



Inland River Industry Outlook

July 18, 2017



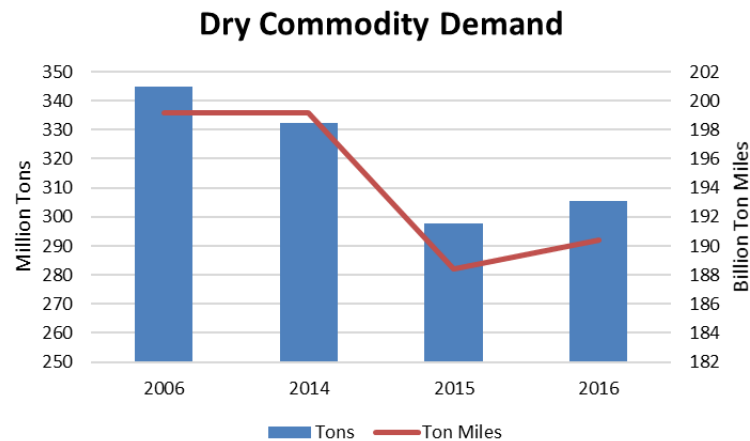
Dry Cargo



Dry Cargo Barge Demand



- Demand trending down, particularly for dry commodities
- Ton miles showing some improvement vs 2015
- Six largest barge operators control 72% of the fleet



Company	Opens	Covers	Total	Share
Ingram Barge	1,608	2,725	4,333	23%
American Commercial Barge Line	591	3,210	3,801	20%
Amer. River Transportation Co.	0	1,781	1,781	9%
SCF Marine	0	1,110	1,110	6%
Cargo Carriers	0	1,472	1,472	8%
Crouse Corporation	1,105	2	1,107	6%
Top Six	3,304	10,300	13,604	72%
Others	2,824	2,469	5,293	
Total	6,128	12,769	18,897	

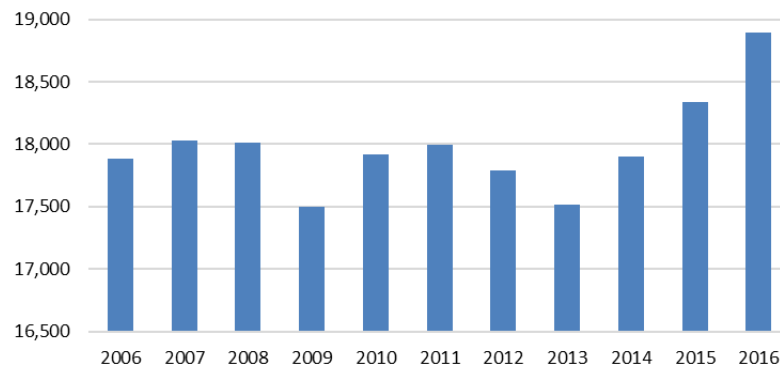
Industry Dry Cargo Fleet



- Fleet size up ~ 1,400 barges since low of 2013
- Fleet is 2 years younger than in 2006

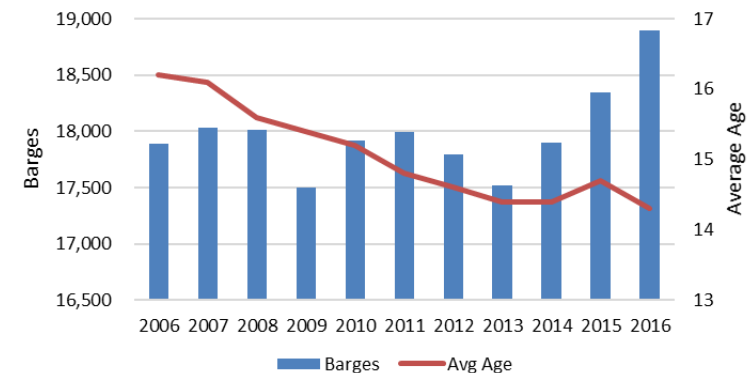


Dry Cargo Barge Fleet



Source: Informa Economics

Dry Barge Fleet Size vs. Age



Source: Informa Economics

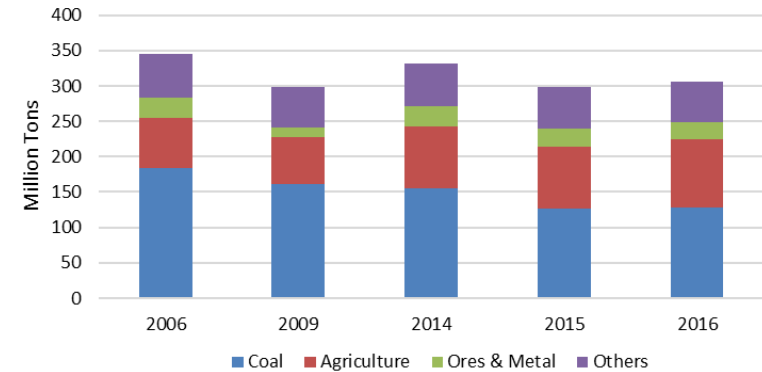
Industry Dry Cargo Fleet



➤ Fleet grew 8% post-recession - demand up just 2%

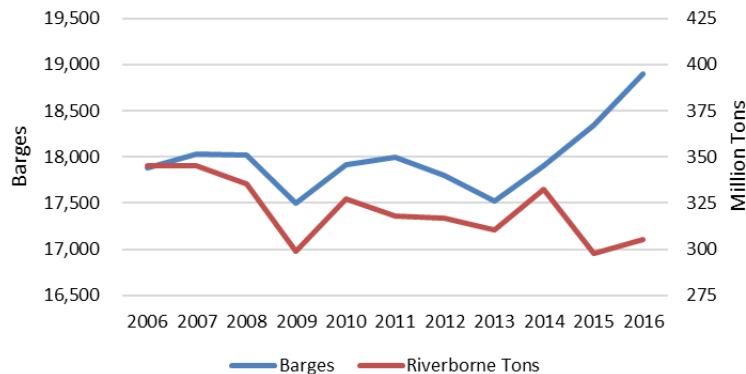
- Domestic coal down
- Coal exports down
- Agriculture improved
- Steel end markets up and down

Barge Demand by Key Commodities



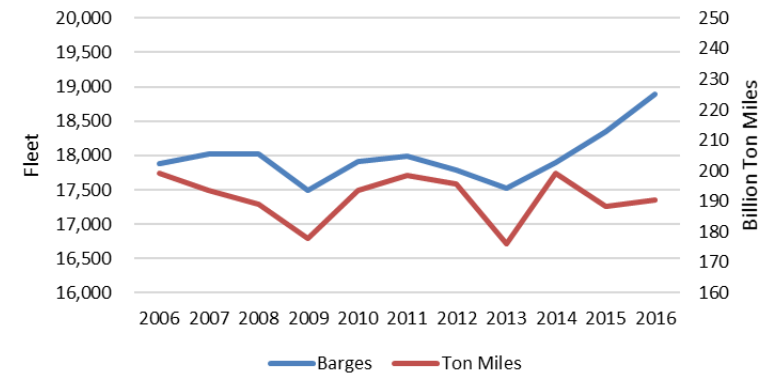
Source: Informa Economics

Dry Barge Fleet vs. Demand in Tons



Source: Informa Economics

Dry Barge Fleet vs. Demand in Ton Miles



Source: Informa Economics

Domestic Utility Coal Demand



➤ The river lost nearly 50 million tons of coal 2010-2016

- Regulatory pressures
- Cheap natural gas

2010	
Lansing 2	
R E Burger 4,5	
Richard H Gorsuch 2,3,4	
Will County 1,2	
Est. Million Tons Lost	2.7

2011	
Meredosia 3	
R E Burger 3	
Est. Million Tons Lost	1.1

2012	
Albright 1,2,3	
Alma 3	
Armstrong Power Station 1, 2	
Crawford (IL) 7,8	
Elrama Power Plant 1, 2, 3	
Pearl Station 1	
Phil Sporn 5	
R Gallagher 1,3	
Rivesville 5,6	
Walter C Beckjord 1	
Willow Island 1,2	
Est. Million Tons Lost	9.1

2013	
Fair Station 1,2	
Hatfields Ferry Power Station 1,2,3	
Lansing 3	
Mitchell Power Station 3	
Piney Creek GEN1	
Walter C Beckjord 2,3	
Widows Creek 3,5	
Est. Million Tons Lost	8.6

2014	
Alma 4,5	
Elrama Power Plant UNT4	
Walter C Beckjord 4,5,6	
Widows Creek 1,2,4,6	
Est. Million Tons Lost	5.6

2015	
AES Beaver Valley Partners 2, 3	
Cane Run 4,5,6	
E D Edwards 1	
Gorgas 2 & 3 6,7	
Green River (KY) 3,4	
James M Barry 3	
Johnsonville 5,6,7,8,9,10	
Kammer 1,2,3	
Kanawha River 1,2	
Miami Fort 6	
Muskingum River 1,2,3,4,5	
Nelson Dewey 1,2	
Phil Sporn 1,2	
Tanners Creek 1	
Widows Creek 7,8	
Will County 3	
Est. Million Tons Lost	28.4

2016	
Baldwin Energy Complex 1	
Barry 1,2,3	
Cedar Bay Generating Co LP GEN1	
Colbert 1,2,3,4,5	
E D Edwards 1	
Gorgas 6,7	
Greene County 1,2	
Lansing Smith 1,2	
Meramec 1,2	
New Castle Plant 3,4,5	
Wood River (IL) 4,5	
Est. Million Tons Lost	16.6

- Demand rebounds slightly through 2020...but retirements continue

2017	
Baldwin Energy Complex 3 Johnsonville 1,2,3,4 Robert A Reid R1	
Est. Million Tons Lost	3.8
2018	
Allen Steam Plant 1,2,3 Clay Boswell 1,2 Crystal River 1,2 Killen Station J M Stuart 1,2,3,4	
Est. Million Tons Lost	16.8
2019	
Dubuque 1,5,6 Elmer Smith 1	
Est. Million Tons Lost	0.8
2020	
FirstEnergy W H Sammis 1,2,3,4 Will County 4	
Est. Million Tons Lost	4.4



➤ Boom years (2011-2013)

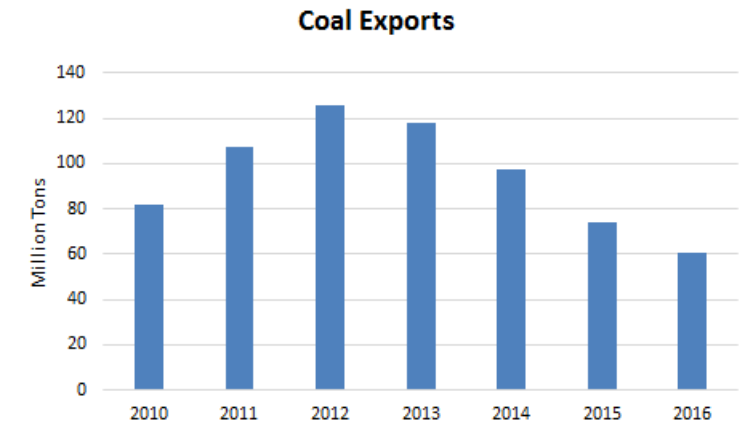
- Strong demand from emerging nations (Brazil, Russia, India, China)
- Production problems in Australia, South Africa
- “Perfect Storm” for U.S. Exports

➤ But then...

- Production problems resolved
- Increased international supply
- U.S. reverted to role of swing supplier

➤ Future

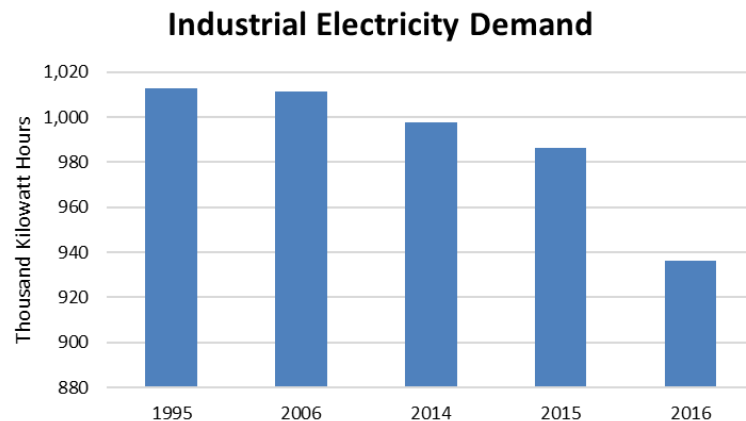
- More countries moving away from coal as a fuel source for electricity



Source: U.S. Census Bureau



- 2016 demand down 50 million MWh vs. average 2011-2015
- Industrial manufacturing used 35% of all electricity in 1995; just 25% in 2016
- Will it return?



Source: Energy Information Administration

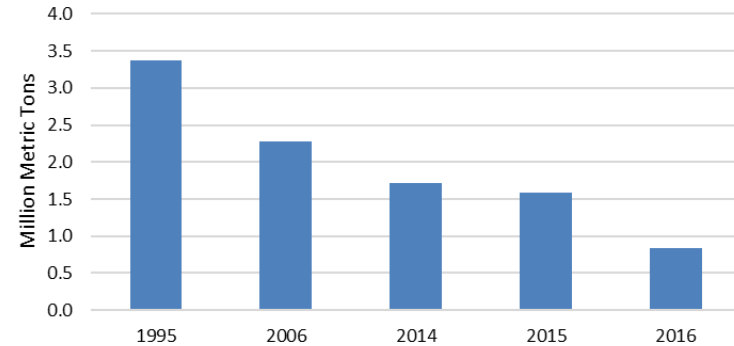


Other Inland Barge Demand



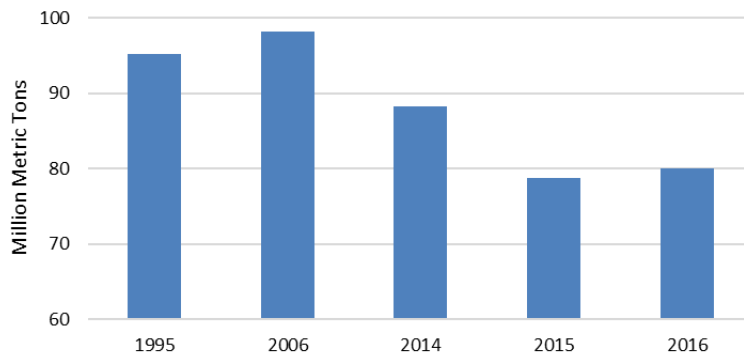
- Aluminum: Down 63% vs 2006; down 51% from 2014
- Iron & Steel: Down 15% vs 2006; down 9% vs 2014
- Cement: Down 13% vs 2006; up 3% vs 2014

Aluminum Production in the US



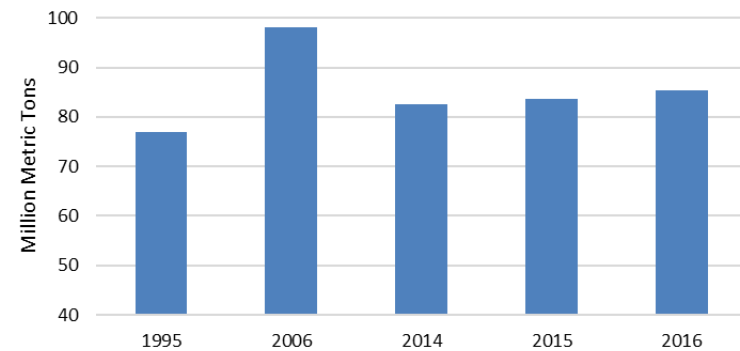
Source: U.S. Geological Service

Steel Production in the US



Source: U.S. Geological Service

Cement Production in the US



Source: U.S. Geological Service

Steel/Aluminum Plant Closures

- Multi-year trend of closures
- Never returned to pre-recession levels
- Steel plant closures include
 - Wheeling Pitt – Mingo Junction, OH
 - Weirton Steel – Weirton, WV
 - U.S. Steel - Lorain, OH
 - U.S. Steel - Fairfield, AL
 - U.S. Steel - Granite City, IL
- Aluminum smelters closures include
 - Century - Ravenswood, WV
 - Century - Hawesville, KY
 - Ormet - Hannibal, OH
 - Noranda – New Madrid, MO
 - Alcoa - Warrick, IN*

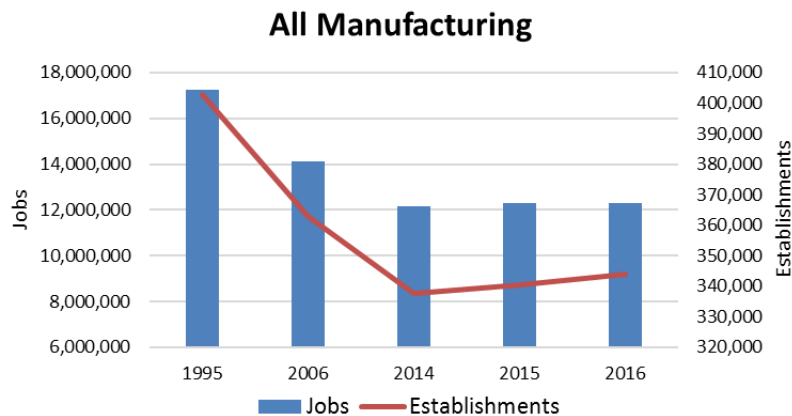


Industrial Employment Trends Down

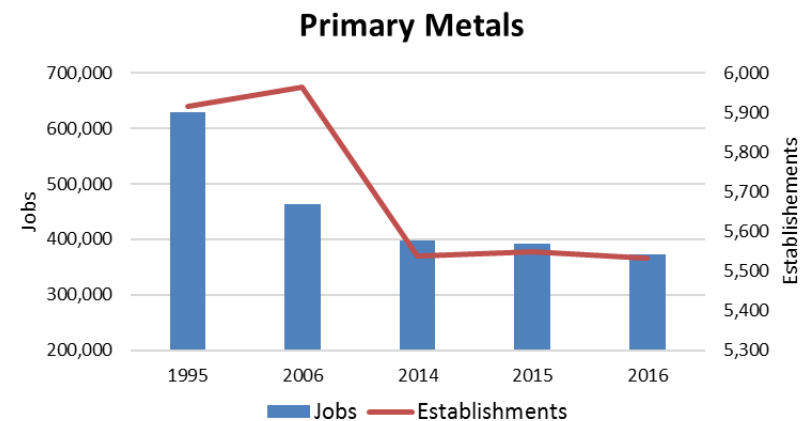


➤ Employment & establishments show the same trend

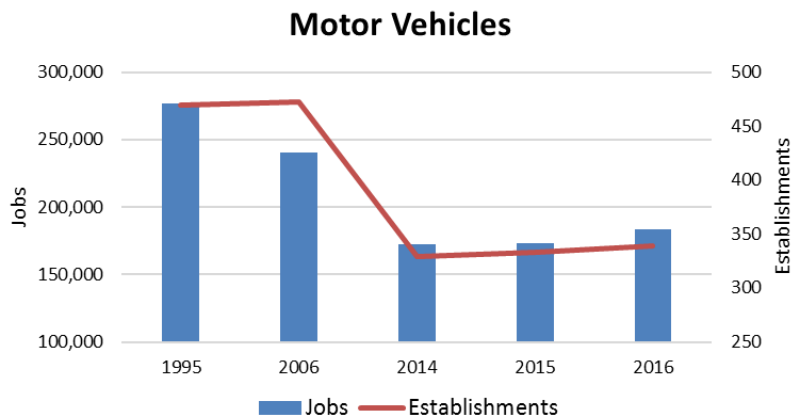
- Well below 20 years ago
- Little post-recession recovery



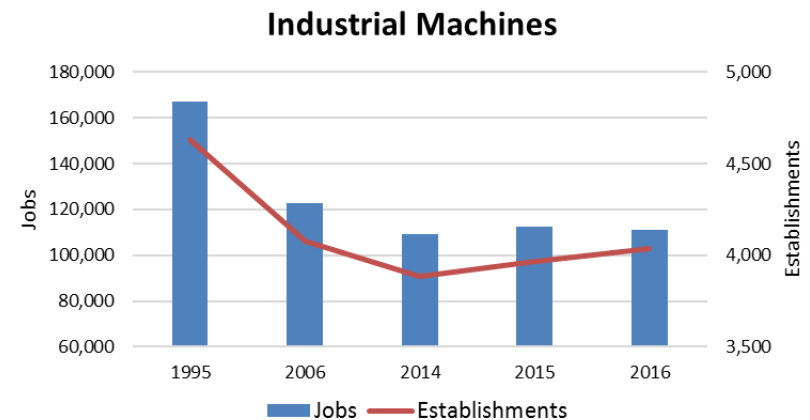
Source: Bureau of Labor Statistics



Source: Bureau of Labor Statistics



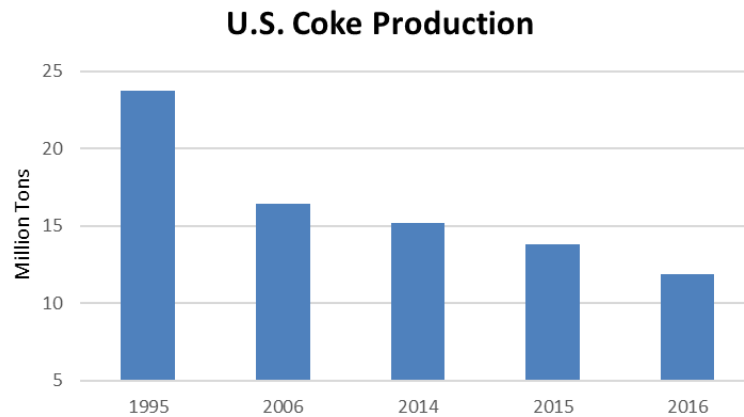
Source: Bureau of Labor Statistics



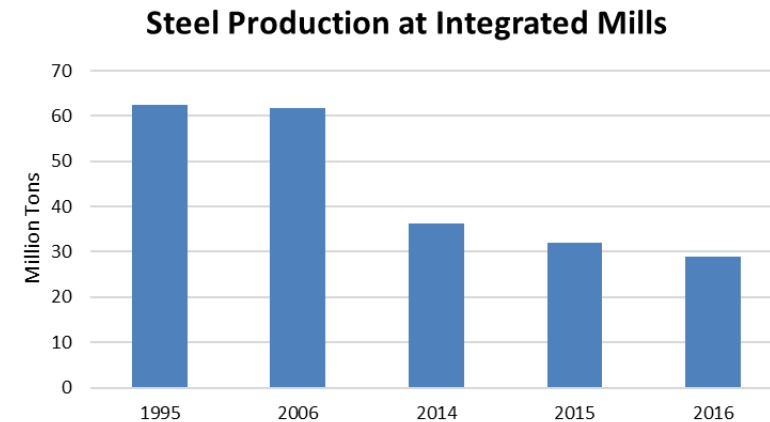
Source: Bureau of Labor Statistics

➤ Three domestic coke plants closed between 2012 and 2016

- U.S. Steel – Granite City, IL
- U.S. Steel – Gary, IN
- DTE (Shenango), Pittsburgh, PA

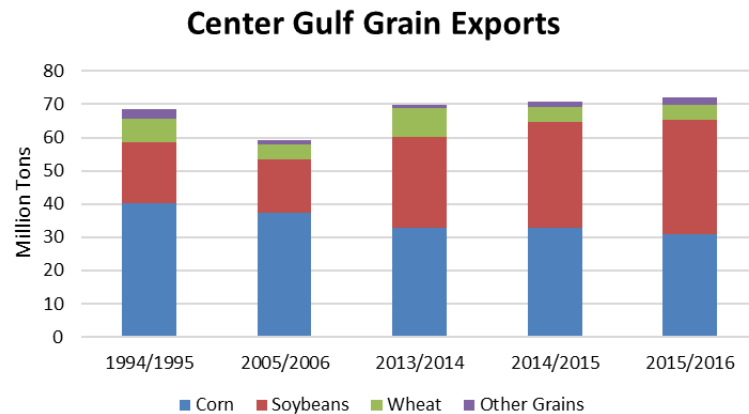


Source: Doyle Trading Consultants

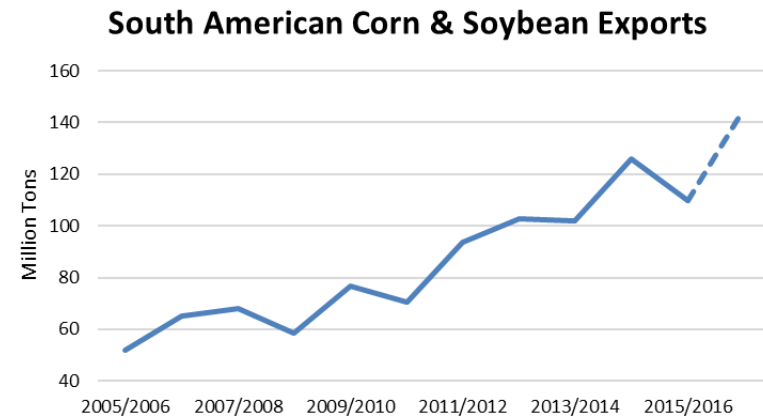


Source: U.S. Geological Service

- U.S. exports = 156 million tons
- Center Gulf (barge) exports = 72 million tons
- Main barge exports are corn and soybeans (60% U.S. total)
- Major competitor countries are Brazil and Argentina



Source: U.S. Department of Agriculture



Source: U.S. Department of Agriculture



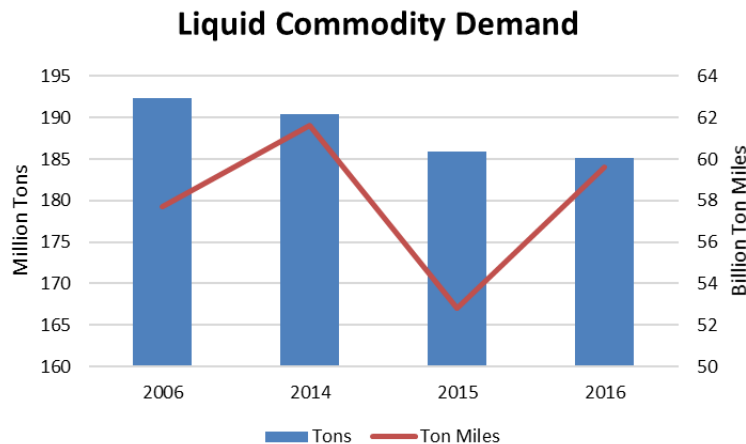
Liquid Cargo



Liquid Cargo Barge Demand



- Demand in tons trending down - competition from pipelines
- Ton miles higher on longer hauls from Bakken & Canada
- Six largest barge operators control 63% of the fleet

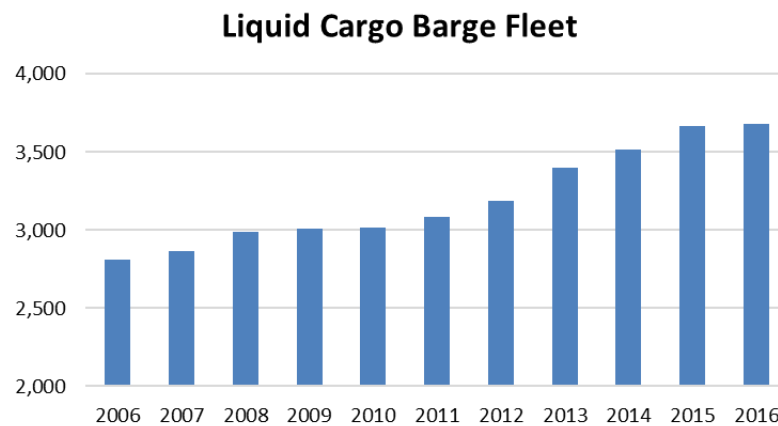


Company	<20,000 BBL	>20,000 BBL	Total	Share
Kirby Corporation	362	514	876	24%
American Commercial Barge Line	338	107	445	12%
Canal Barge	217	88	305	8%
Florida Marine	37	207	244	7%
Ingram Barge	211	12	223	6%
Hardin Street Marine	23	199	222	6%
Top Six	1,188	1,127	2,315	63%
Others	303	1,065	1,368	
Total	1,491	2,192	3,683	

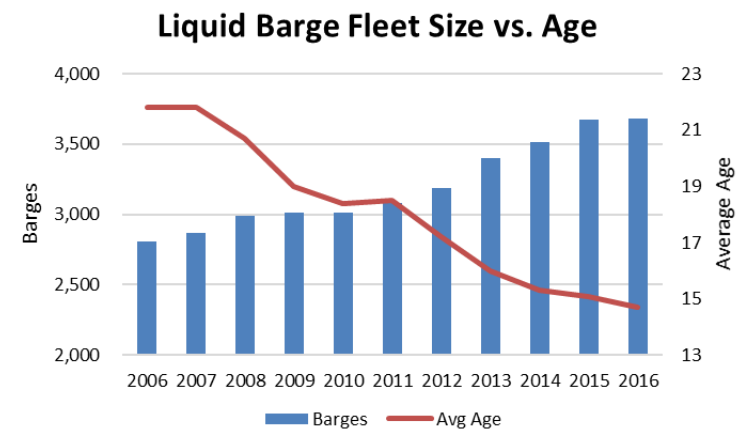
Industry Liquid Cargo Fleet



- Fleet size up ~ 875 barges since low of 2006; up 170 since 2014
- Fleet is 7 years younger than in 2006; .6 years younger than 2014



Source: Informa Economics



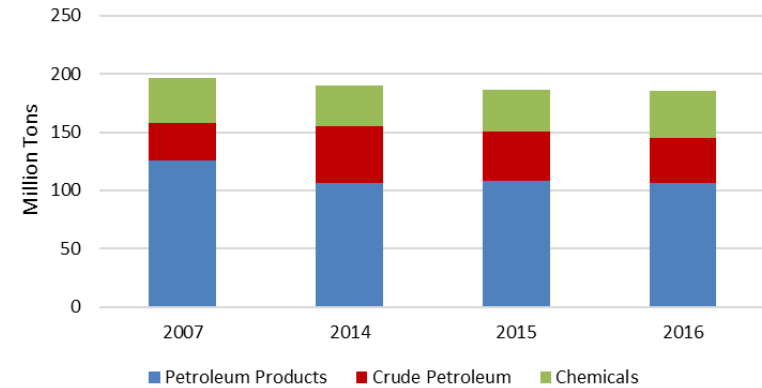
Source: Informa Economics

Industry Liquid Cargo Fleet

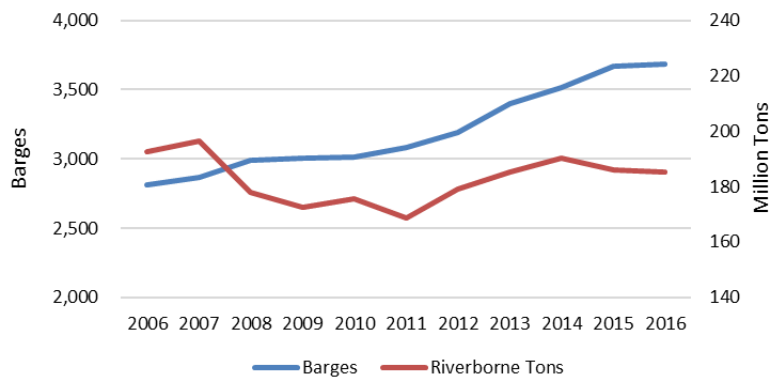


➤ Demand down 12 million tons from 2007 peak

Liquid Barge Demand by Commodity

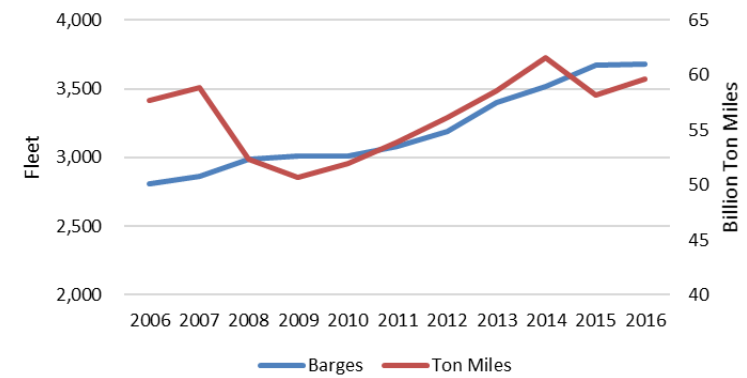


Liquid Fleet vs. Demand in Tons



Source: Informa Economics

Liquid Fleet vs. Demand in Ton Miles



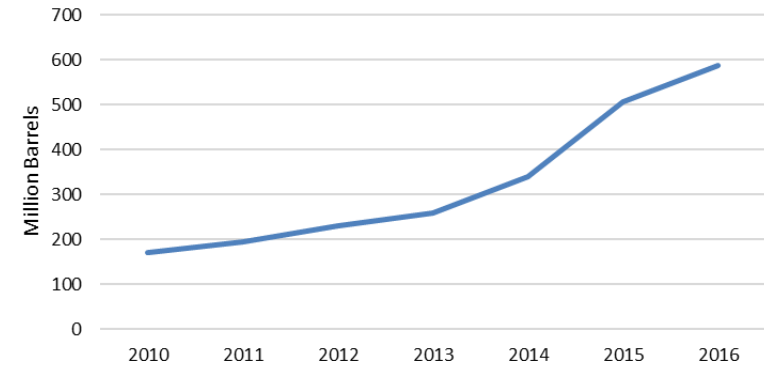
Source: Informa Economics

Factors Impacting Barge Demand for Crude Oil



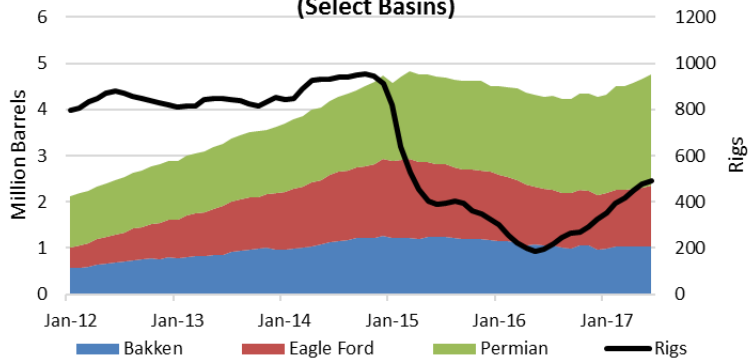
- Crude production taking off again
- Pipeline construction catching up
- Increasing imports from Canada

Pipeline Movements - Midwest to Gulf



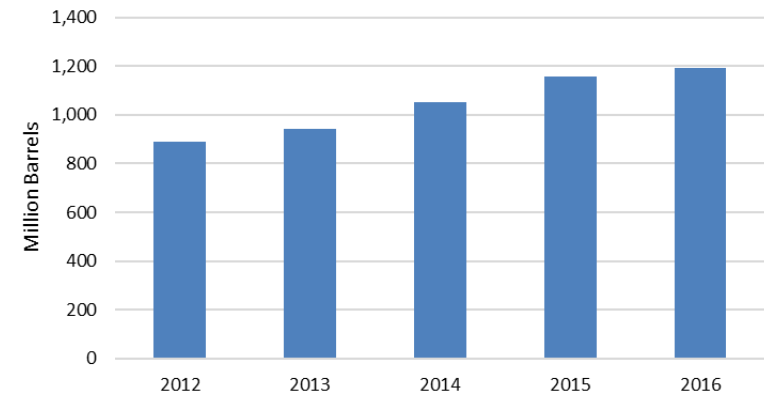
Source: Energy Information Administration

Oil Production and Rig Counts (Select Basins)



Source: Energy Information Administration, Baker Hughes

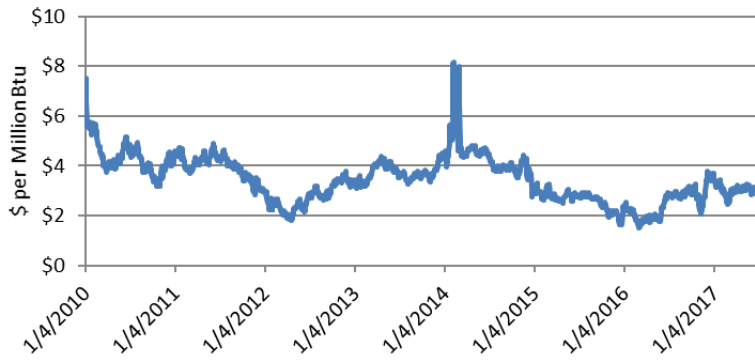
Crude Imports from Canada



Natural Gas and Oil; Prices and Rig Counts



Henry Hub Natural Gas Spot Price



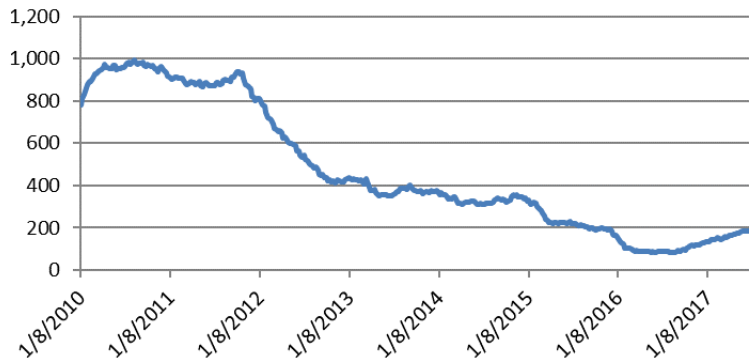
Source: Energy Information Administration

WTI Price



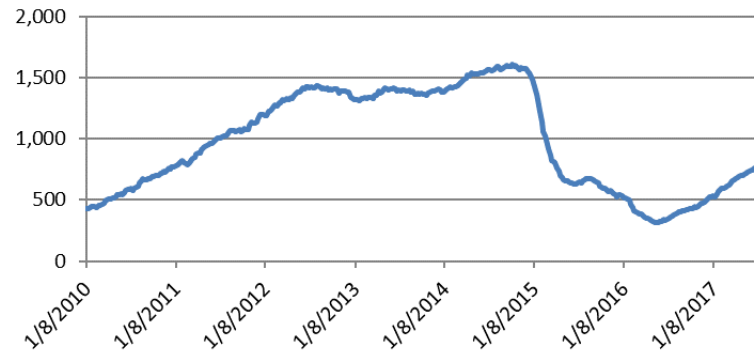
Source: Energy Information Administration

Active Gas Rigs



Source: Baker Hughes

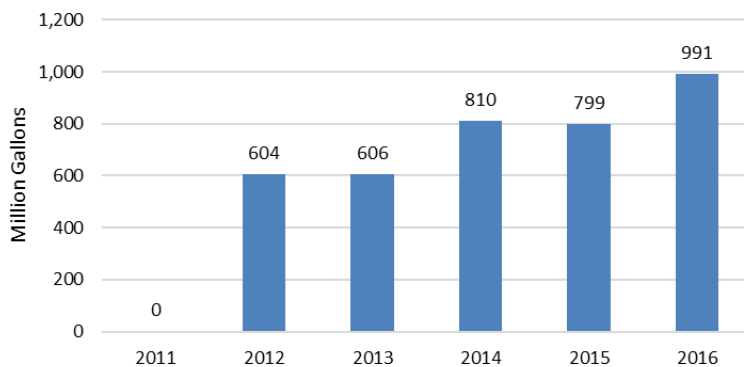
Active Oil Rigs



Source: Baker Hughes

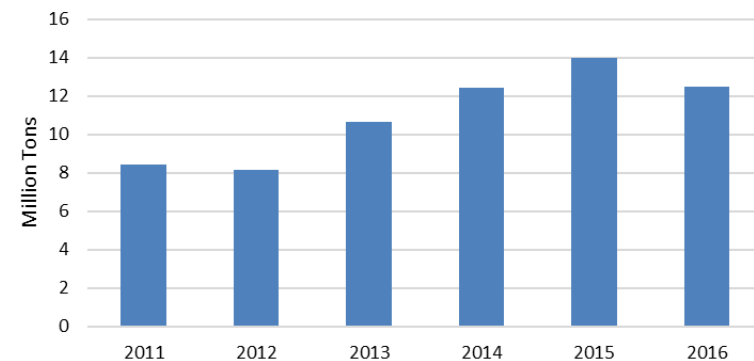
- U.S. ethanol production exceeds domestic demand
- Export opportunities expanding
 - Brazil: Imports up nearly 240% vs 2016
 - Mexico: Adopting E10; potential demand = 720 million gallons
 - Vietnam: E5 blending rate in 2018 to E10 by 2020
 - Japan: Considering adopting E10, demand uncertain

Fuel Ethanol Exports



Source: Renewable Fuels Association

Distillers Grains Exports



Source: U.S. Department of Agriculture



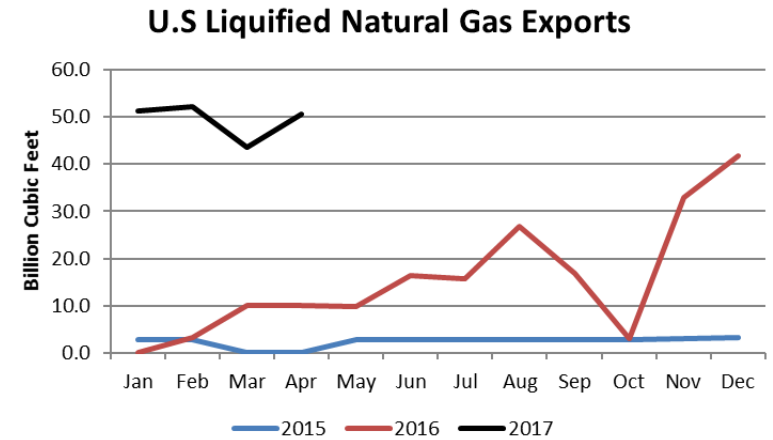
Looking Ahead



LNG Exports Starting to Take Off



- Increased LNG exports should support increased prices
- Seven projects are in various stages of construction
- Another 17 are in various stages of planning



Location	Capacity
FERC Approved - Under Construction	
Sabine, LA	1.40 Bcfd
Hackberry, LA	2.10 Bcfd
Freeport, TX	2.14 Bcfd
Cove Point, MD	0.82 Bcfd
Corpus Christi, TX	2.14 Bcfd
Sabine Pass, LA	1.40 Bcfd
Elba Island, GA	0.35 Bcfd

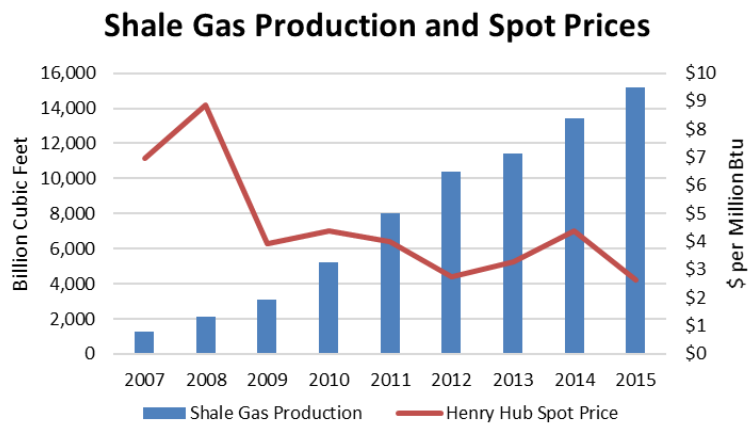
Location	Capacity
FERC Approved - Not Under Construction	
Lake Charles, LA	2.20 Bcfd
Lake Charles, LA	1.08 Bcfd
Hackberry, LA	1.41 Bcfd
Sabine Pass, LA	2.10 Bcfd
Pending Applications	
Pascagoula, MS	1.50 Bcfd
Cameron Parish, LA	1.41 Bcfd
Brownsville, TX	0.55 Bcfd
Brownsville, TX	3.60 Bcfd

Location	Capacity
Pending Applications	
Brownsville, TX	0.90 Bcfd
Port Arthur, TX	1.86 Bcfd
Projects in Pre-Filing	
Jacksonville, FL	0.08 Bcfd
Freeport, TX	0.72 Bcfd
Corpus Christi, TX	1.40 Bcfd
Plaquemines Parish, LA	2.80 Bcfd
Nikiski, AK	2.55 Bcfd
Cameron Parish, LA	1.84 Bcfd
Calcasieu Parish, LA	4.00 Bcfd

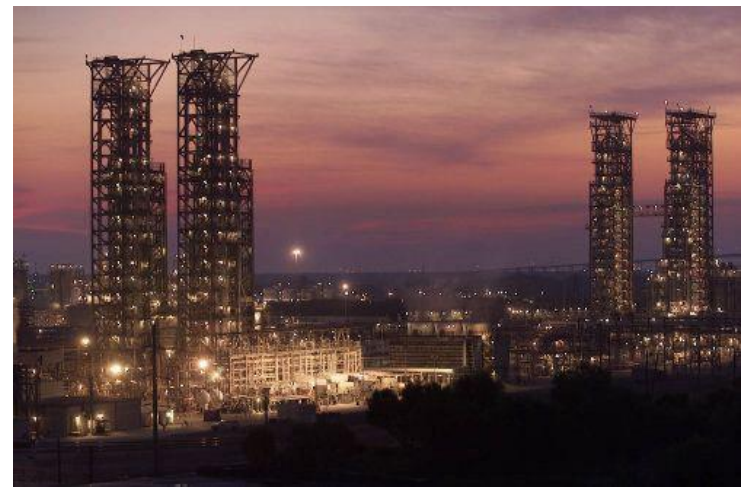
Chemical Plant Investment Growth



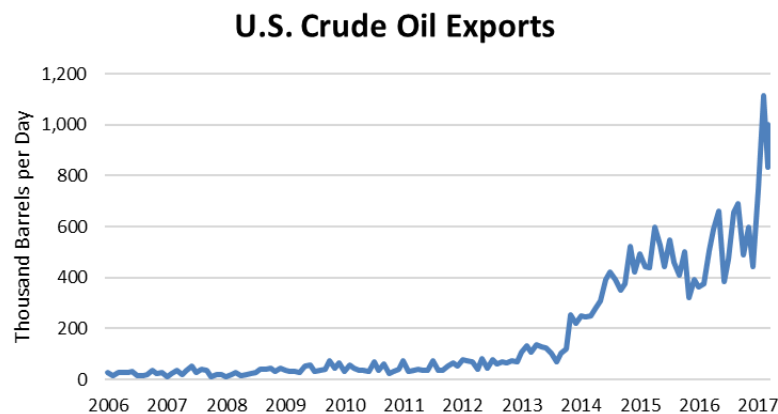
- 310 chemical projects in planning stages or underway
- Total investment value of \$185 Billion
- Chemical construction was half of 2016 U.S. capital spending
- Chemical exports to grow by 500% by 2027
- Foreign companies drawn to the U.S. by low natural gas prices



Source: Energy Information Administration



- In 1975 U.S. banned most crude exports
- More domestic production led to exports to free trade partners
- Export ban lifted completely in December 2015
- In Q1 2017, U.S. exported more oil than 5 OPEC nations

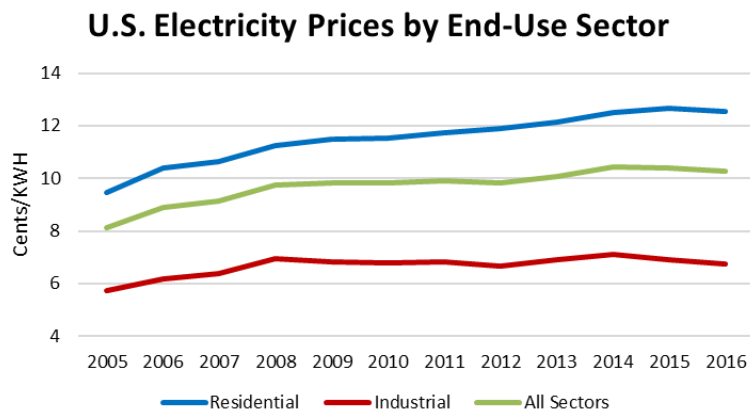


Source: Energy Information Administration



- Operational
 - ACERO Junction steel mill
 - Big River Steel
- Under Construction
 - HarbisonWalker International monolithics refractory plant
- In Planning/Permitting
 - Nucor expansion in Kentucky
 - U.S. Silica frac sand expansions/greenfields
 - Braidy Industries aluminum rolling mill
 - Arg Industries aluminum smelter
 - And more

- Price trend driven by environmental regulations
- Cannot restore industrial production without cheap electricity
- Residential prices going up
 - Will not increase disposable income
 - Will not increase personal spending



Source: Energy Information Administration



➤ Infrastructure

- The Trump administration plans to invest \$1 trillion in infrastructure
- Includes highways, waterways, airways and electrical systems
 - \$200 billion from the federal government
 - Public/private partnerships

➤ Deregulation

- Created task force to identify regs to eliminate
- Requires two prior regs to be scrapped for every new reg added

➤ Eliminated Roadblocks

- Expediting priority projects

➤ Promoting U.S. Manufacturing

- Maximize use of American-made goods & equipment in government projects
- Section 232 investigation into steel imports
- Section 232 investigation into aluminum imports

- 239 navigation locks at 193 sites
- Average age = 59.1 years
- Chambers older than 50 years = 139
- Locks past their design life expectancy = 58%
- Potential Impact?

A complete loss of the waterways for shipping with no advance notice to users would cost the economy \$124.2 billion during the first year alone and more than a trillion dollars over 10 years.

