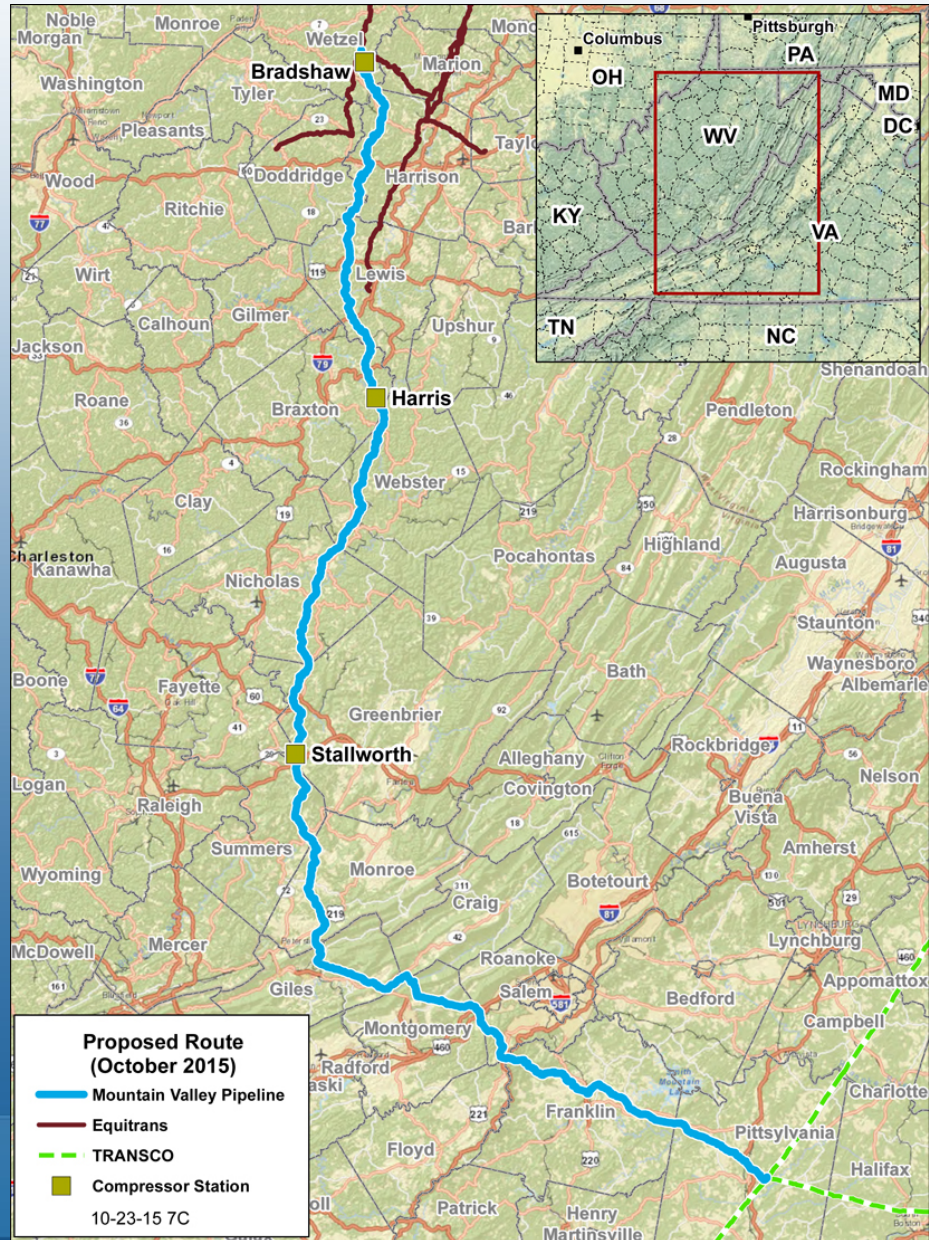
Lake Island Delivery Meter Station Map



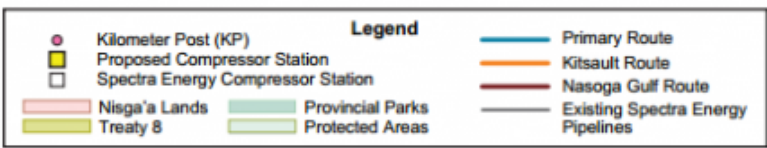
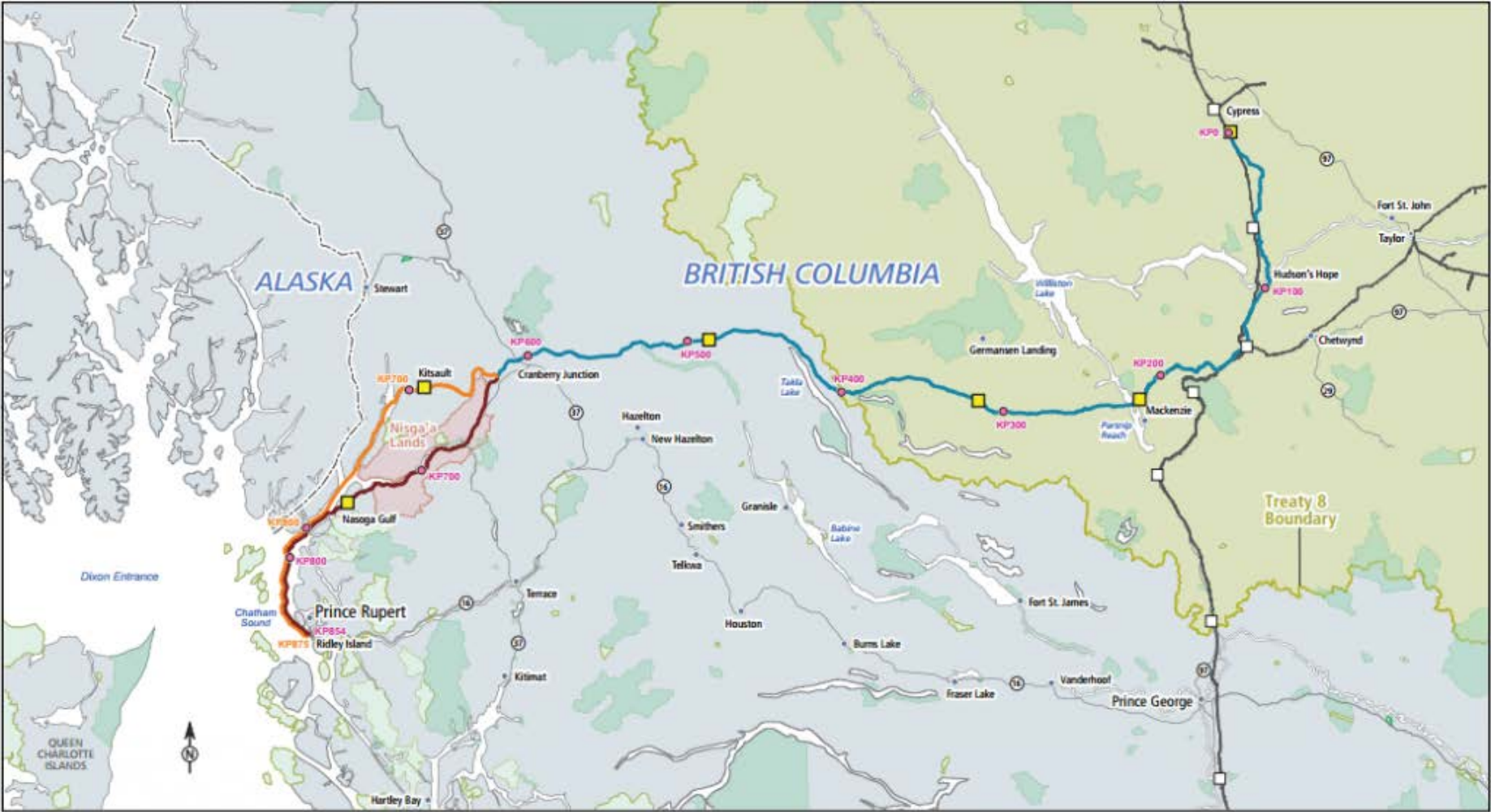
NEXUSs Map



Mountain Valley Map



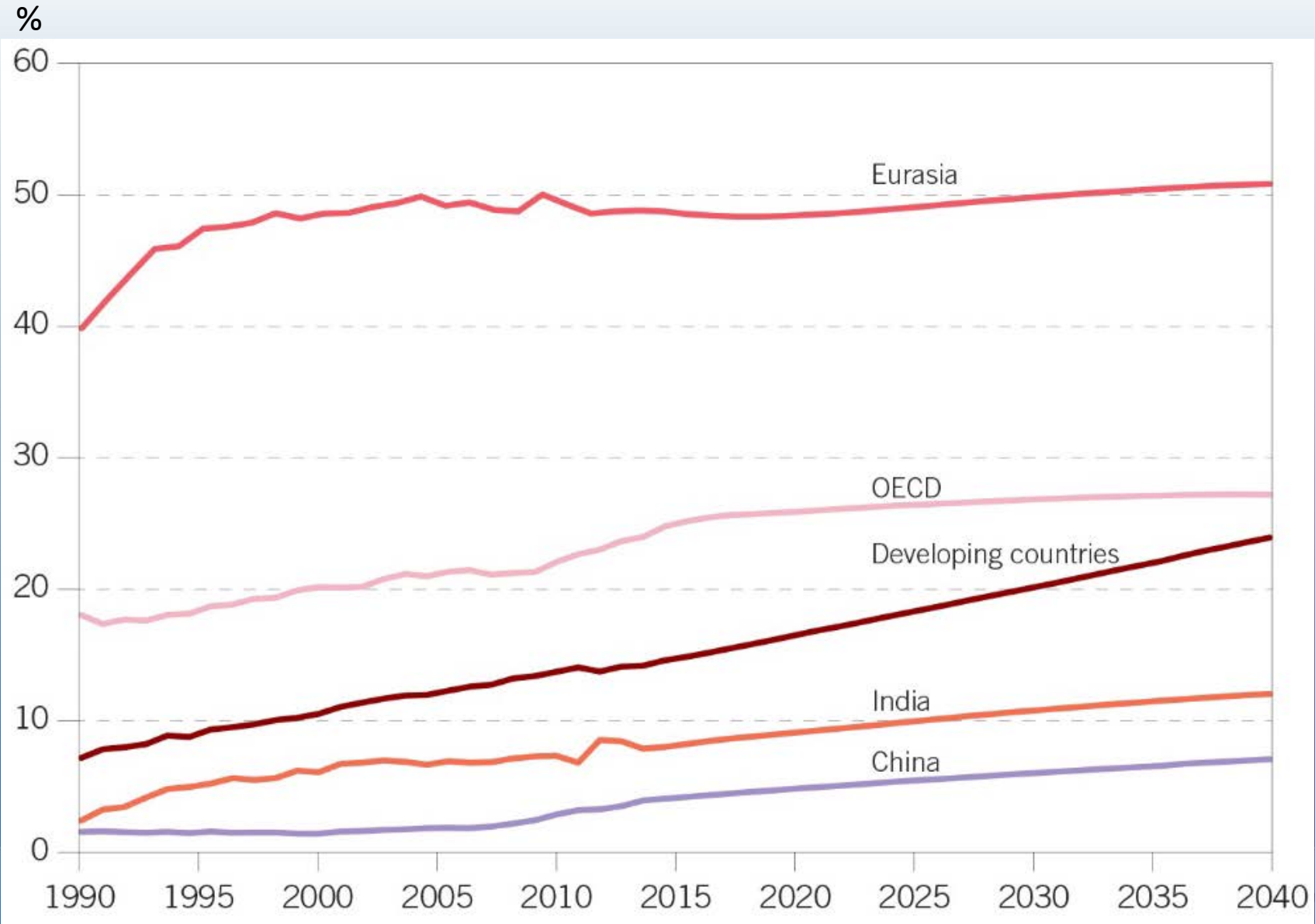
West Coast Connector Map



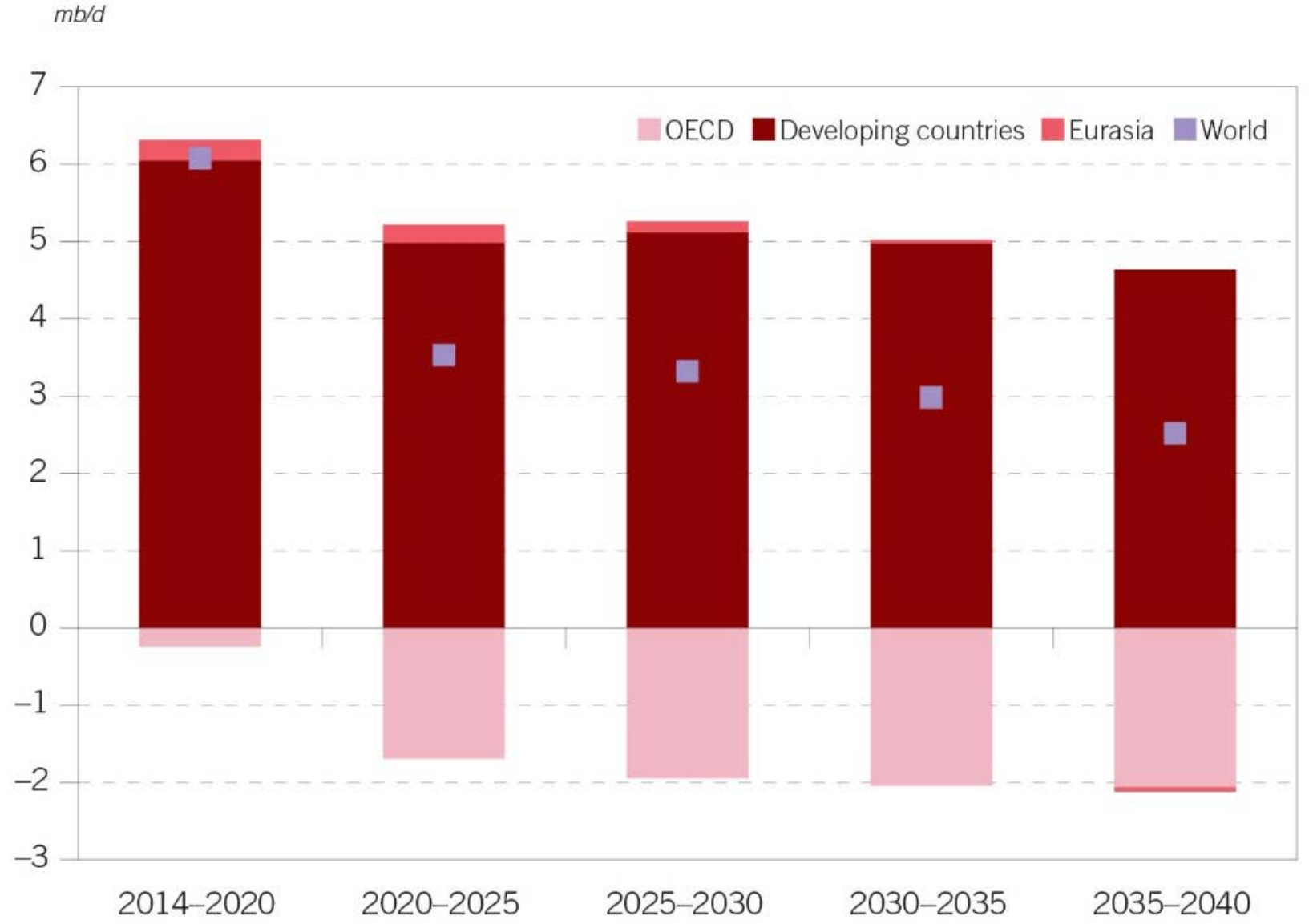
Mexico Map



Share of natural gas in primary energy mix, by region, 1990-2040

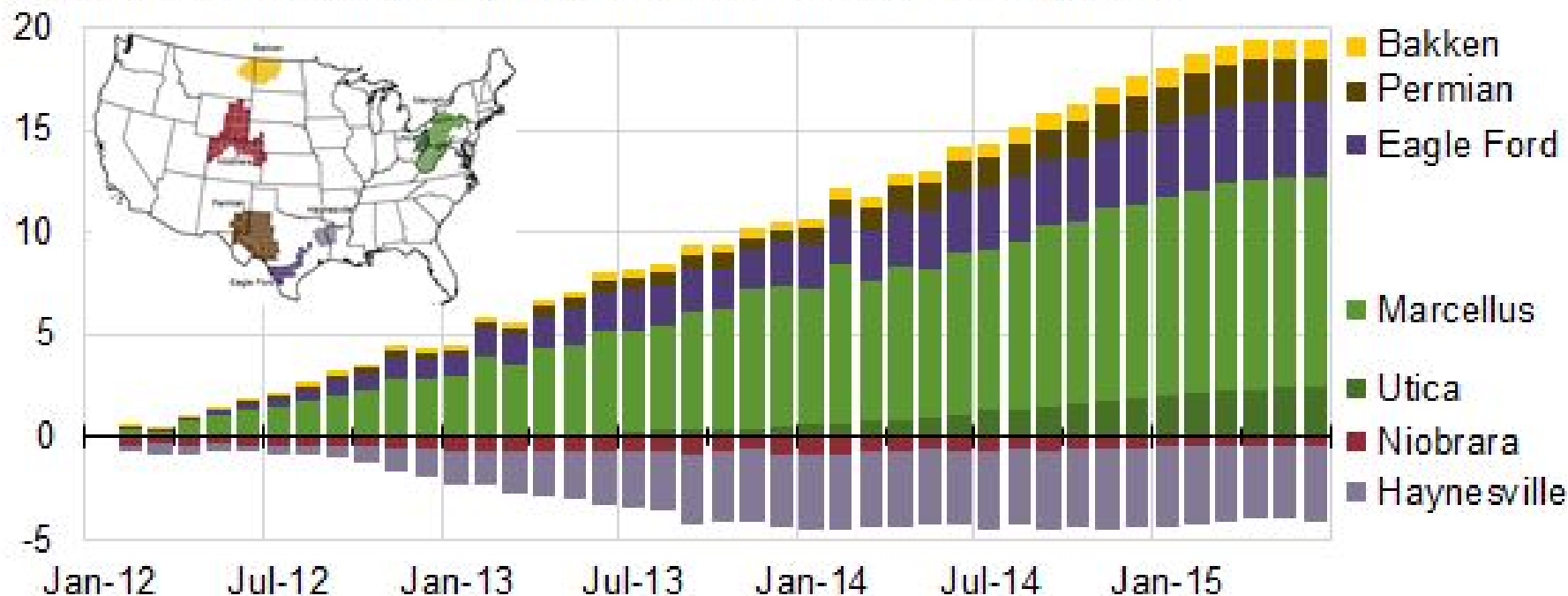


Global Oil Demand in the Long Term



Natural Gas Production in Selected Regions

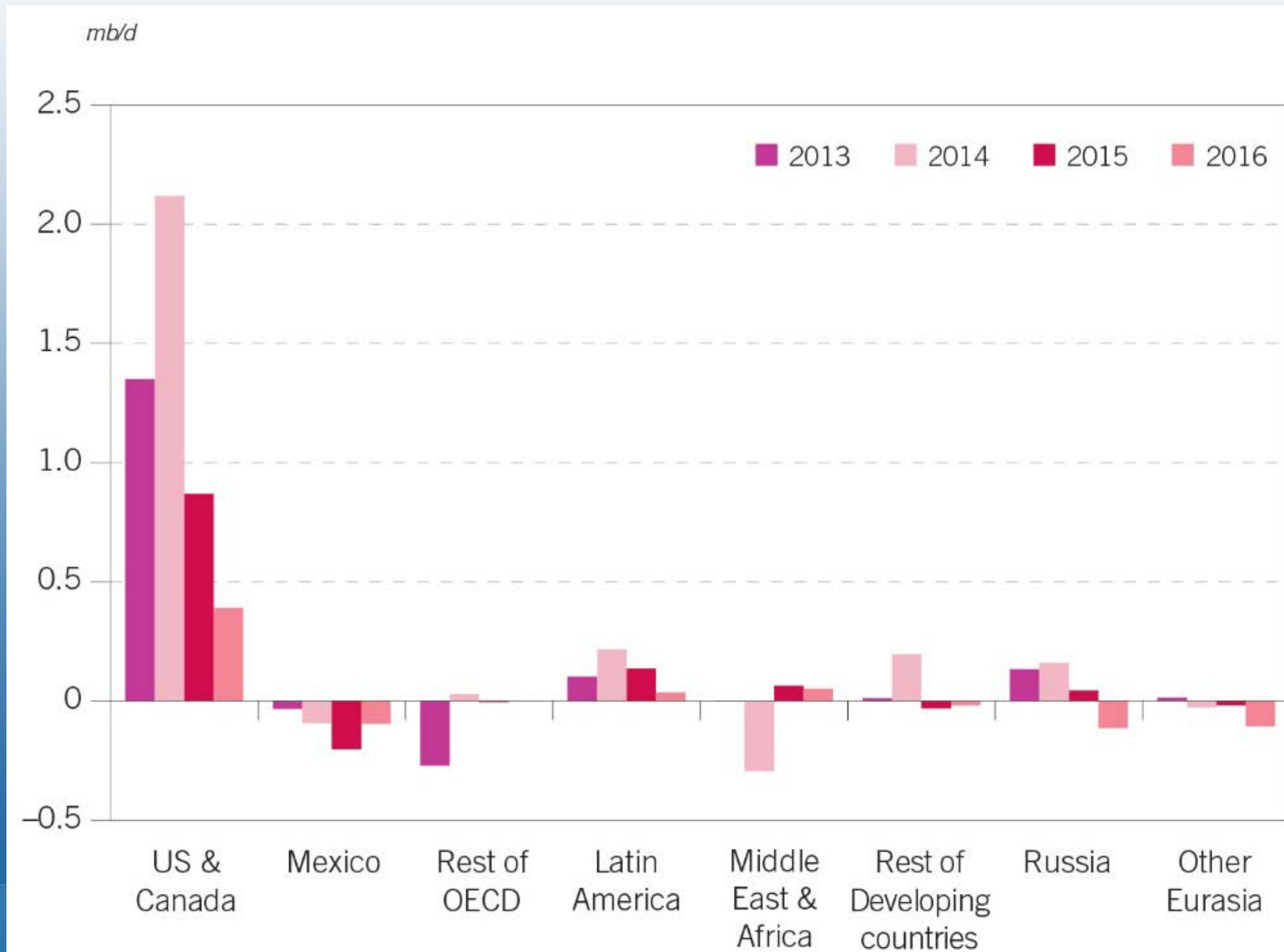
Natural gas production in selected regions (Jan 2012 - June 2015)
cumulative change since January 2012, billion cubic feet per day (Bcf/d)



Since the beginning 2012, the **Marcellus** and **Utica** regions have accounted for 85% of increases in production from these selected shale gas regions.

Source: U.S. Energy Information Administration, *Drilling Productivity Report*, July 2015

Annual Changes in non-OPEC Supply, 2013-2016



**Pipeline &
Gas Journal**
connecting you to the pipeline industry worldwide

