NA Crude Supply Solutions circa 2005
NA Nat Gas Supply Solutions circa 2005

- Alaska/Beaufort
- Alberta
- Onshore
- E. Canada
- West LNG
- DW GOM
- LNG
The Game Changer: Shale
Brent-WTI Spread
weekly continuation Nov 2010 - 3/3/15
WTI Crude/Henry Hub Nat. Gas
monthly continuation 1991 - 3/3/25
NA Crude Supply Solutions circa 2015

- CAN EXPORT
- Imports
- GOM EXPORTS Crude & Products
- WB GOM to EC
- RAIL

ANS

CAN EXPORT

CAN EXPORT
Hydrocarbon Infrastructure

- Transportation to Domestic Market
- Transformation from Natural State
- Export Facilities
Transport to Market

highest to lowest cost per unit

- Truck
- Rail
- Inland Barge
- Pipeline
- Ocean Freight
Transformation from Natural State

- Gas Processing Plants (NGLs)
- NGLs Splitters
- Distillation of Condensate/Crude pre Refinery
- Refining to Intermediate Products
- Refining to Finished Products
- Gas to Liquids (LNG, Chemical, Fuel)
Impediments to Infrastructure Development

- Environmental
- Public Perception
- Regulatory
- Economic
- Business Models
Pipeline build-out brings more inland crude to the Gulf Coast

...and also eastern Canada via Line 9. The Flanagan South and Seaway Twin pipelines started in December 2014. The Alberta Clipper expansion (part of the Enbridge Mainline) is being held-up by US politics.
Marcellus/Utica Pipeline Market Areas

RBN Energy LLC
Pipelines to Market

South via Atlantic Total 7.725 bcf/d
Canada Total 1.178 bcf/d
East Total 5.802 bcf/d
Midwest via Ohio Total 5.255 bcf/d
Gulf via Ohio Total 8.226 bcf/d

Grand Total 28.186 bcf/d
Market Cycles

High Differentials

Build Infrastructure (Pipelines, Barges, Rail, etc)

Low Differentials

Increasing Supply and Demand

Kevin Bass, BP 2001