

WINDS OF CHANGE OR STORM CLOUDS?: NATURAL GAS MARKETS IN NORTH AMERICA

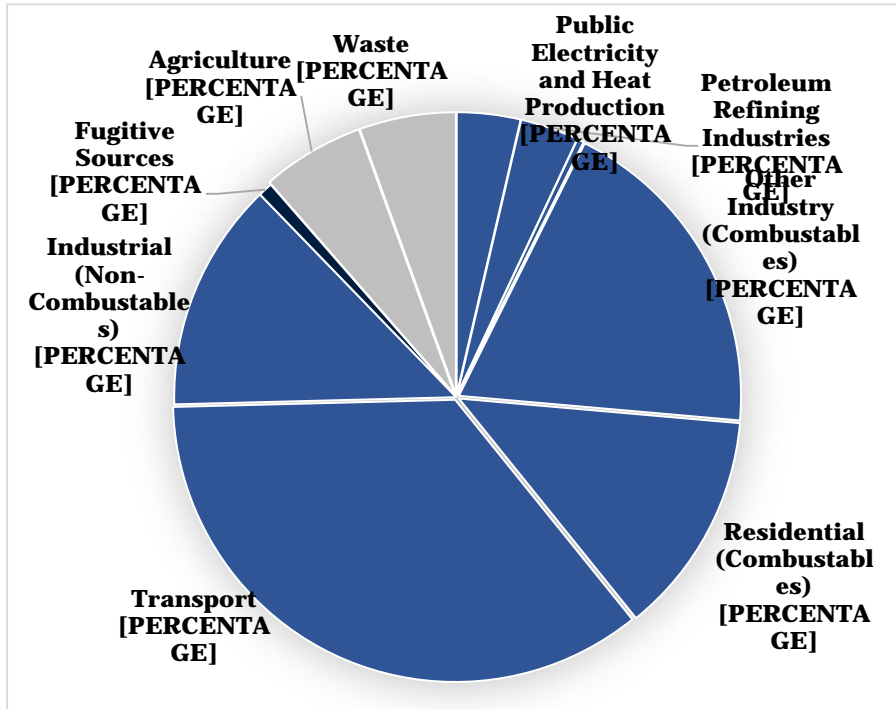
JENNIFER WINTER

CAMPUT 2016

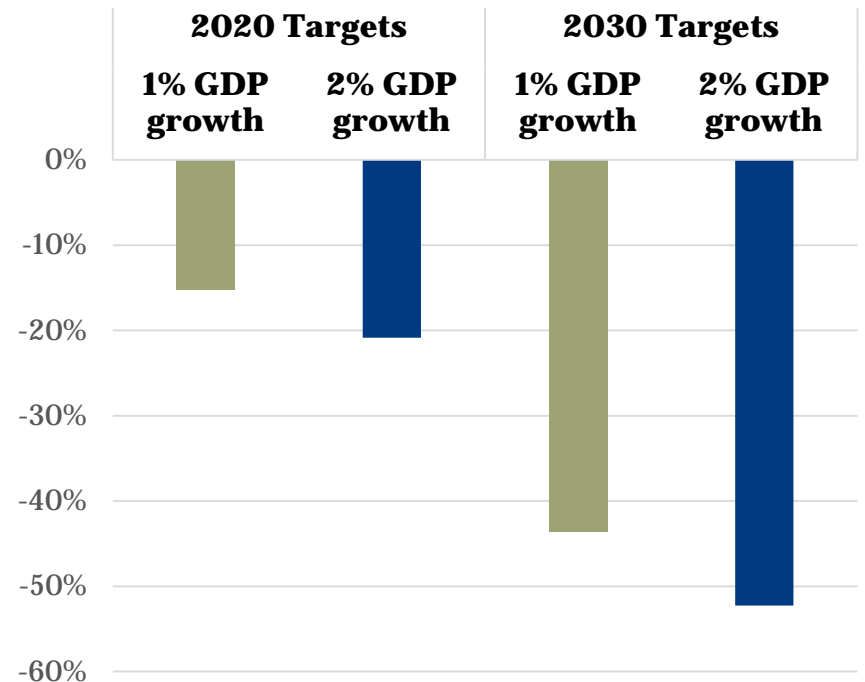
MAY 18, 2016

ONTARIO'S EMISSIONS

2014 Emissions

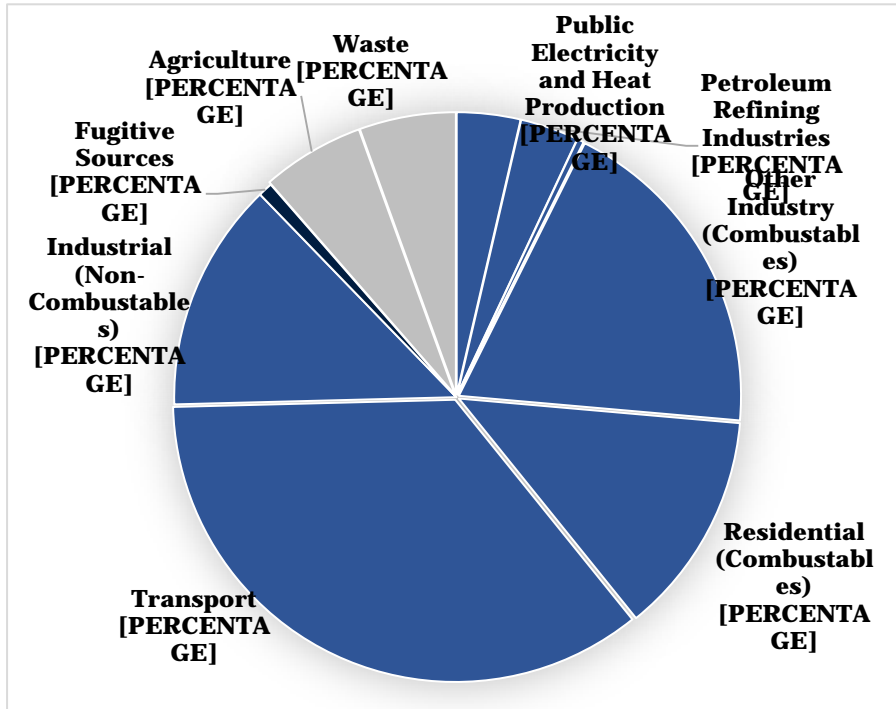


Required Change in Emissions Intensity Relative to 2014

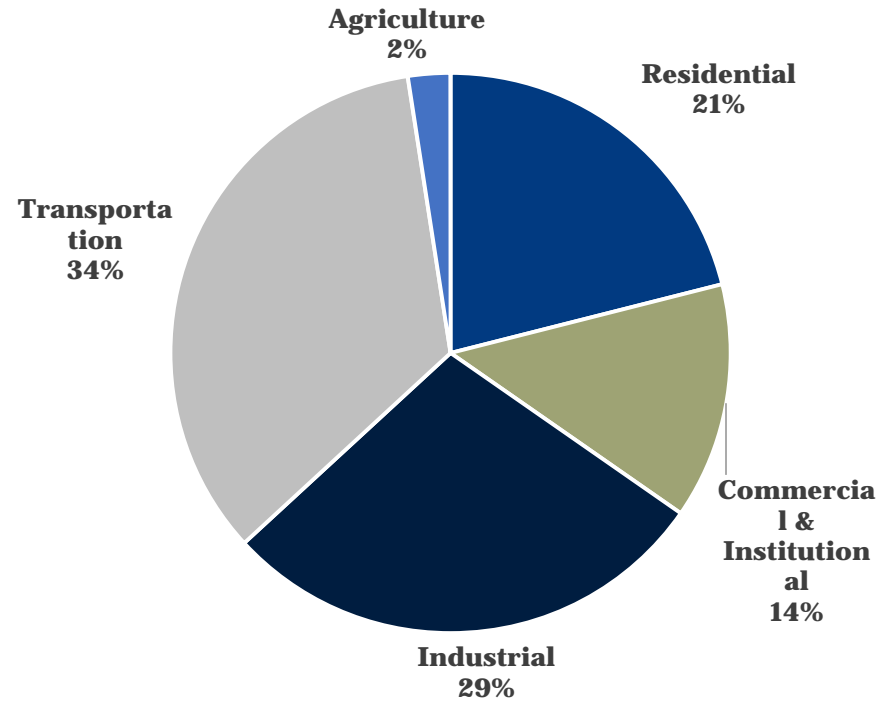


ONTARIO'S ENERGY USE & EMISSIONS

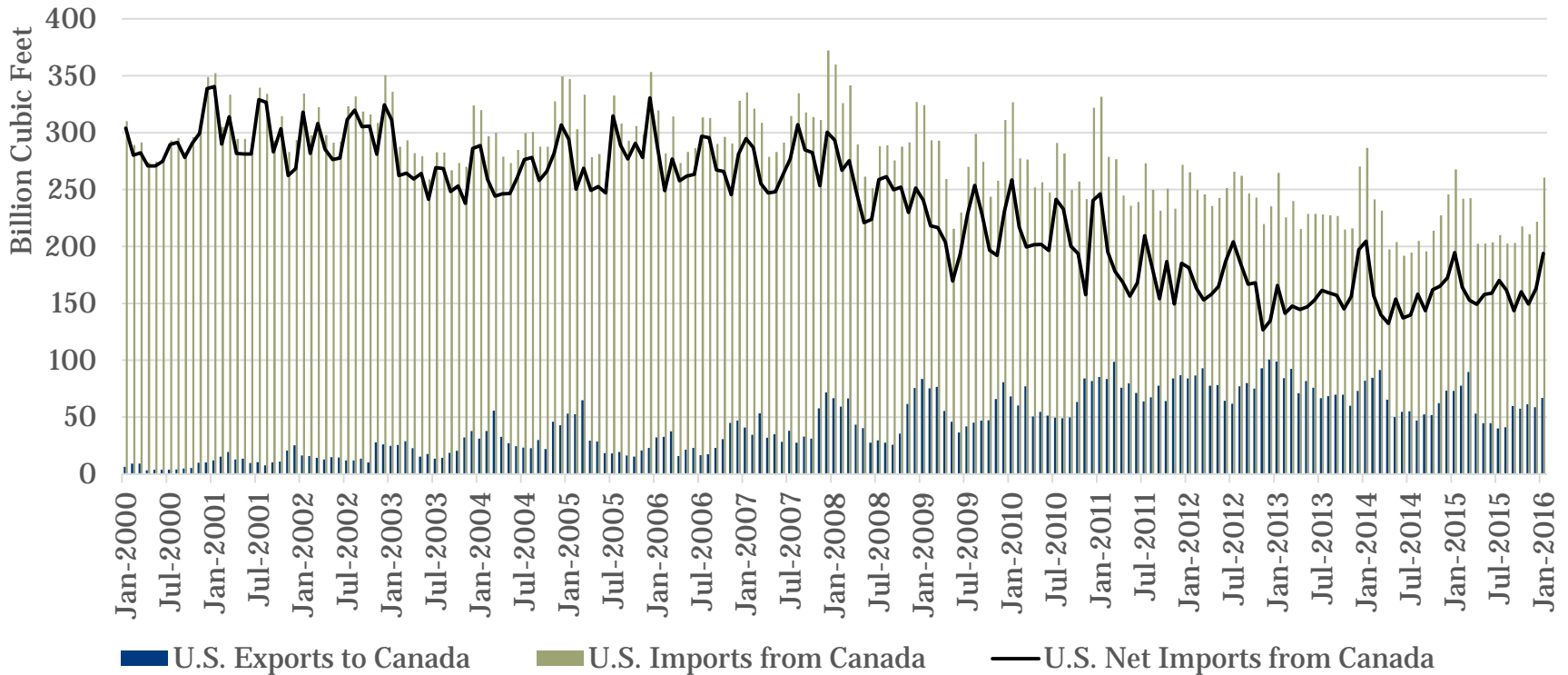
2014 Emissions



2013 Energy Use

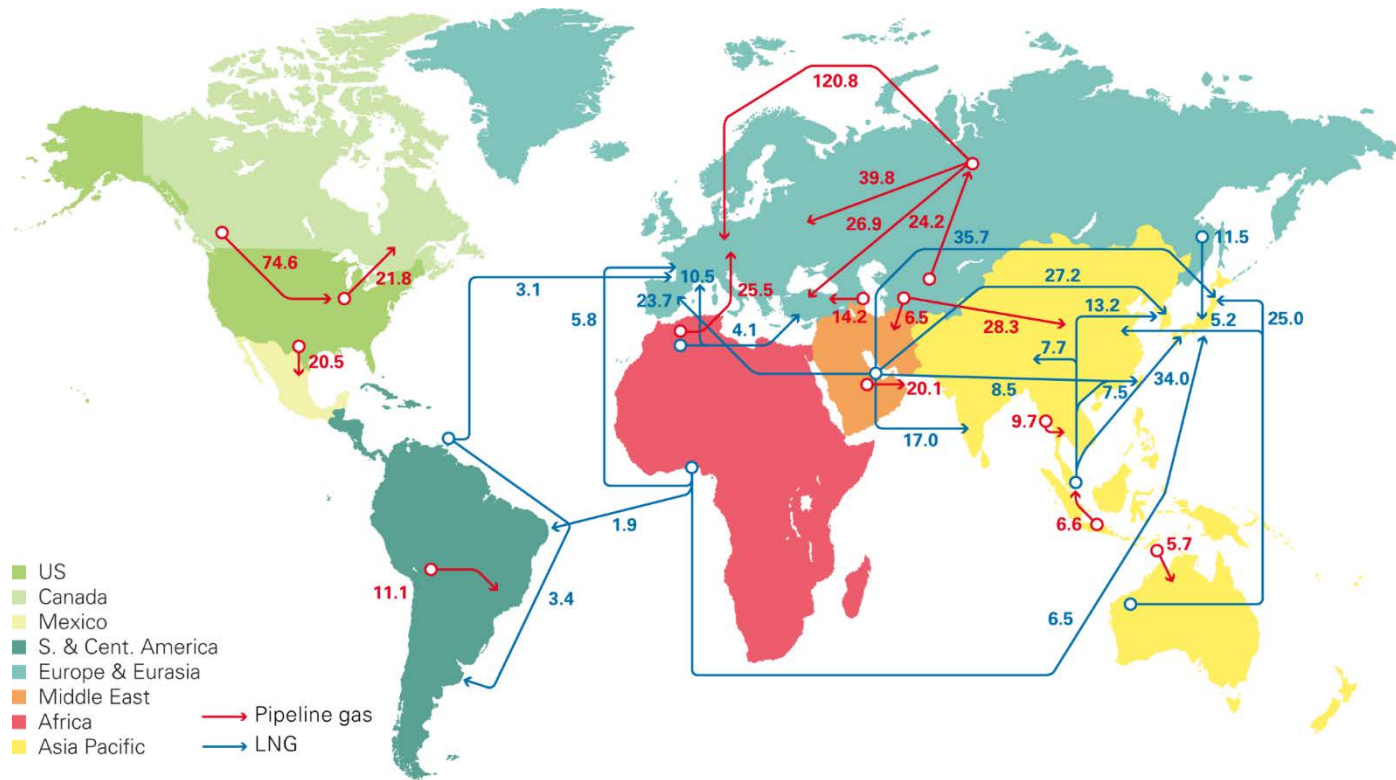


U.S. IMPORTS AND EXPORTS FROM CANADA



Source: EIA, U.S. Natural Gas Exports and Re-Exports by Country; EIA, U.S. Natural Gas Imports by Country

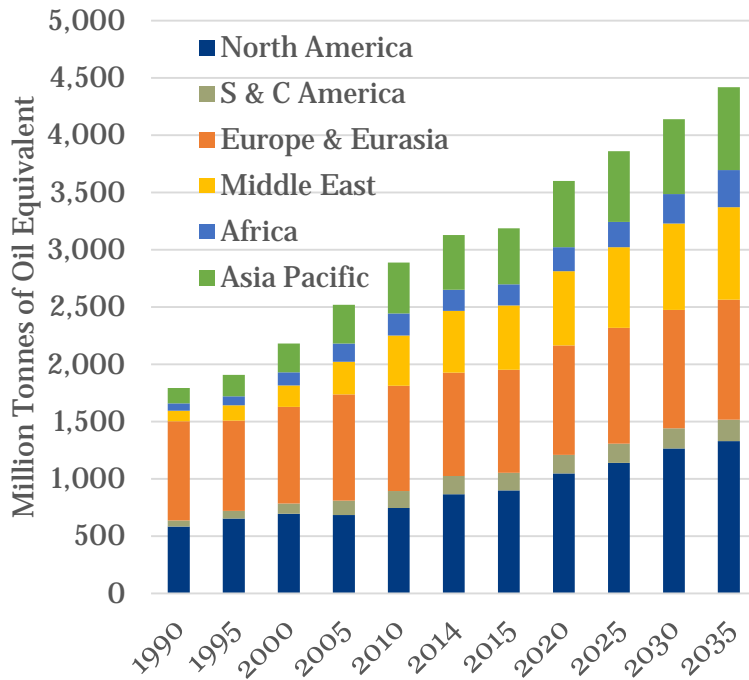
2014 WORLD NATURAL GAS TRADE



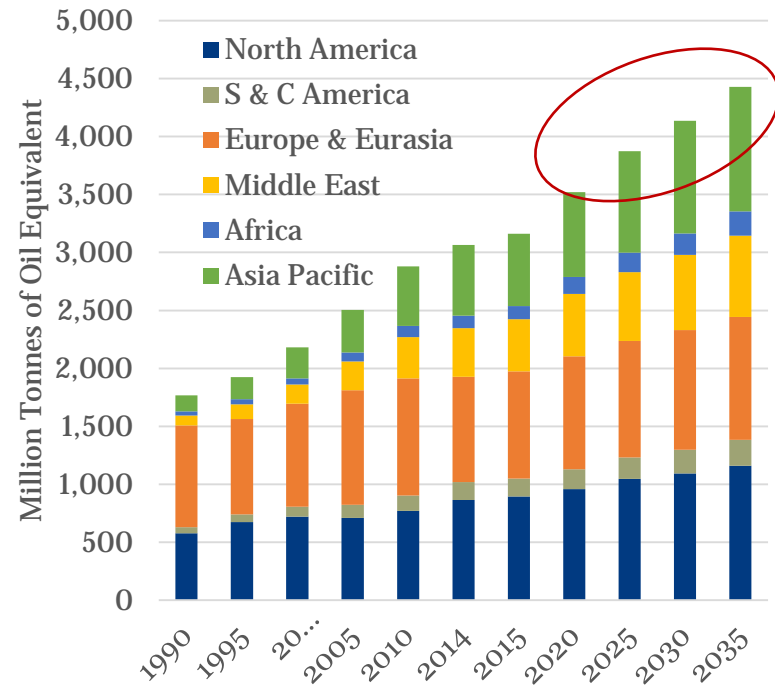
Source: BP Statistical Review of World Energy 2015

WORLD NG SUPPLY-DEMAND BALANCE

Production

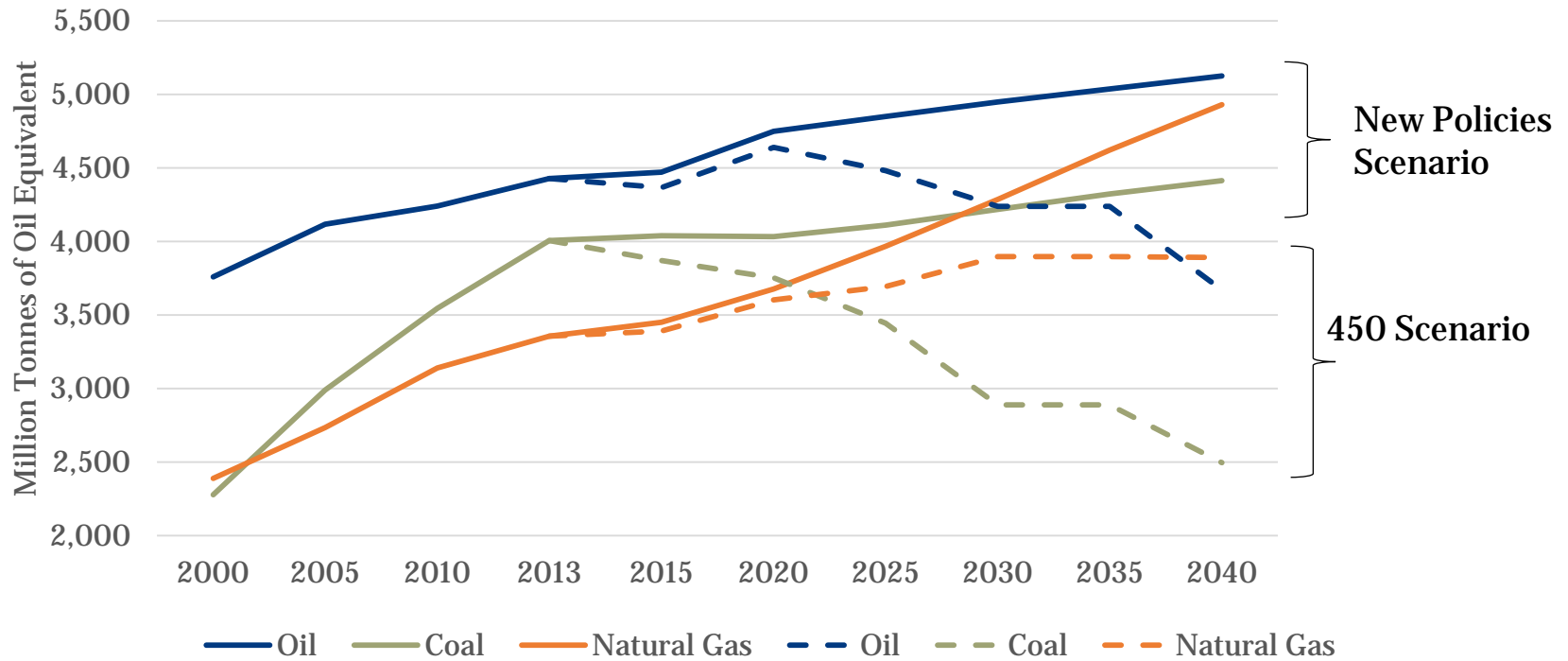


Consumption



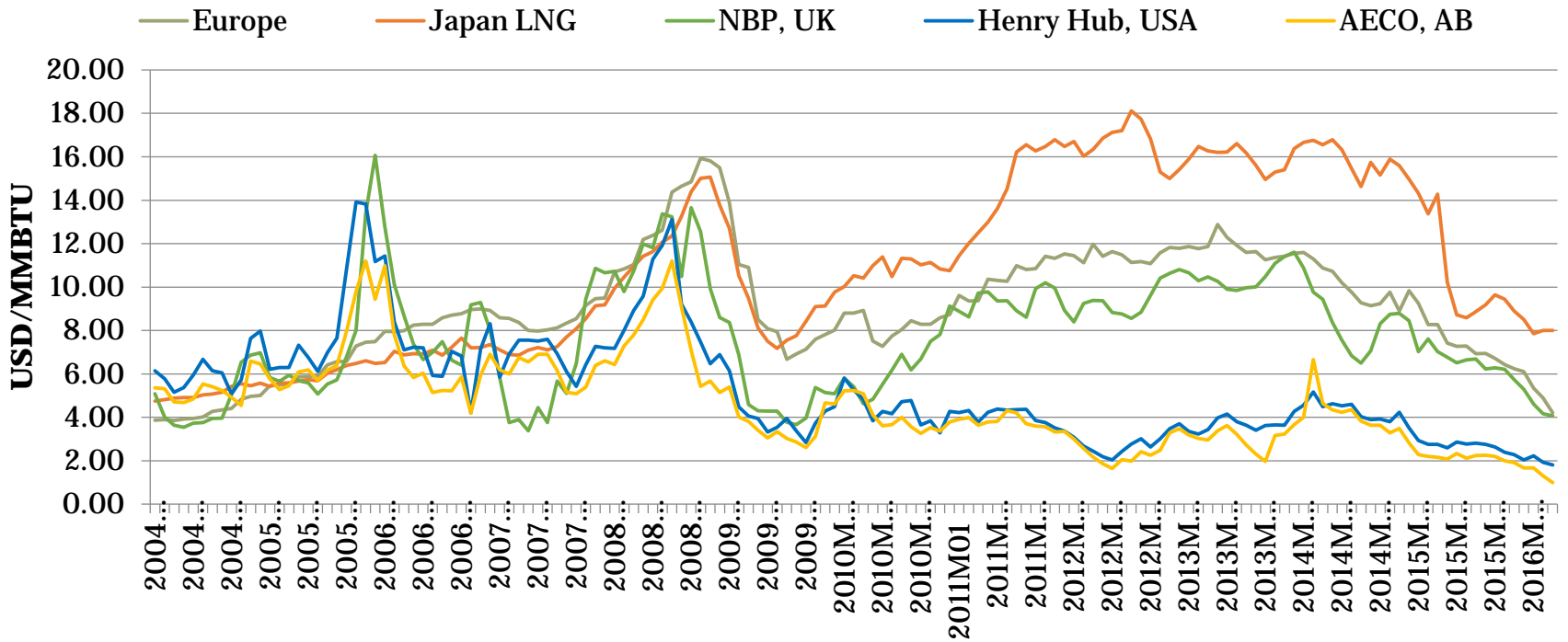
Source: BP Energy Outlook 2035

THE FUTURE OF NATURAL GAS



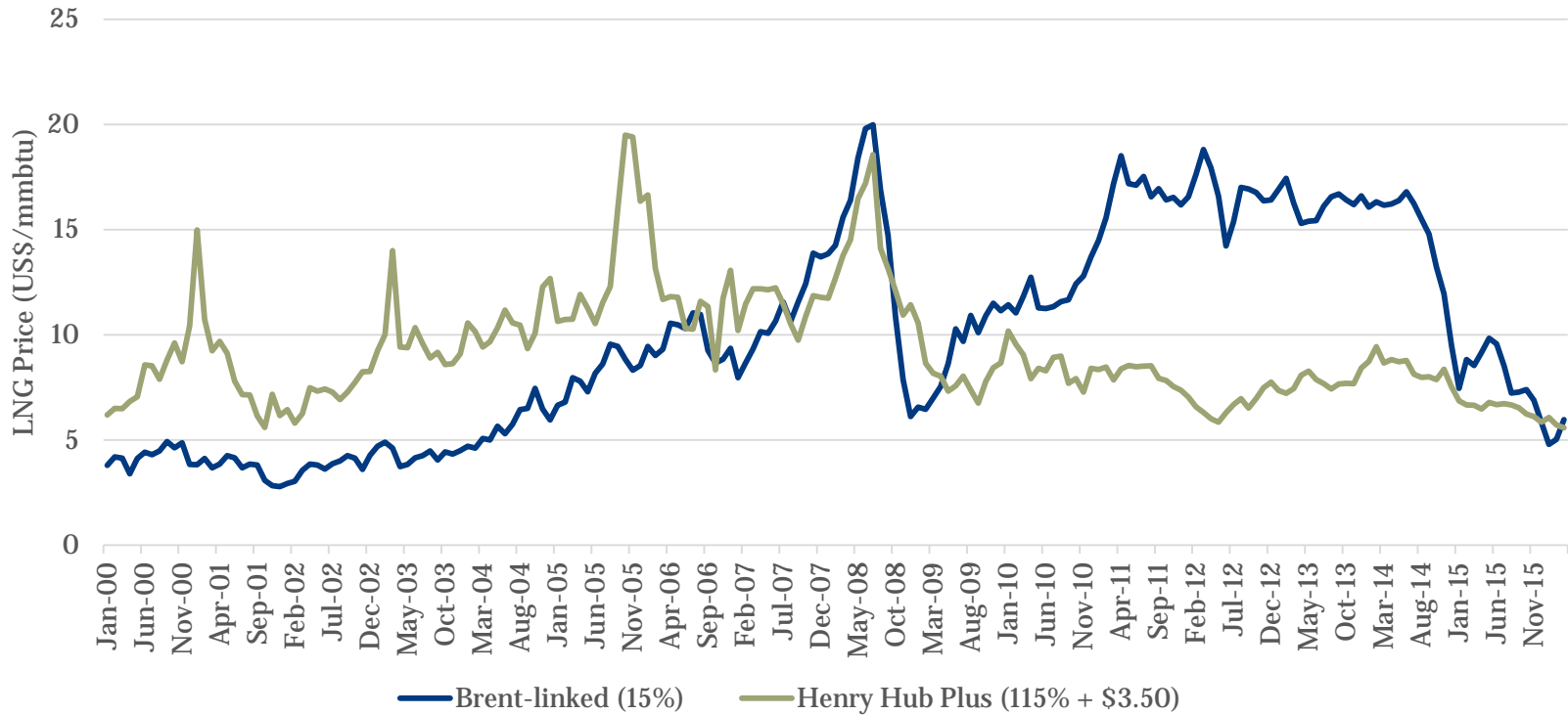
Source: IEA World Energy Outlook 2015

NATURAL GAS PRICES

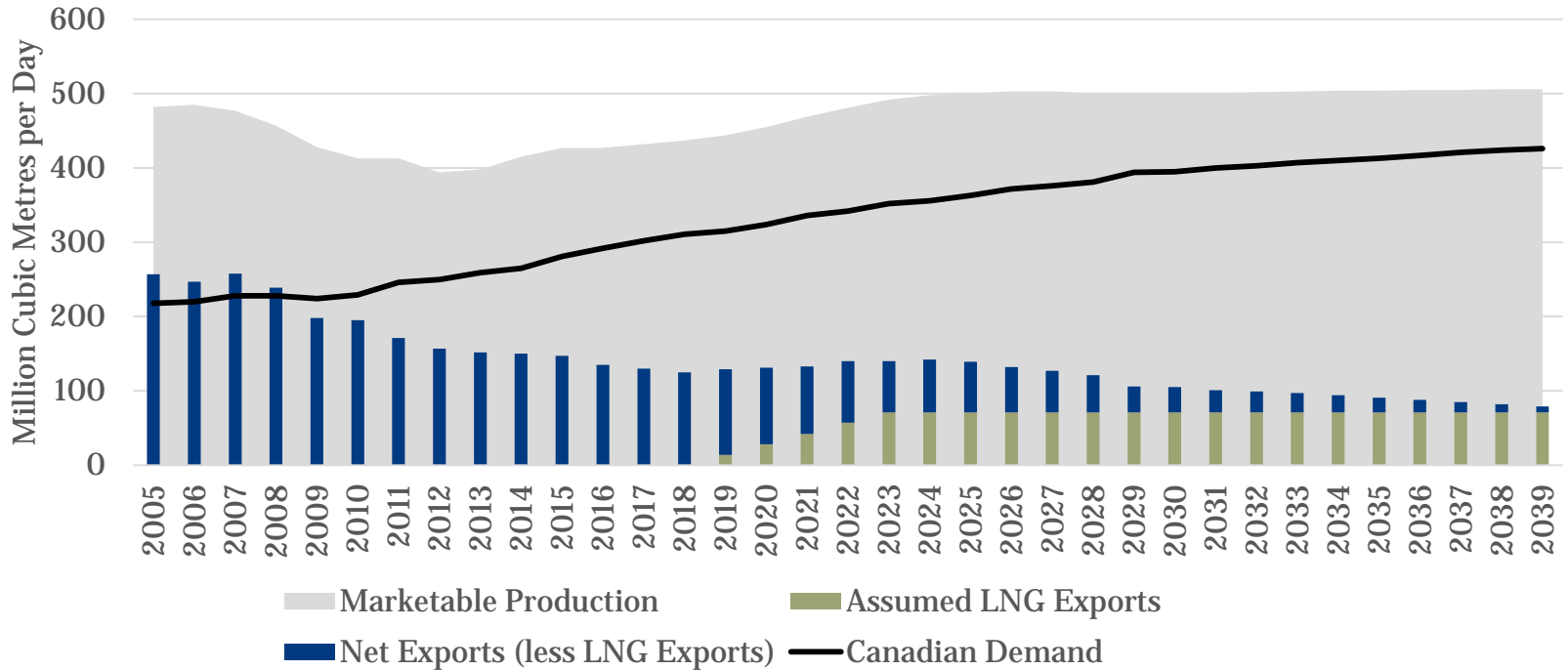


Source: World Bank Pink Sheet and Sproule

LNG PRICING



CANADIAN NATURAL GAS FORECAST



Source: NEB, 2016 Energy Futures

LNG AS AN INVESTMENT

Margin (landed price less variable costs)

\$US/MMBTU

Capital expenditure per tonne (\$US)

\$500

\$1,000

\$1,500

\$2,000

\$2,500

\$3,000

3.00

3.50

4.00

4.50

5.00

5.50

6.00

6.50

7.00

7.50

8.00

8.50

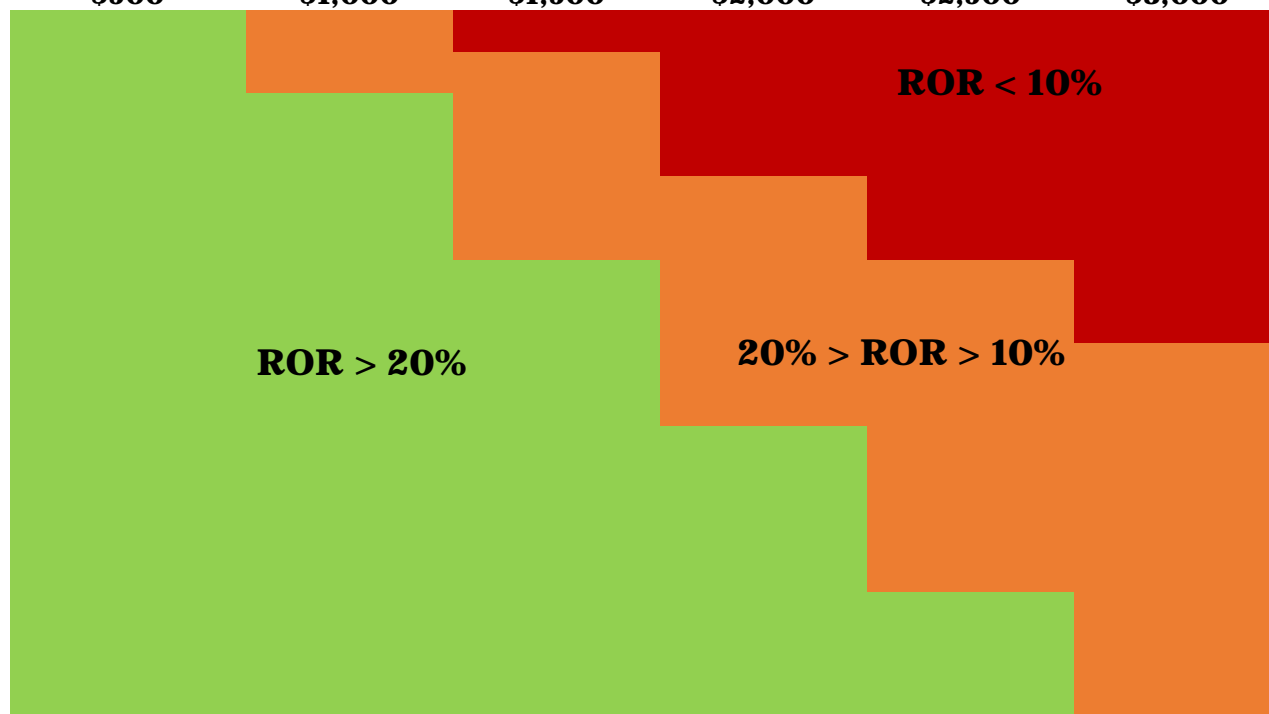
9.00

9.50

10.00

10.50

11.00



CONCLUDING THOUGHTS

- Future Canadian natural gas exports will be primarily through LNG
 - Larger market opportunity in Asia
 - Potential to supply Europe (depends on European desire for diversity and security of supply)
- Challenge is securing buyers in a competitive and currently oversupplied market
 - Higher cost (greenfield)
 - Complex policy and regulatory environment
 - Public acceptance