

2017 Industrial Market Outlook

National Insulation Association



Presented By:

Industrial Info Resources, Inc.

Phoenix, Arizona - March 28, 2017

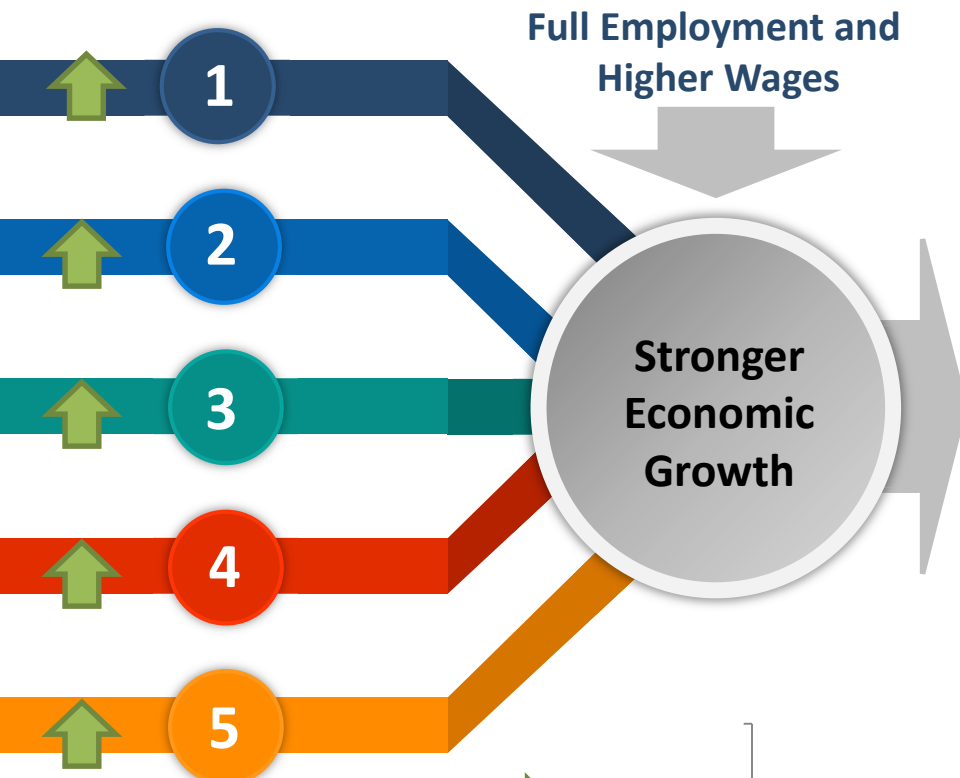
2017 Industrial Market Outlook

Speaker



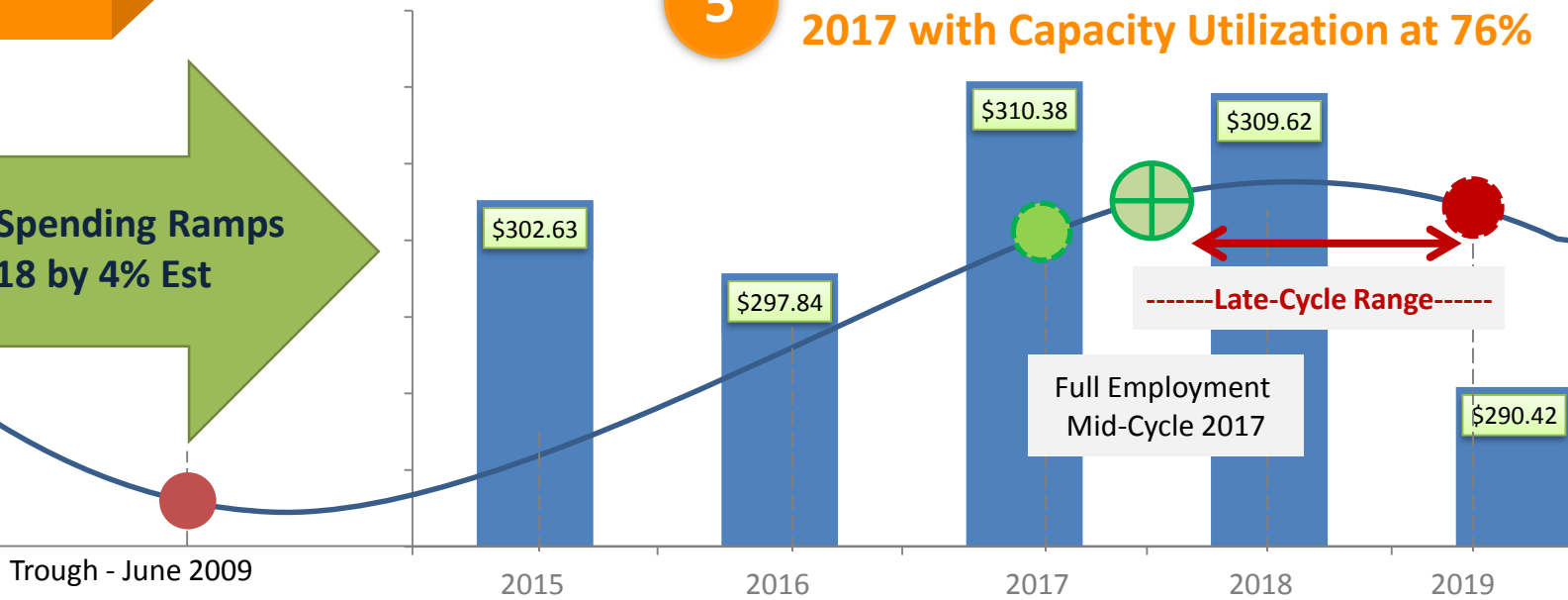
Brock Ramey

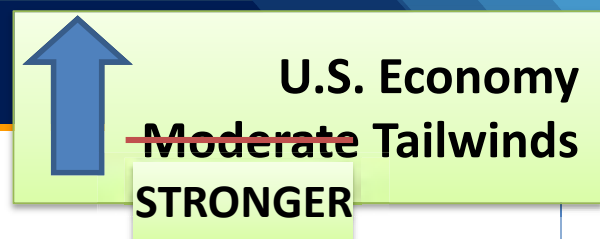
Power Specialist



- 1** Real GDP Growth Forecasted at **2.7%AR in 2017 and 3%AR in 2018**
- 2** Personal Expenditures up **6.6%** for **Durable Goods** and **2.7%** for **Non-Durable Goods** in 2017
- 3** Residential Housing Starts forecasted to grow to **1.2 MM AR in 2017 & to 1.7MM in 2018**
- 4** New Vehicle Sales expected to **maintain 17+ MM units thru 2018**
- 5** Industrial Production up **1.2%** in 2017 with **Capacity Utilization at 76%**

Industrial Plant Spending Ramps up in 2017 & 2018 by 4% Est





The Trump Bump

- ▶ Personal & Corporate Tax Reform; Potential Full Expensing Cash Flow Model.
- ▶ Rescind regulations that affect methane emissions, hydraulic fracturing, and greenhouse gas emissions.
- ▶ Will probably open up public lands for expanded drilling opportunities.
- ▶ Streamline permitting requirements for major infrastructure projects, including pipelines.
- ▶ Building the Wall and infrastructure spending will benefit U.S. Steel and Cement Industries, Architects, Engineers construction firms and rental companies to name a few.
- ▶ Automotive sector under fire; Maquiladora presence along the Texas border could be the next target.

U.S. Topline **Capital** Spending Forecast

Industry	2016 Estimate	2017 Forecast	\$ Change	% Change 17/16
Power	\$58.78	\$55.67	(\$3.11)	-5.29%
Terminals	\$5.01	\$5.35	\$0.34	6.79%
Pipelines (Oil & Gas)	\$14.86	\$17.50	\$2.65	17.83%
Production (Oil & Gas)	\$22.87	\$23.61	\$0.73	3.20%
Alternative Fuel	\$1.88	\$2.63	\$0.75	39.89%
Petroleum Refining (HPI)	\$8.04	\$8.37	\$0.33	4.10%
Chemical Processing (CPI)	\$22.49	\$22.85	\$0.36	1.60%
Metals & Minerals	\$13.29	\$14.04	\$0.75	5.64%
Pulp, Paper & Wood	\$4.82	\$5.29	\$0.47	9.75%
Food & Beverage	\$16.14	\$16.91	\$0.77	4.77%
Industrial Manufacturing	\$43.59	\$48.69	\$5.10	11.70%
Pharmaceutical & Biotech	\$16.78	\$18.33	\$1.55	9.24%
Total	\$228.55	\$239.24	\$10.69	4.68%

Total (USA & Canada) \$300.50 \$314.71 \$14.21 4.73%

Forecast Assumptions

- Crude oil prices average between US\$55 and \$60 BBL WTI, Brent \$60 to \$65. U.S. production grows by 600K.
- Stronger Consumer Spending combined with Trump's influence on manufacturing exports drives durable and non-durable demand – GDP Annualized at 2.7% growth
- Petrochemicals take breather in 2017 – Prior starts play out in spending
- Steel & Materials Industries benefit from infrastructure buildout
- Healthcare reform has little impact on pharma spend – Tweet “Prices are too high”

Power Industry Outlook

North American Power Industry Outlook

Generation, Transmission & Distribution

- Natural gas the dominant fuel for electricity generation
- Multiple drivers including federal tax credits are driving growth in renewables
- Future generation mix will be defined by natural gas prices and electricity

North American Power Industry Outlook

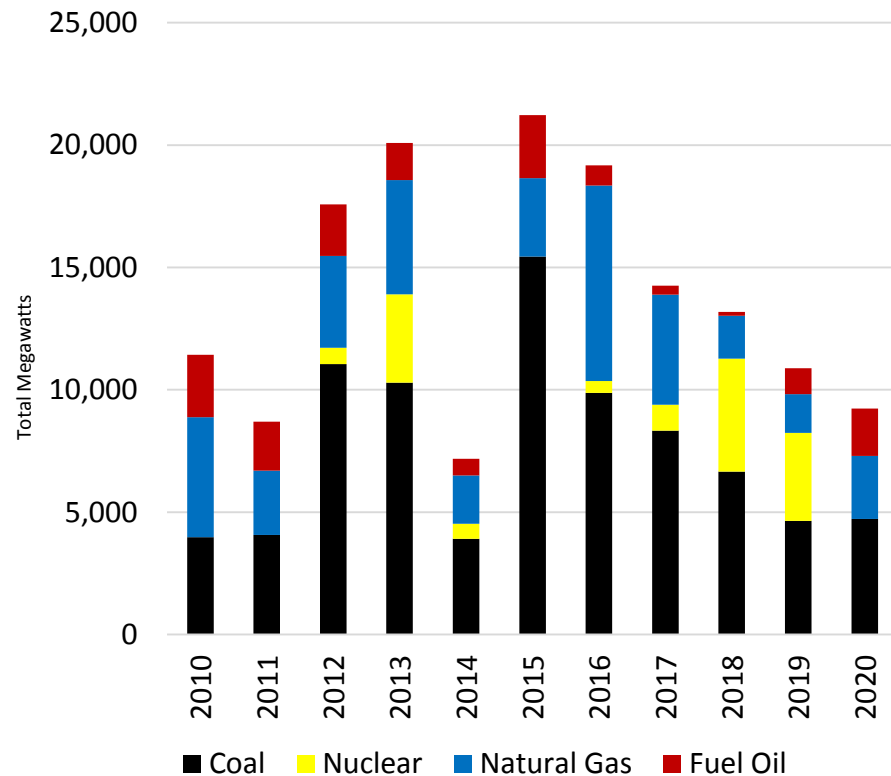
Generation, Transmission & Distribution

- Challenging business climate for nuclear sector
- Environmental regulations target coal-fired power plants
- In-plant capital and maintenance for aging fleet
- Ongoing investment for transmission and distribution

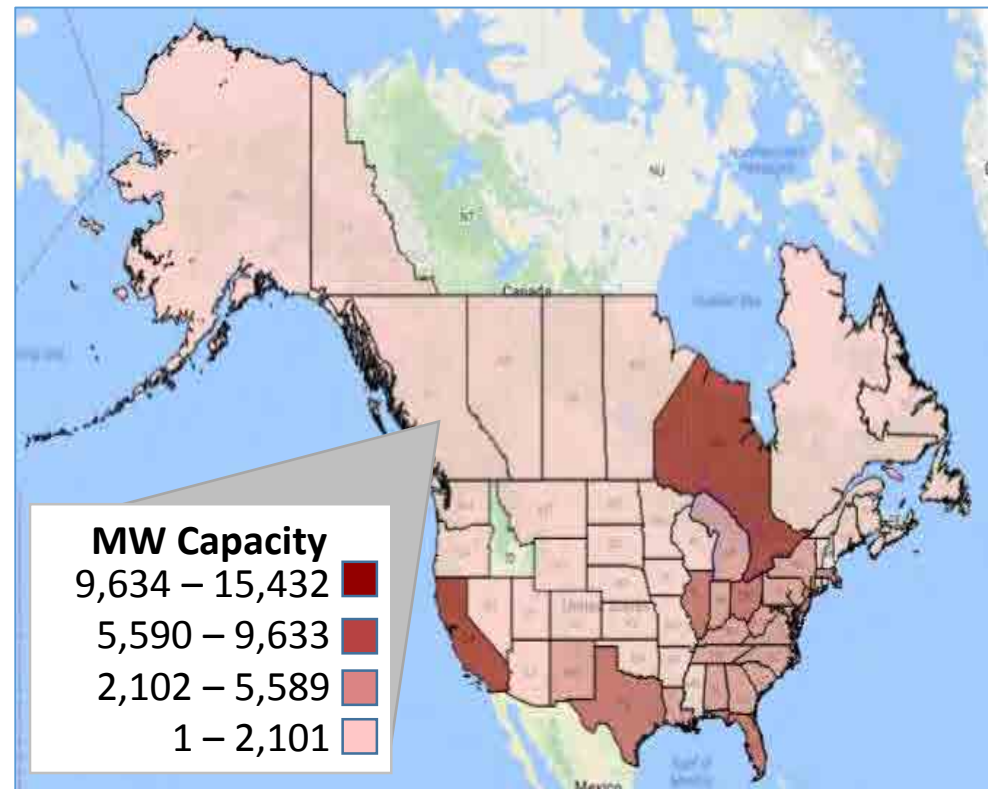
North American Power Industry

Unit Closures from 2010 - 2020

Coal, Nuclear, Gas & Oil



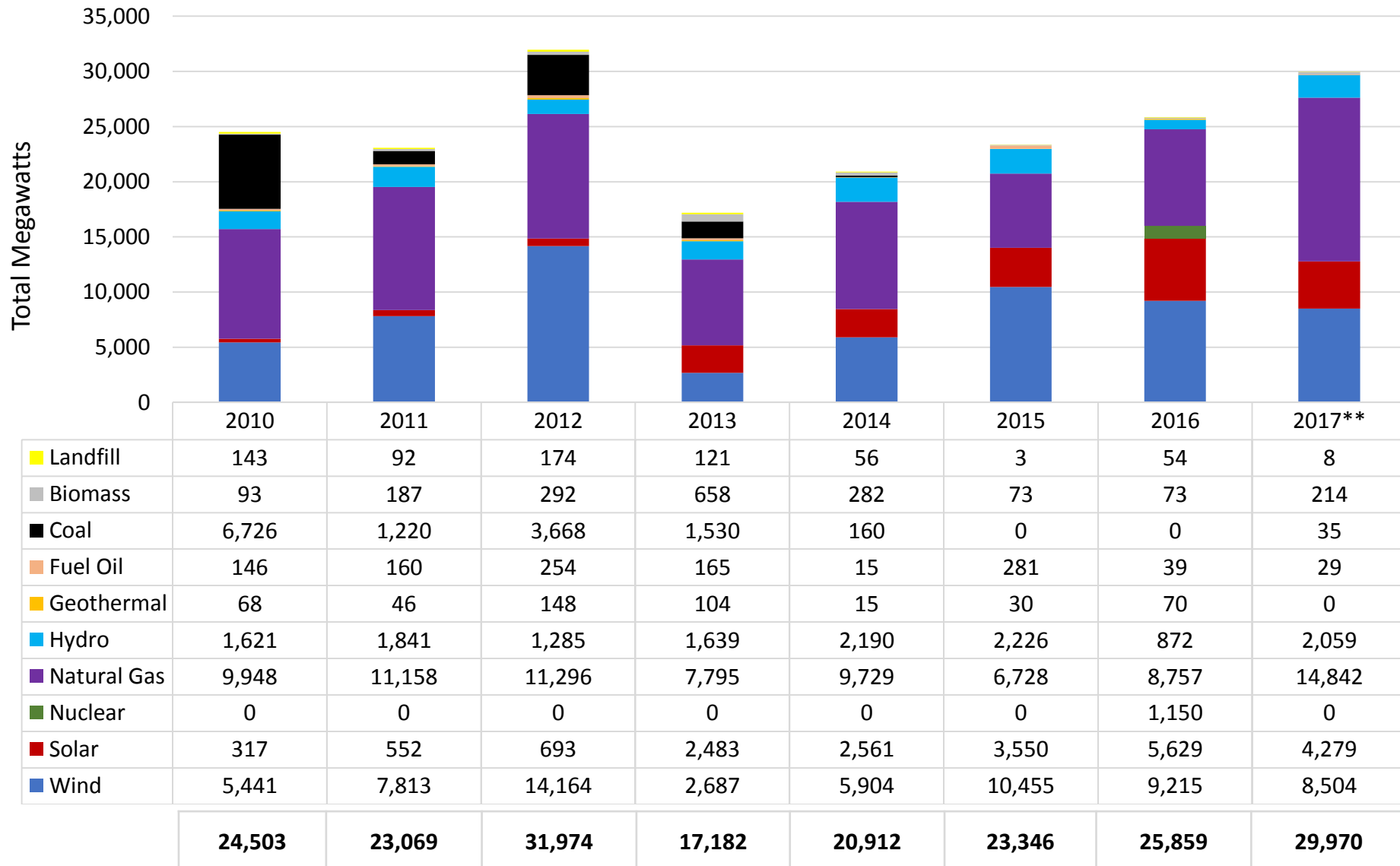
Megawatt Capacity by State



- 1,185 Units retired 2010-2016 representing 105 Gigawatts
- 271 Units and 47 Gigawatts scheduled for closure 2017-2020

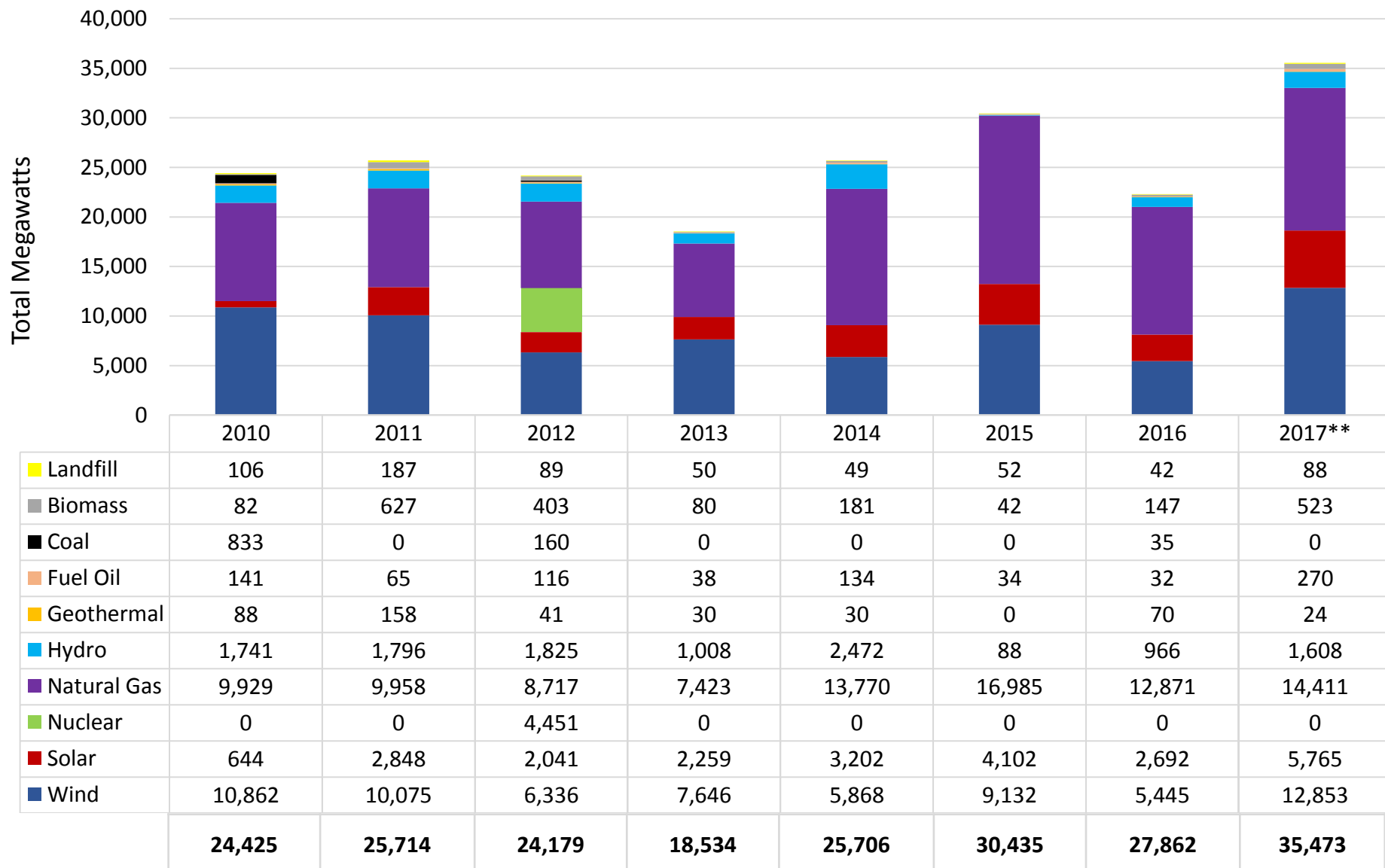
North American Power Industry

Unit Start Ups by Energy Source (2010 – 2017 Total MW)



North American Power Industry

Unit Construction Start by Energy Source (2010 – 2017 Total MW)



North American Power Industry

In-Plant Capital Projects – Construction Start 2017 - 2020

Market Region	Environmental	Modernization	Repower	Closure	Other In-Plant Capital
West Coast	\$41	\$54	\$3,261	\$1,423	\$2,096
Ontario	\$600	\$8,413			\$2,418
Great Lakes	\$1,575	\$150	\$669	\$239	\$1,202
Southeast	\$1,974	\$612	\$228	\$49	\$737
Rocky Mountains	\$1,714	\$25	\$15	\$72	\$1,049
Midwest	\$1,300	\$520		\$104	\$154
Western Canada	\$980	\$430	\$30		\$708
Southwest	\$376	\$3	\$37	\$2	\$353
Mid Atlantic	\$517	\$60	\$25	\$200	\$275
Northeast	\$17		\$102	\$32	\$640
New England				\$1,260	\$93
Atlantic Canada					\$38
Total	\$9,094	\$10,267	\$4,367	\$3,381	\$9,763

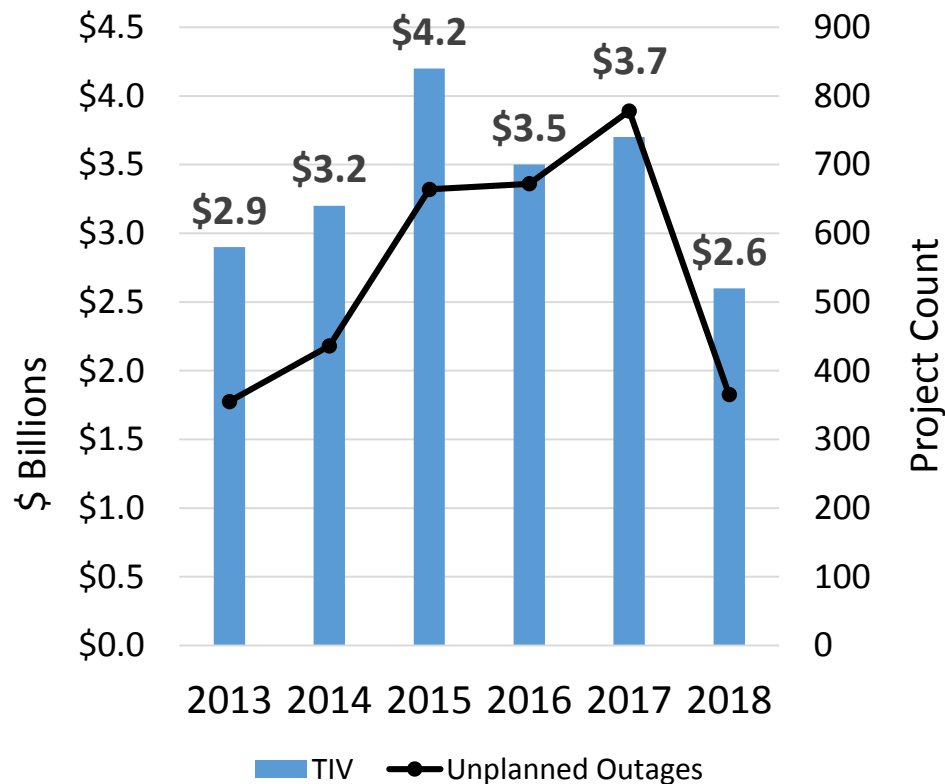
TIV \$ Millions

327 High Probability Projects worth \$25.9 Billion
70%+ Confidence factor of \$36.6 Billion Pipeline

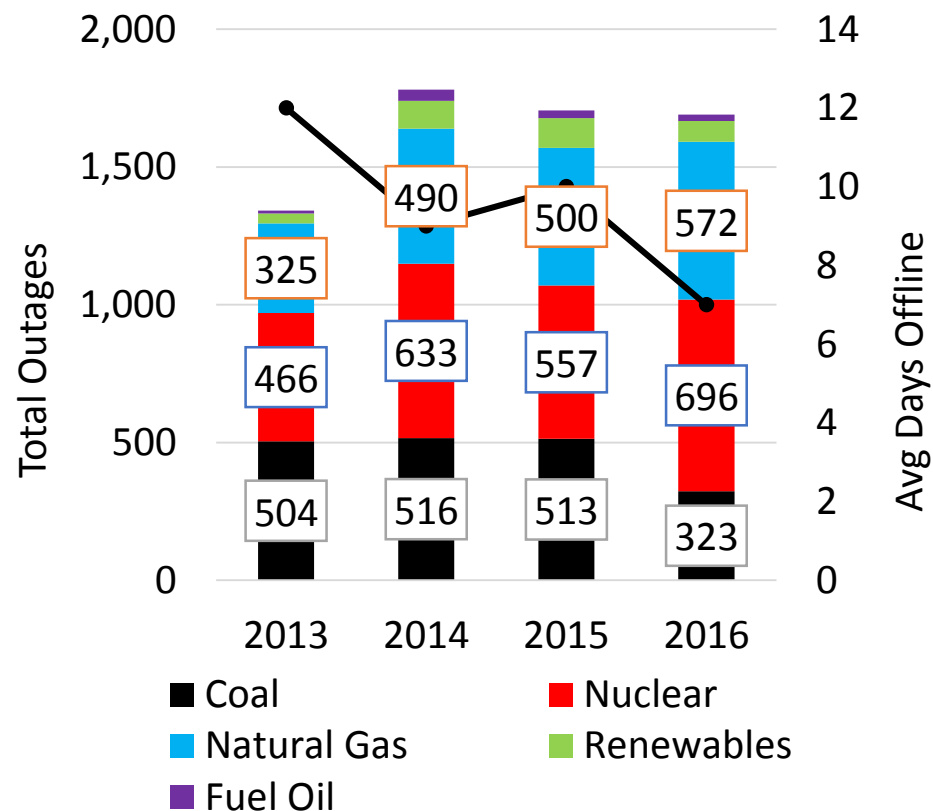
North American Power Industry

Scheduled and Unplanned Outage Activity

Scheduled Outages



Unplanned Outages



- Maintenance activity for scheduled outages trending upwards for 2017
- Extended maintenance cycles and deferred outages becoming more common

Petroleum Refining Industry Outlook

Petroleum Refining Industry

Key Market Trends – A shift on the way ?

Drivers

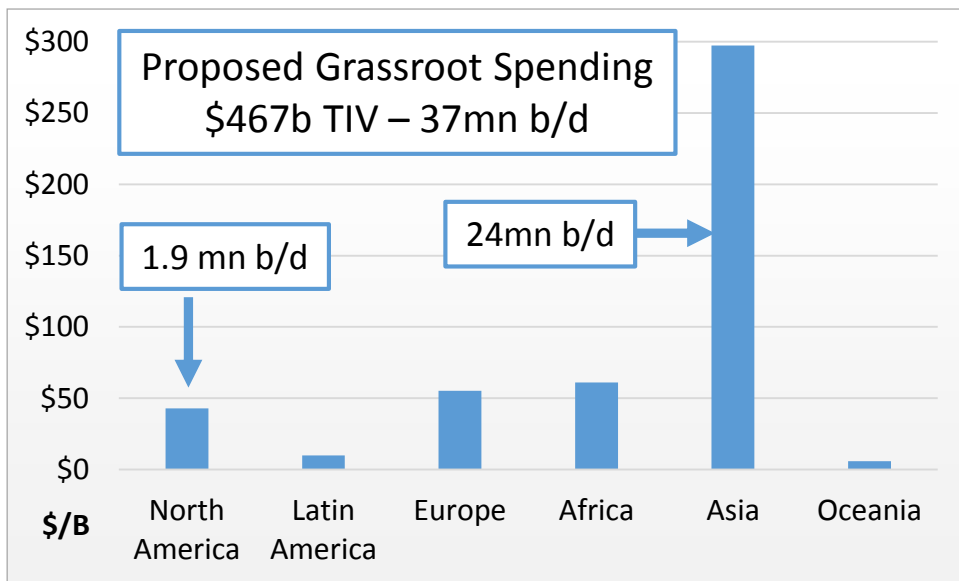
- Profit margins for US refiners remain favorable despite recent OPEC accord agreement
- Consumption/Demand of Gasoline and Jet Fuel remains strong as a result of low prices
- Exports of refined products continue to rise
- Low NatGas prices remains an advantage to US refiners as fuel source
- Glut of product inventory in the US beginning to drawdown

Constraints

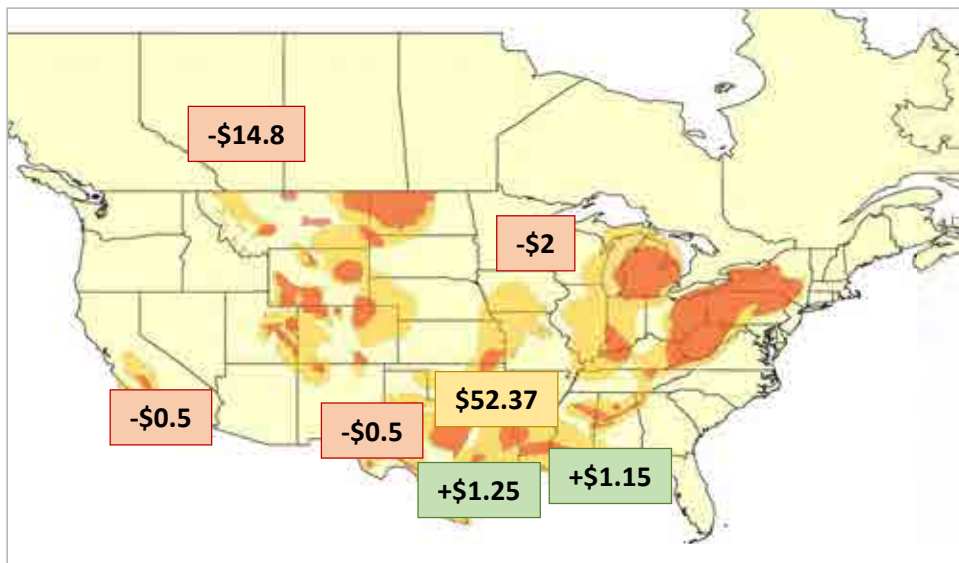
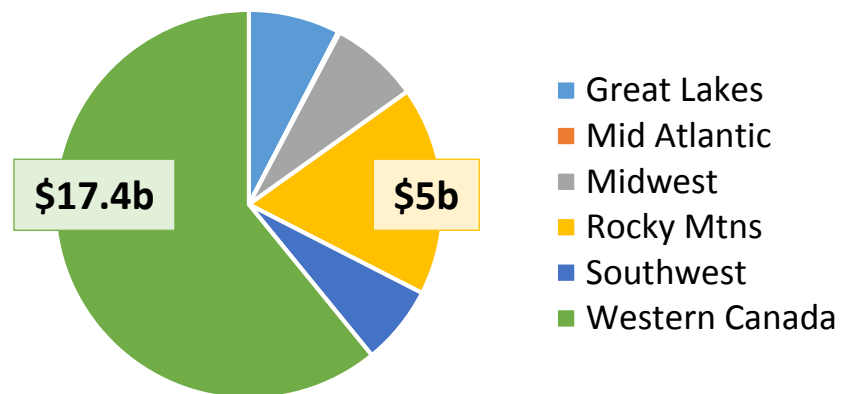
- Global Supply/demand of oil is beginning to rebalance
- Demand for 2016 is down compared to 2015; similar gain in 2017. Slower growth is projected
- New Refining capacity coming online
- OECD oil inventories dropped for 3 months in a row
- WTI/Brent spread remains tight

Petroleum Refining Industry

Grassroot and Crude Feedstock Flexibility



\$28.6b Proposed for Construction
Kick-Off in 2017 and 2018



Grassroot:

- Meridian Energy – Davis Refinery, ND

Expansions:

- Calcasieu Refining
- Tesoro Dakota Prairie

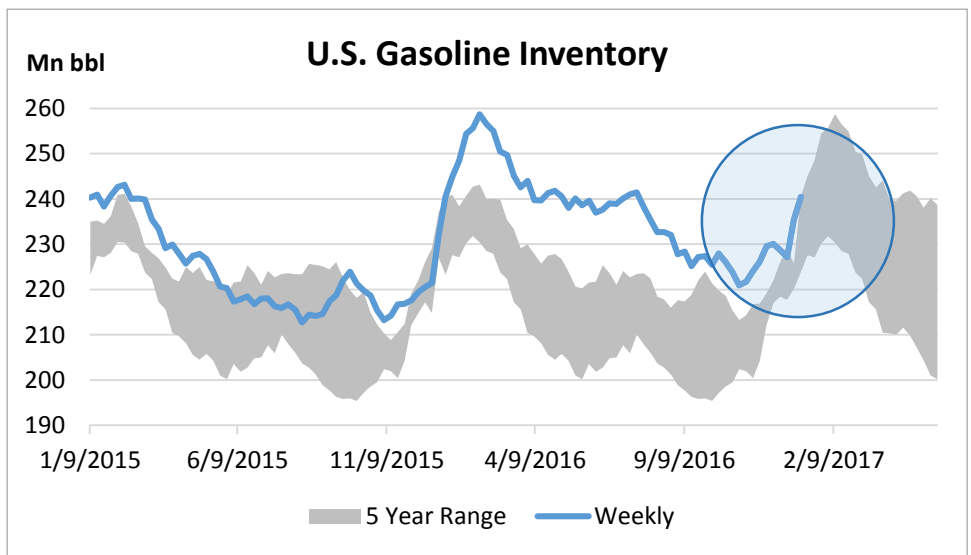
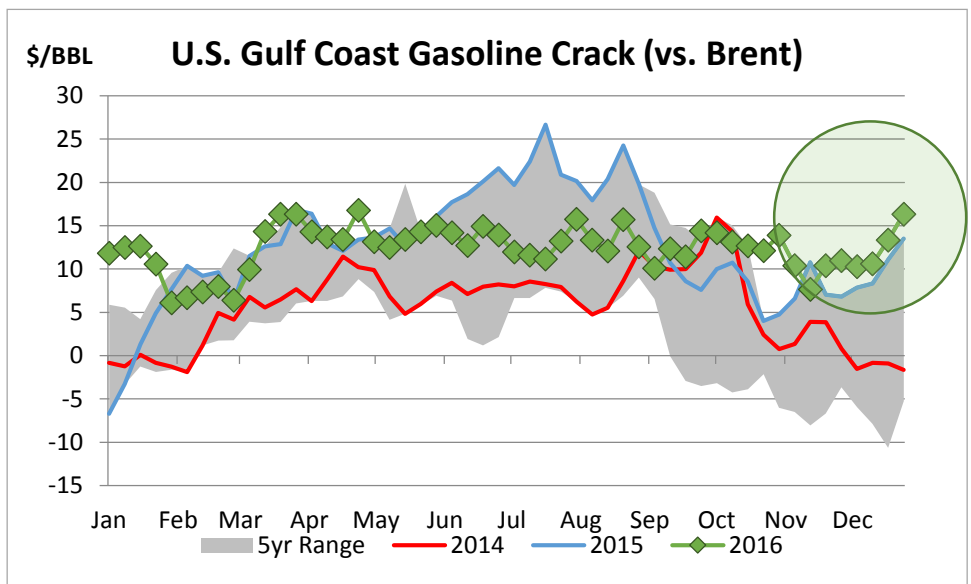
Crude Slate:

- Western Refining, El Paso, TX
- CHS, Laurel, MT

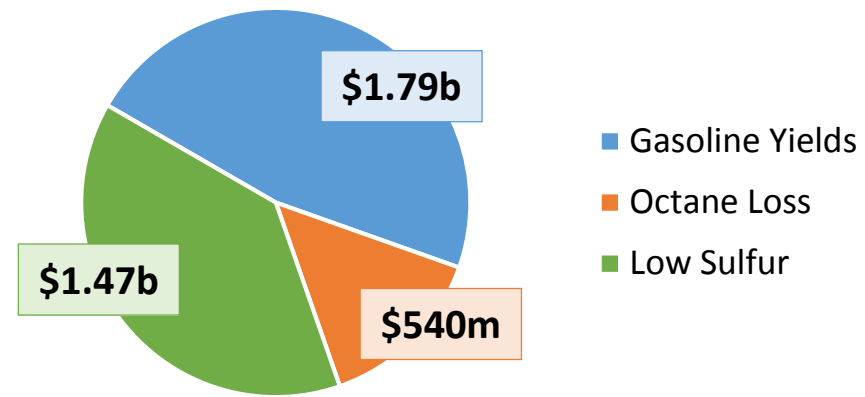
* Source: DOE EIA

Petroleum Refining Industry

Gasoline Fundamentals and Proposed Spending



\$3.79b Proposed for Construction Kick-Off in 2017 and 2018



Low Sulfur Gasoline Tier 3

- Great Lakes - \$412m
- Southwest - \$445m

Gasoline Yields

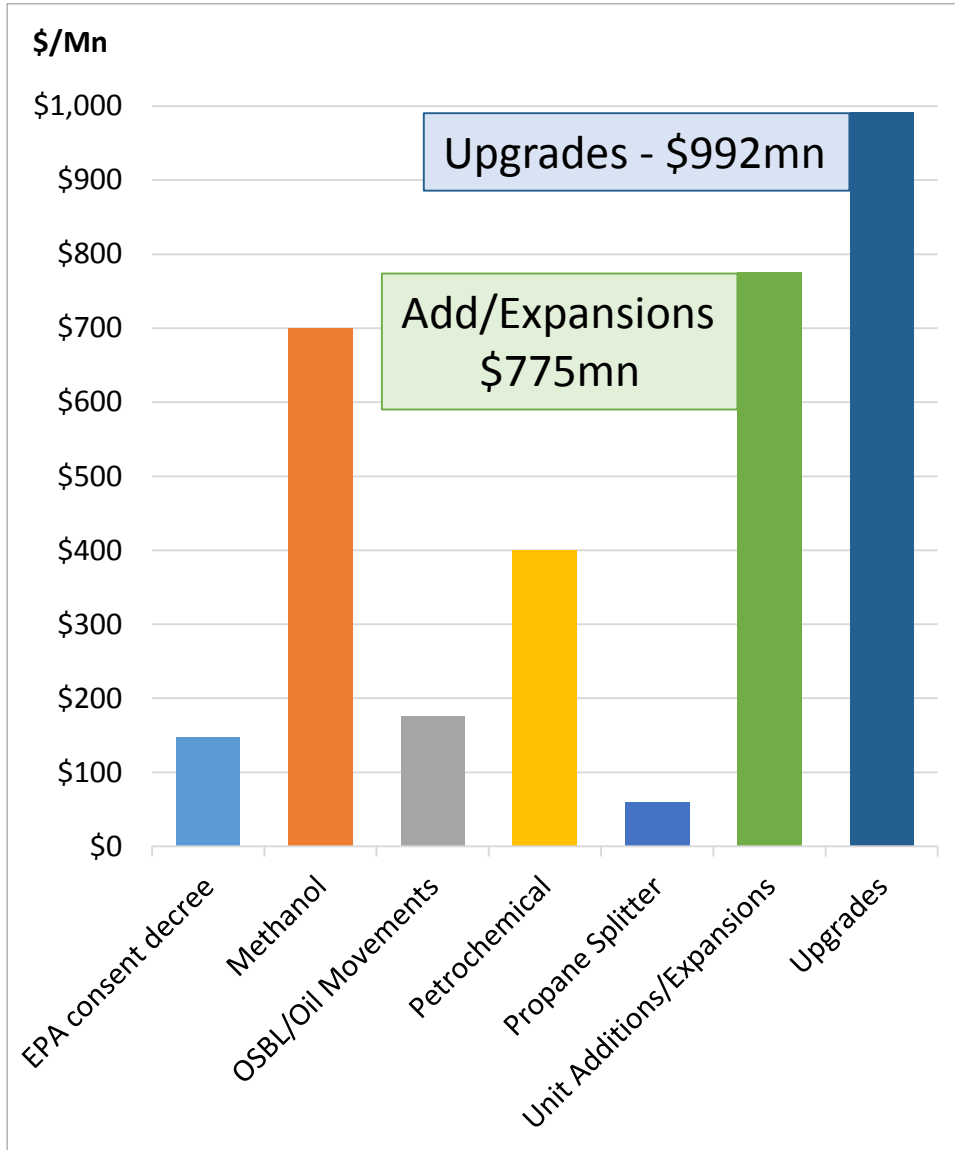
- Mexico - \$985m
- Great Lakes- \$200m

Octane loss

- Valero and Total

Petroleum Refining Industry

Proposed Spending - Remaining Categories



**\$3.25b Proposed for Construction
Kick-Off in 2017 and 2018**

Regional Spend Breakdown:

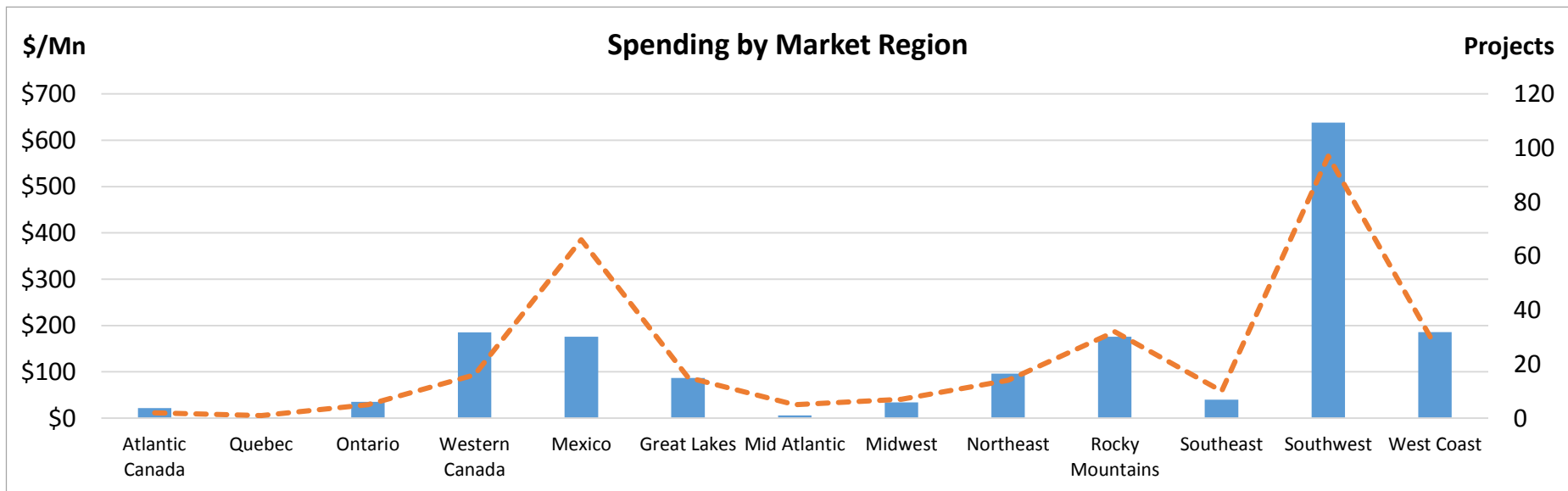
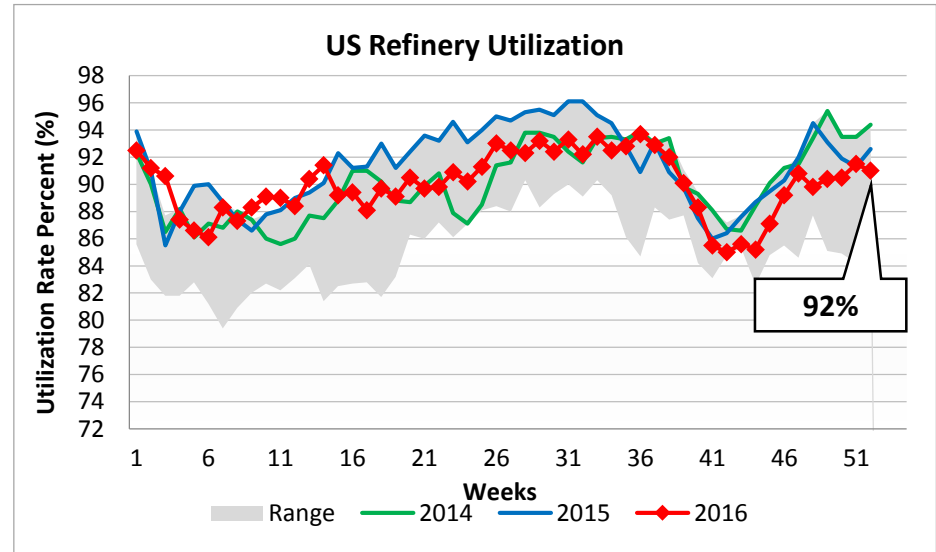
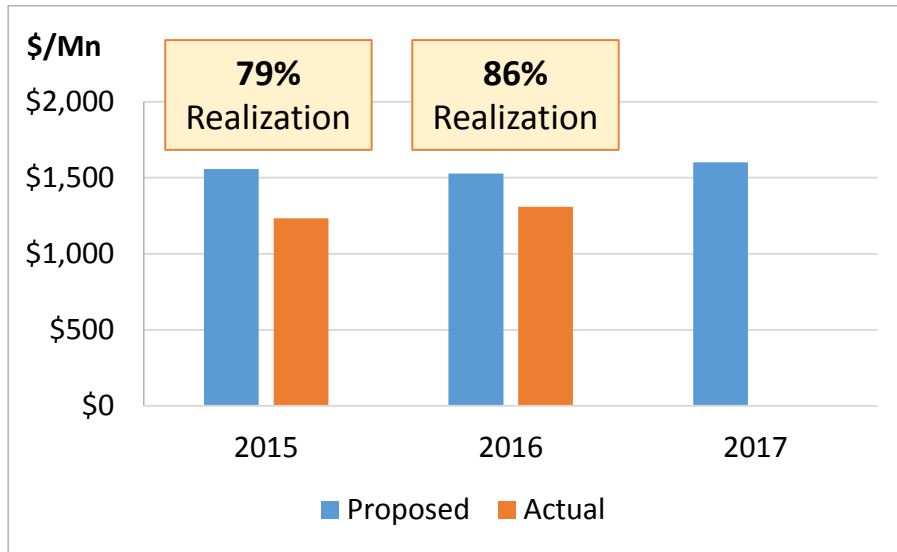
- Southwest \$1.19bn
- West Coast \$728mn
- Midwest 705mn
- Rocky Mountains \$129mn
- Mexico \$105mn

Spend by Company:

- Phillips 66 \$206mn
- Motiva Enterprise \$105mn
- Citgo Petroleum \$100mn
- Chevron \$80mn

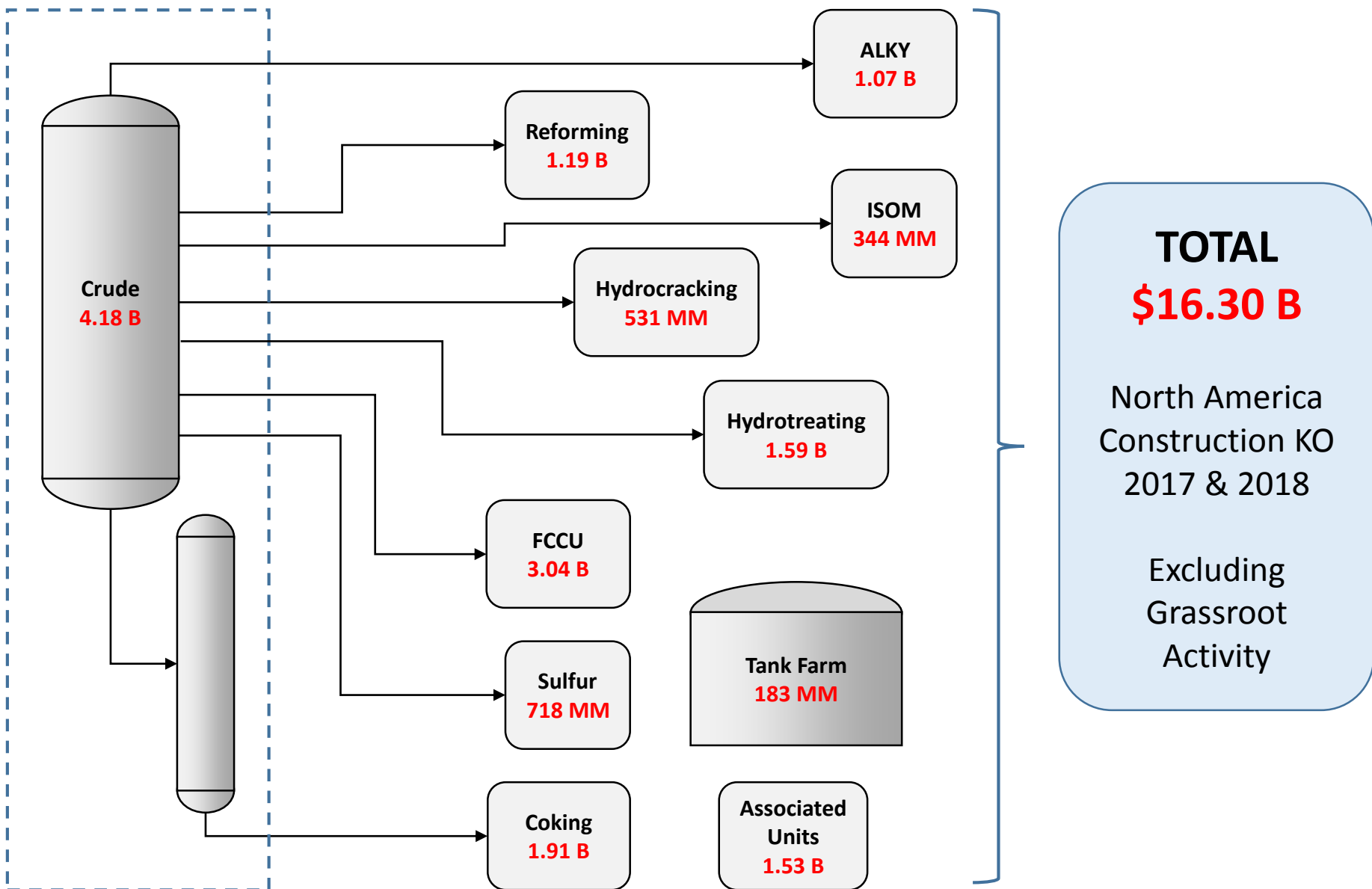
Petroleum Refining Industry

North America Maintenance Spending



Petroleum Refining Industry

Spend by Unit Type



Oil & Gas Outlook

Americas Oil & Gas Project Outlook

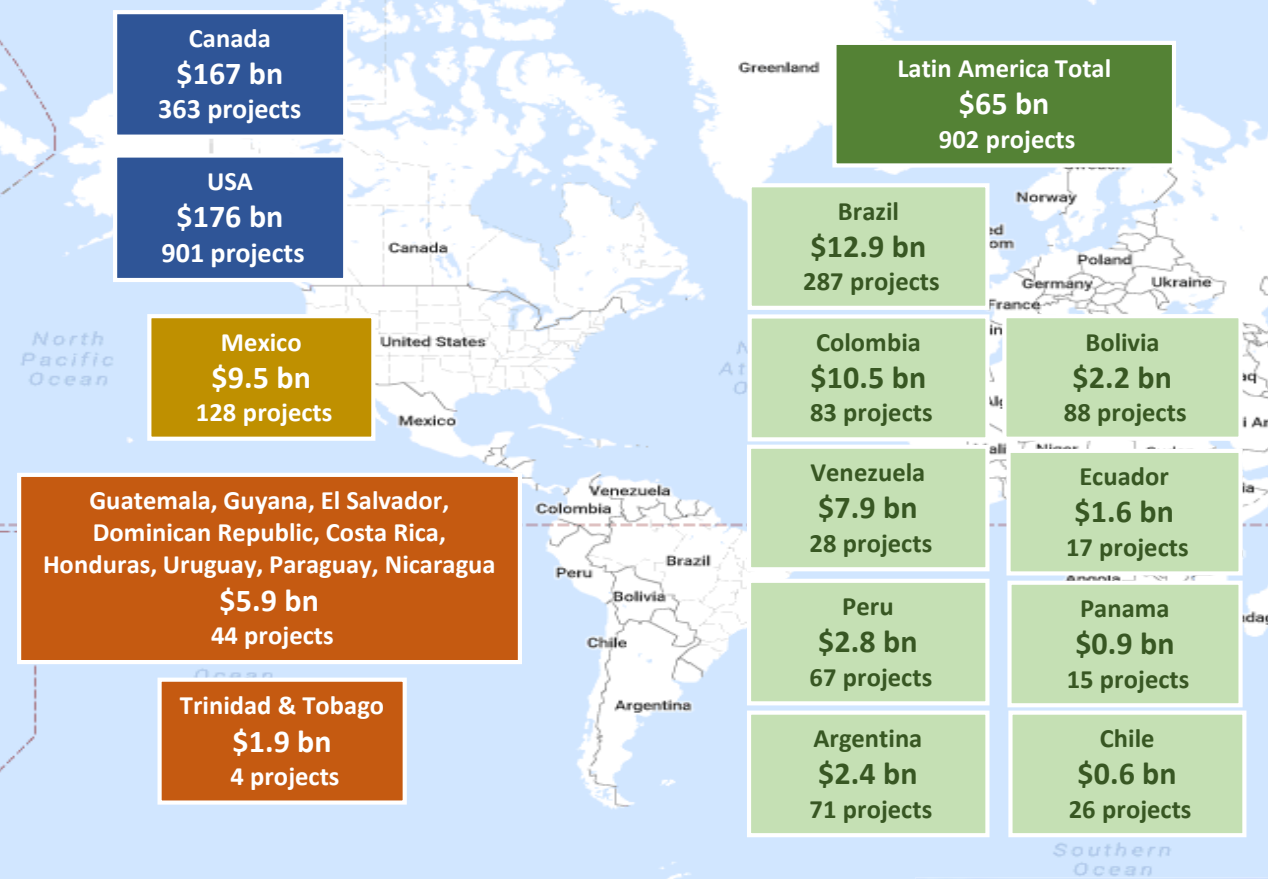
What's Still in Play?

Capital Projects Under Construction Onshore & Offshore



Current Active Capex Project Pipeline Projects at Planning & Engineering Stages Construction Start in 2017 - 2018

Source: IIR O&G Project Database



2,575
Under Construction Projects
>\$355bn TIV

24 Month Total Active
Capex + MRO
3,926 Projects
>\$407 Billion TIV

24 Month Total Active
Planning/Engineering
2,122 Projects
>\$402 Billion TIV

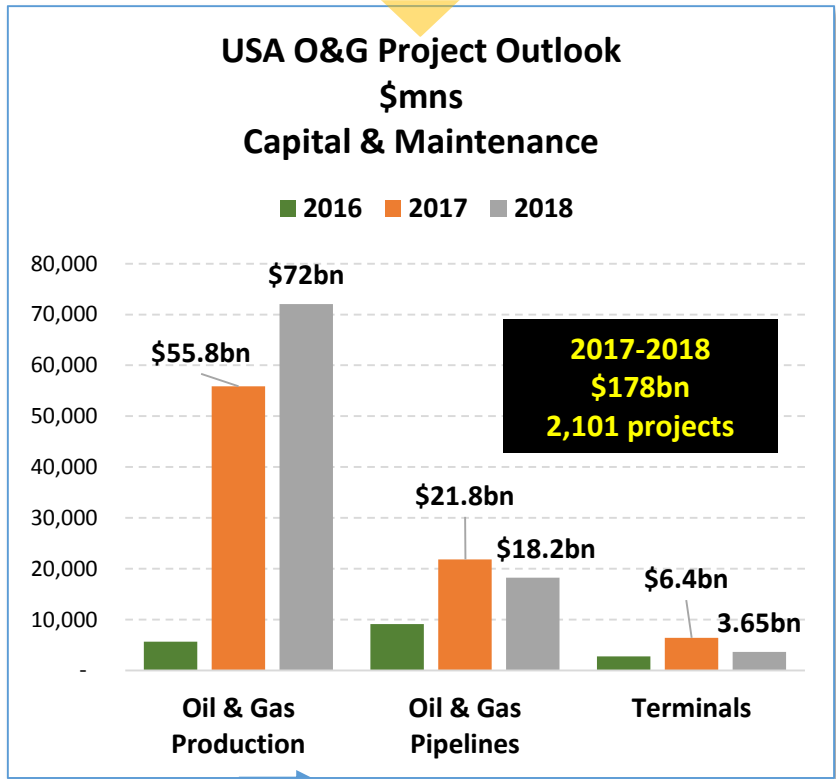
Total Active Projects
Planning/Engineering
2017 -2023
4,553 Projects
>\$745 Billion TIV

USA Project Spending 24 Month Outlook

USA Oil & Gas

Total Active USA Projects \$424.7bn
2,610 projects

Planning & Engineering Stage only – All KO Dates \$342bn
1,027 projects



\$140bn
Gas/NGL Related
681 Projects

2017-2018
Capital
Projects

\$36.7bn
Oil Related
263 Projects

Market & Spending Drivers

Production:

- Gas Production is down while exports are up
- LPG prices are rising faster than Crude
- Rising LNG export growth
- Industrial Petrochemical demand
- Power sector demand growth
- Rising Pipeline exports to Mexico
- Supportive administration

All leading to tighter market conditions resulting in gas prices at a two year high, LPG prices rising faster than Crude, and rig count growth returning.

Processing:

- Margins are returning along with increased utilization rates

Terminals:

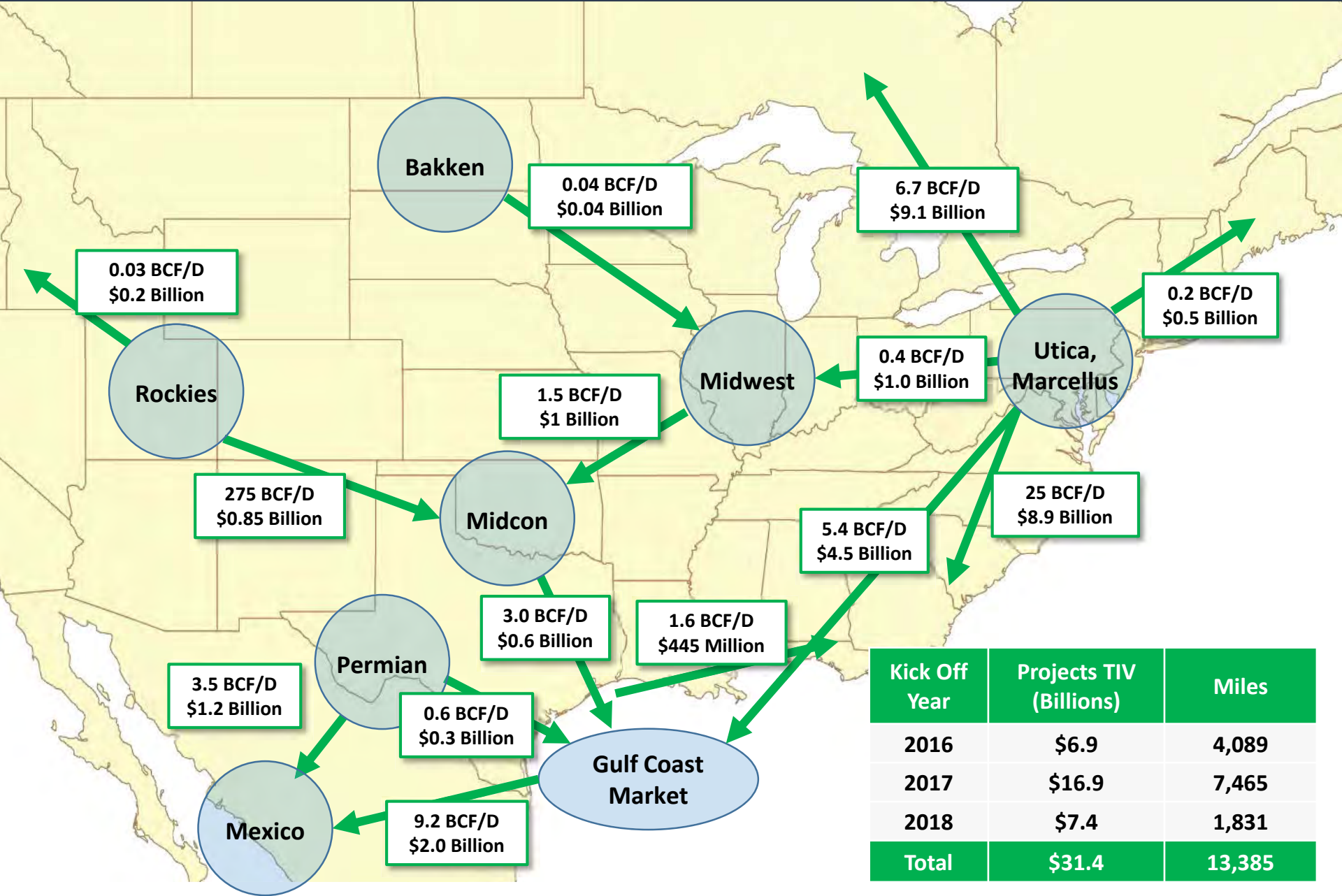
- Build out to store additional crude oil production

Pipelines:

- Economics of crude pipelines vs railcar
- Build out to move natural gas and condensates

USA Natural Gas Distribution

Natural Gas Pipeline Activity to Meet Demand (2016-2020)

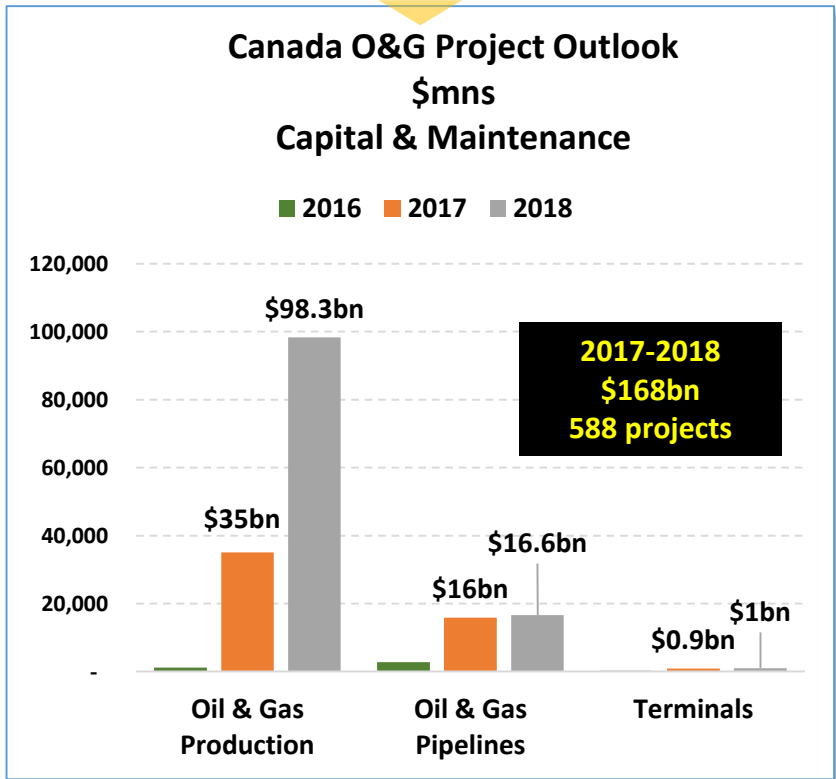


Canada Project Spending 24 Month Outlook

Canada Oil & Gas

Total Active Canada Projects \$331bn
820 projects

Planning & Engineering Stage only – All KO Dates \$314.5bn
452 projects



\$95.4bn
Gas/NGL Related
121 Projects

2017-2018
Capital
Projects

\$71.8bn
Oil Related
242 Projects

Market & Spending Drivers

Production:

- Oil Sands spending has moved from CAPEX to OPEX.
- No wave of new Canadian oil sands grassroots development anytime soon.
- 2017 crude prices may support re-investment back into brownfield developments, debottlenecks and production and processing improvements.
- LNG buildout begins but slowly - four trains associated with 6.57 Bcf/d still at awaiting notice foOr proceed.
- Growing LPG exports will allow for additional wet gas production in the Montney and Duvernay Shale formations.

Terminals:

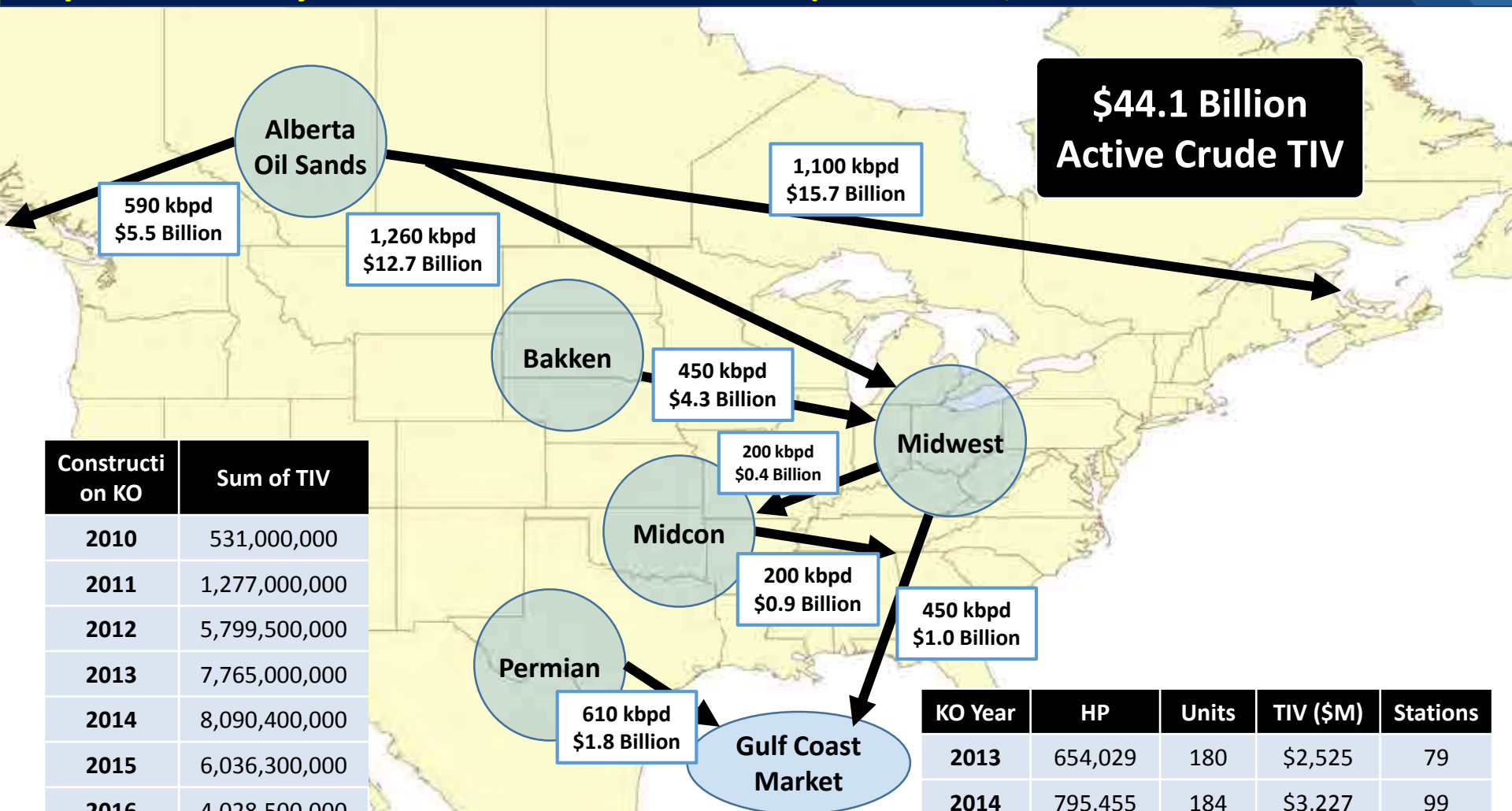
- Build out to store addition crude oil production.

Pipelines:

- Recent oil pipeline approvals to will eventually provide outlets for oil production.

North America Crude Oil Pipelines

Pipeline Activity to Move Product to Market (2015-2020)



Constructi on KO	Sum of TIV
2010	531,000,000
2011	1,277,000,000
2012	5,799,500,000
2013	7,765,000,000
2014	8,090,400,000
2015	6,036,300,000
2016	4,028,500,000
2017	7,970,900,000
2018	22,448,500,000
2019	16,040,000,000
Total	79,987,100,000

Medium/High Probability
7,481,000,000
18,613,000,000
40,000,000

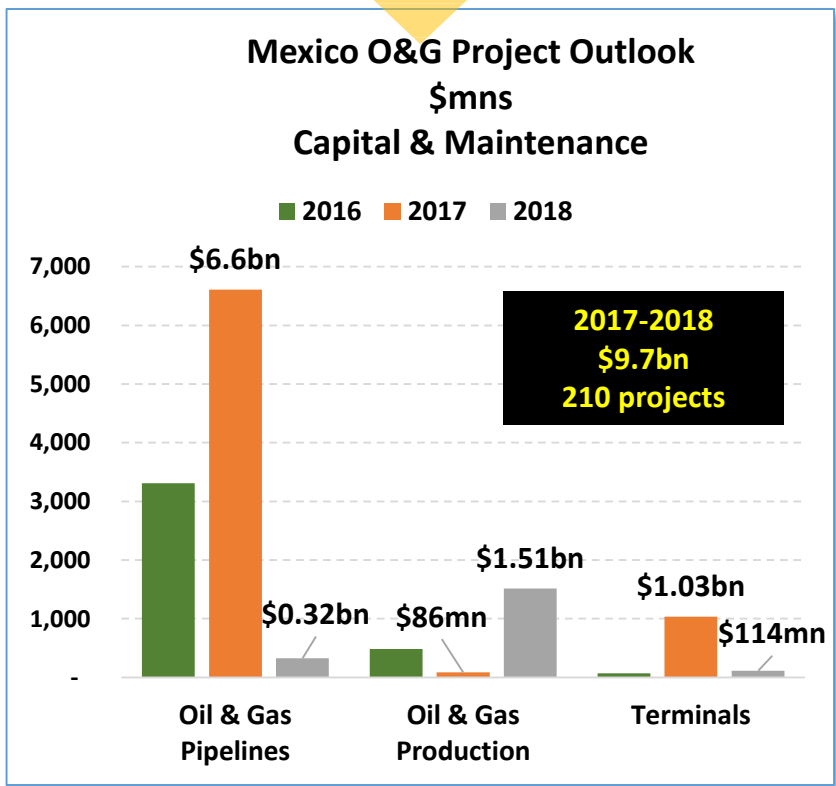
KO Year	HP	Units	TIV (\$M)	Stations
2013	654,029	180	\$2,525	79
2014	795,455	184	\$3,227	99
2015	140,157	57	\$1,770	38
2016	351,692	87	\$2,224	34
2017	346,782	77	\$927	29
2018	3,492,861	557	\$7,706	149

Mexico Project Spending 24 Month Outlook

Mexico Oil & Gas

Total Active Mexico Projects \$23.8bn
253 projects

Planning & Engineering Stage only – All KO Dates \$17.8bn
143 projects



\$7.8bn
Gas/NGL Related
43 Projects

2017-2018
Capital
Projects

\$1.8bn
Oil Related
86 Projects

Market & Spending Drivers

Production:

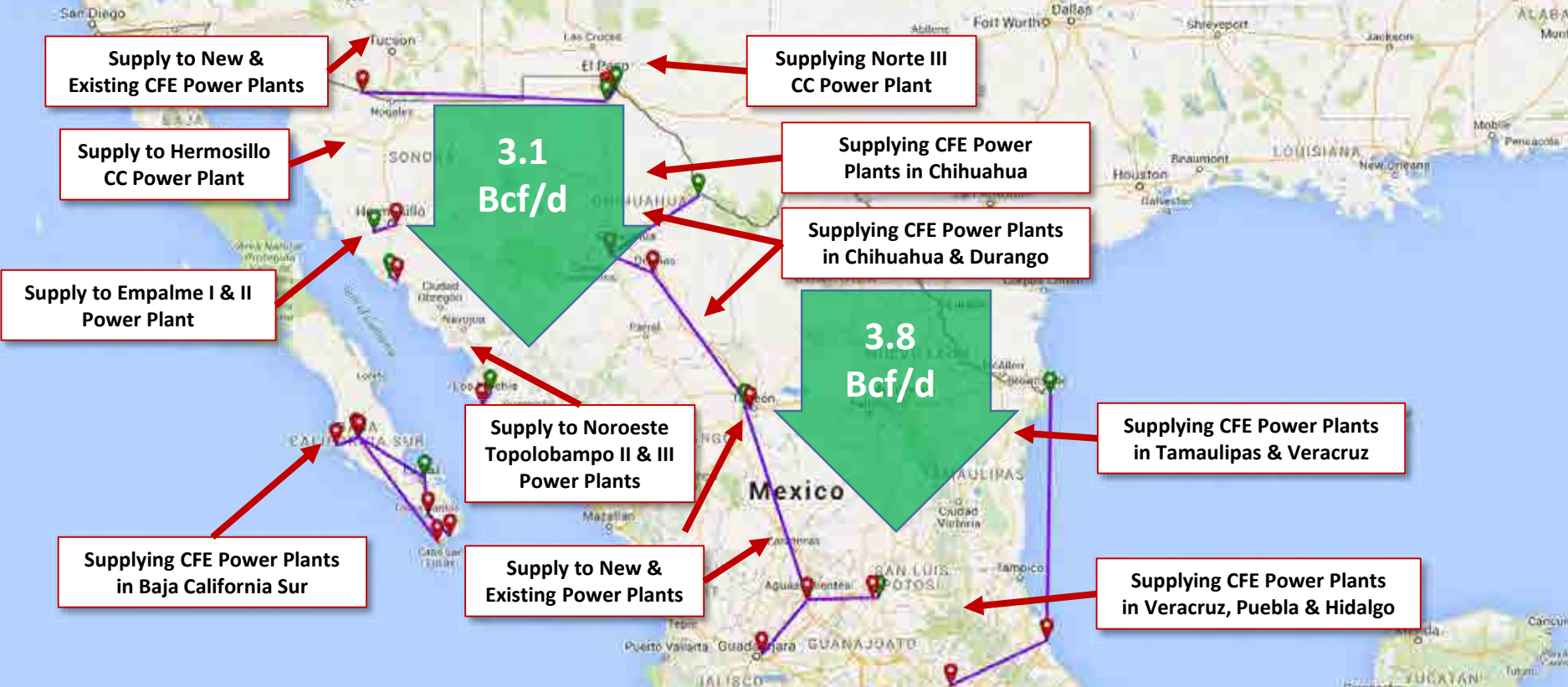
- Energy reforms lead to the first deep water licenses seen.
- Natural Gas production declines increase reliance on imports. Recent gas production rounds will not mitigate the declines.

Infrastructure

- New pipeline capacity required to meet fuel oil to gas switching and the massive buildout in new gas-fired power plant capacity.
- Mexico enacted legislation last April allowing other companies other than PEMEX to import fuel for the first time since the 1930's to meet rising petroleum products demand.

Mexico -New Gas Pipelines tapping into US Gas

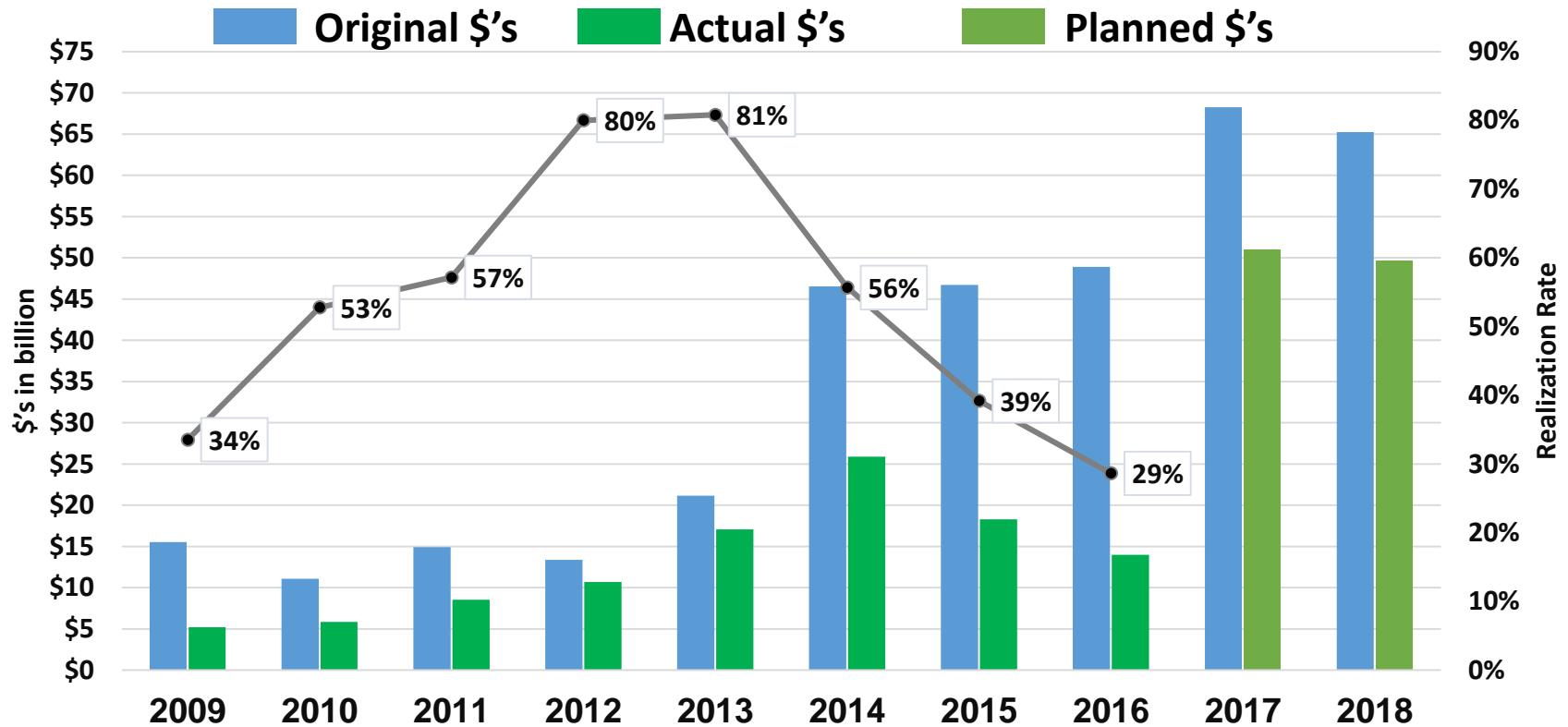
Owner	Project	KO date	Startup date	Length (Km)	\$mns	(MMSCFD)
Fermaca Pipeline El Encino S de RL de CV	El Encino - Delicias (Phase 1)	Jan-15	Mar-17	100	\$128	
Fermaca Pipeline El Encino S de RL de CV	Delicias - La Laguna (Phase 2)	May-16	Apr-17	314	\$400	1,500
IEnova	Ojinaga - El Encino	Feb-16	Mar-17	220	\$195	350
Fermaca Global	La Laguna - Aguascalientes	Sep-16	Jan-18	600	\$470	1,150
Infraestructura Marina del Golfo	South Texas - Tuxpan	May-17	Oct-18	800	\$2,000	2,600
Transportadora de GN de la Husteca S de RL CV	Tuxpan - Tula	Oct-16	Dec-17	350	\$500	886
Transportadora de GN de la Husteca S de RL CV	Tula - Villa Reyes	Oct-16	Jan-18	420	\$350	886
Nueva Era Pipeline LLC	Colombia - Escobedo	Oct-16	Nov-17	300	\$350	600
TAG Pipelines Sur S. de R.L. de C.V	Los Ramones - Villa Hidalgo	Jan-15	Feb-17	441	\$1,000	2,000
TAG Pipelines Sur S. de R.L. de C.V	Villa Hidalgo - Apaseo El Alto	Sep-14	Feb-17	287	\$770	2,000
Kinder Morgan Gas Natural de Mexico S de RL de CV	Mier Monterrey (Loop)	Jul-17	Sep-17	93	\$120	200



Chemical Processing Outlook

U.S. & Canada Chemical Industry

Comparison of Proposed vs. Actual spend



Total Value of Construction Starts by Year

2013

\$7.2 billion in new ammonia capacity

2014

\$12 billion in ethylene projects; 16 billion Lbs by 2018

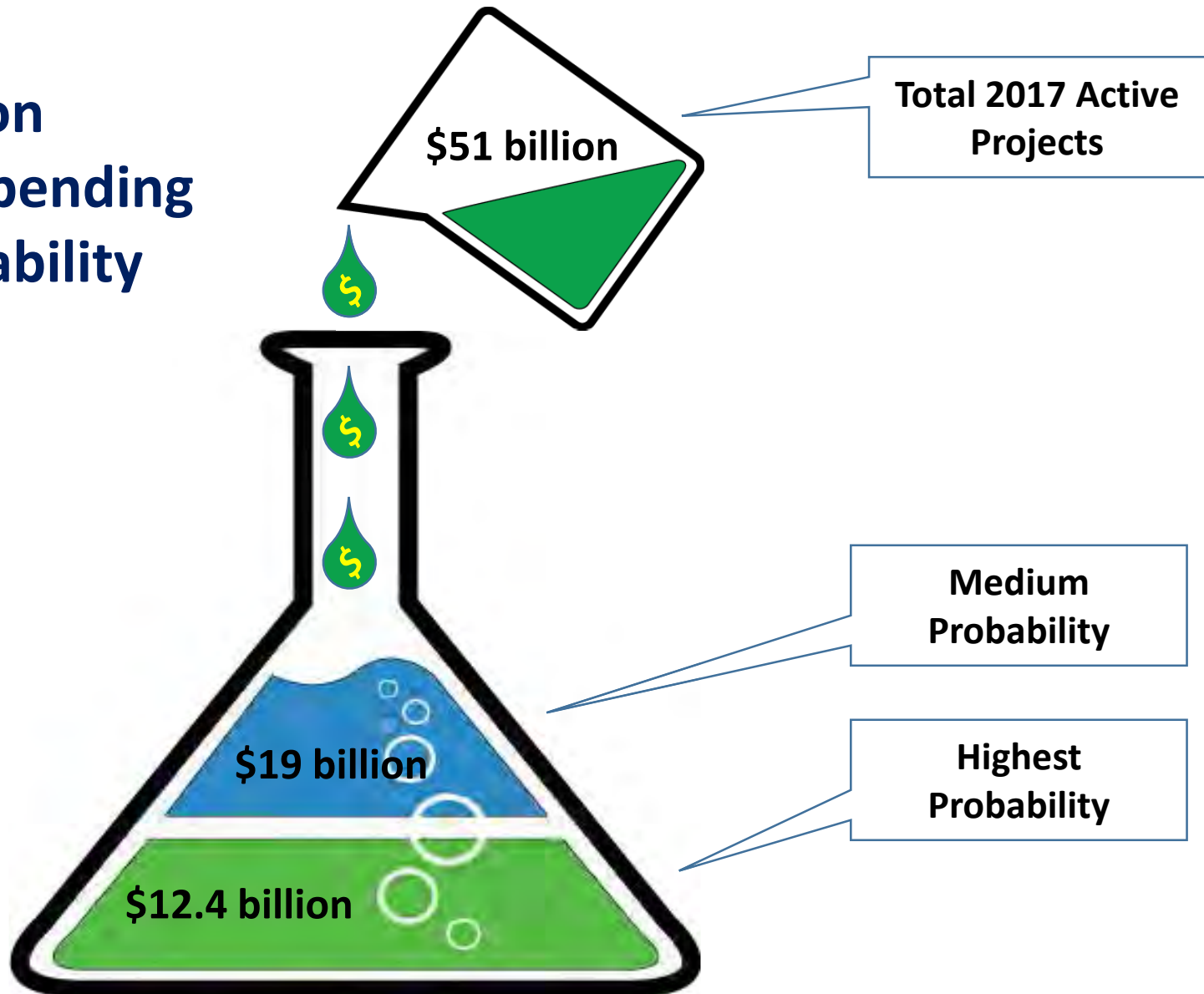
2015

\$9.5 billion in ethylene and polyethylene capacity projects

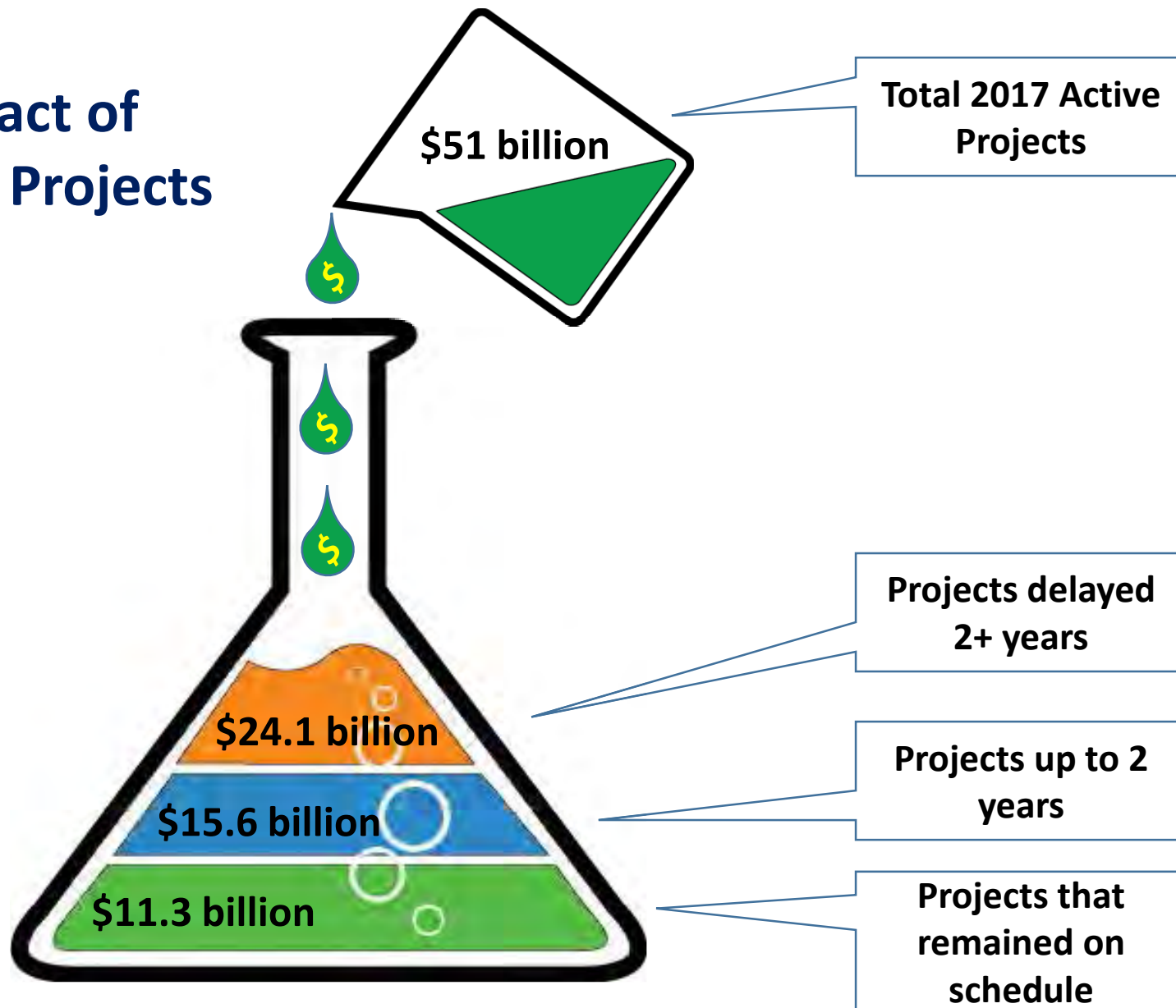
2016

\$5.5 billion in derivative spending begins construction

Impact on future spending by Probability

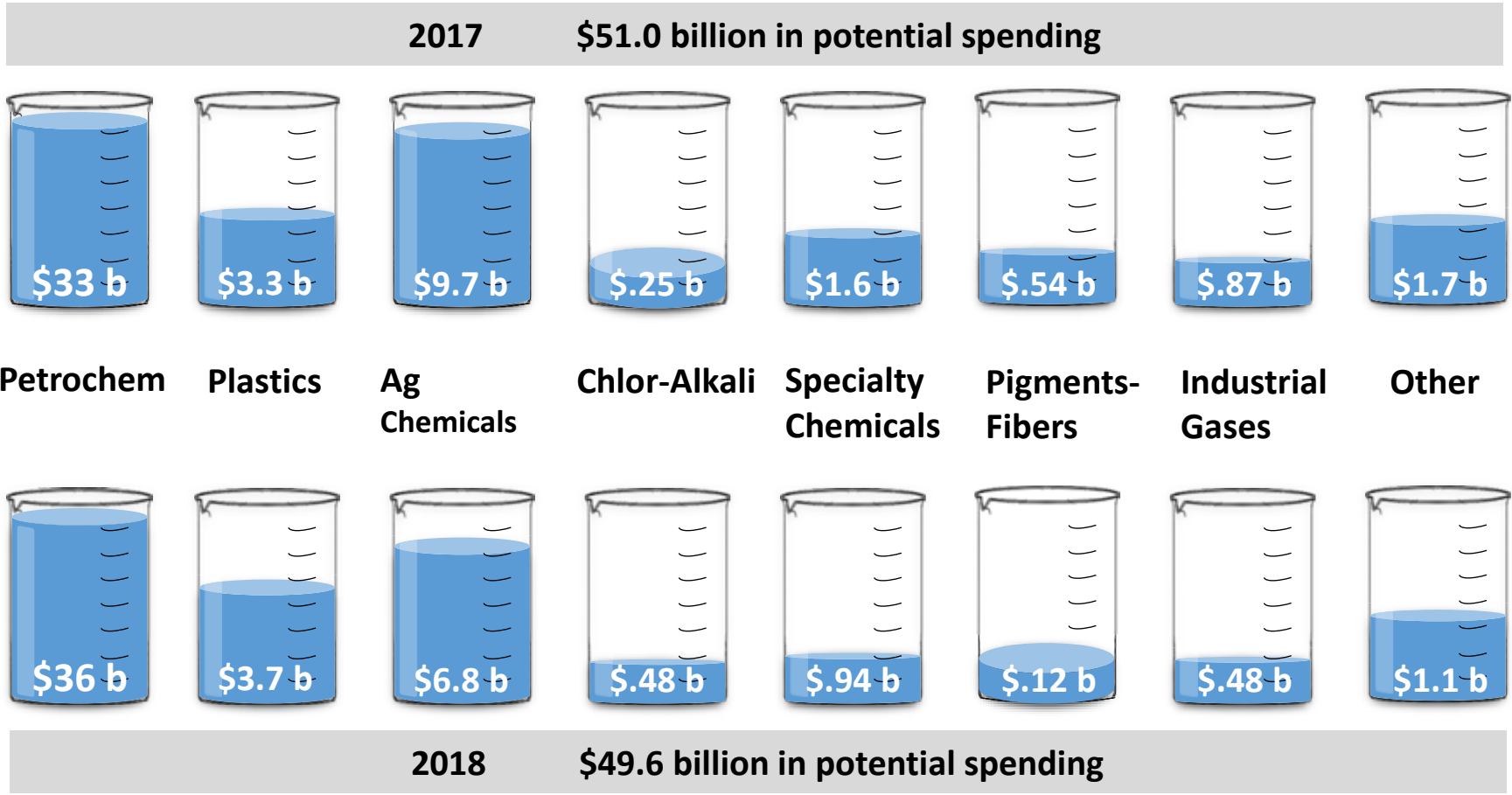


The impact of Delayed Projects



U.S. & Canada Chemical Industry

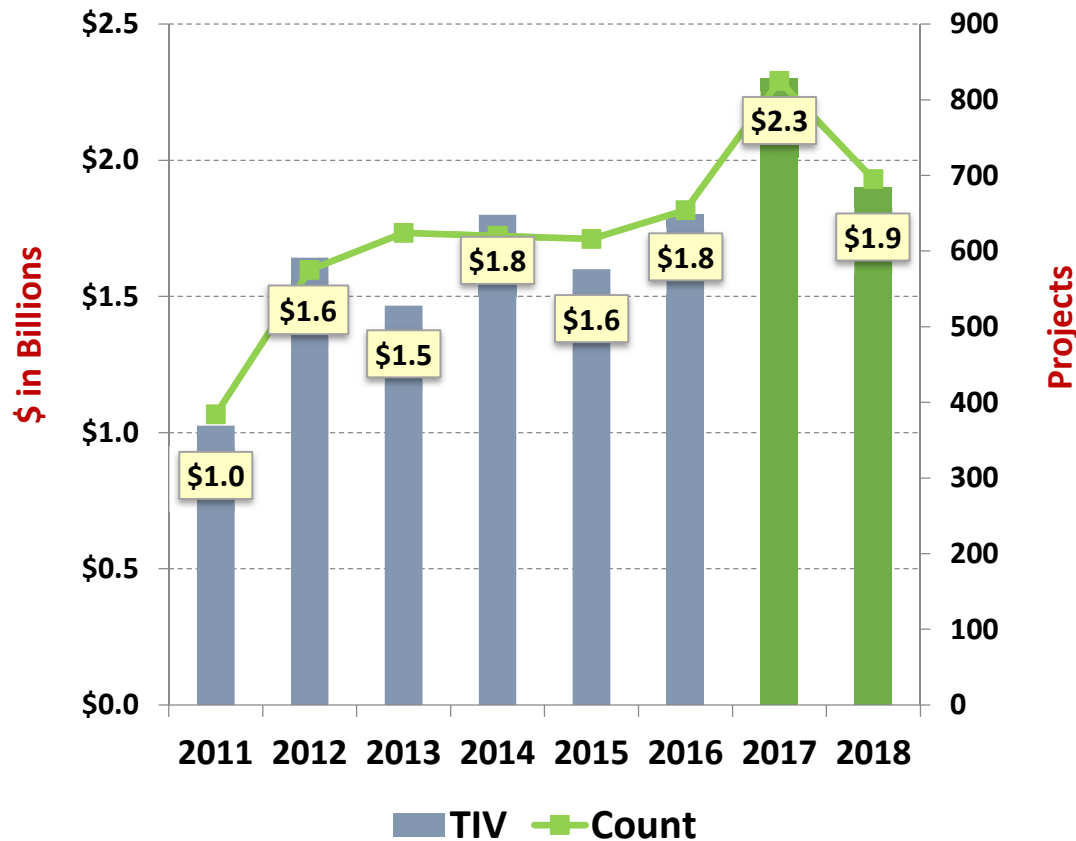
Future Outlook on spending by Sector



U.S. & Canada Chemical Industry

Maintenance Turnaround spending continues to rise

Maintenance Spending by Year



2017 by the Numbers

- 825 planned T/A's
- 188 T/A's in Texas \$847 billion
- 121 T/A's in Louisiana \$444 billion
- Texas & Louisiana equal more than 50% of the 2017 spend

- Increased activity in response to high utilization and operating rates
- An additional \$1 billion identified through 2022

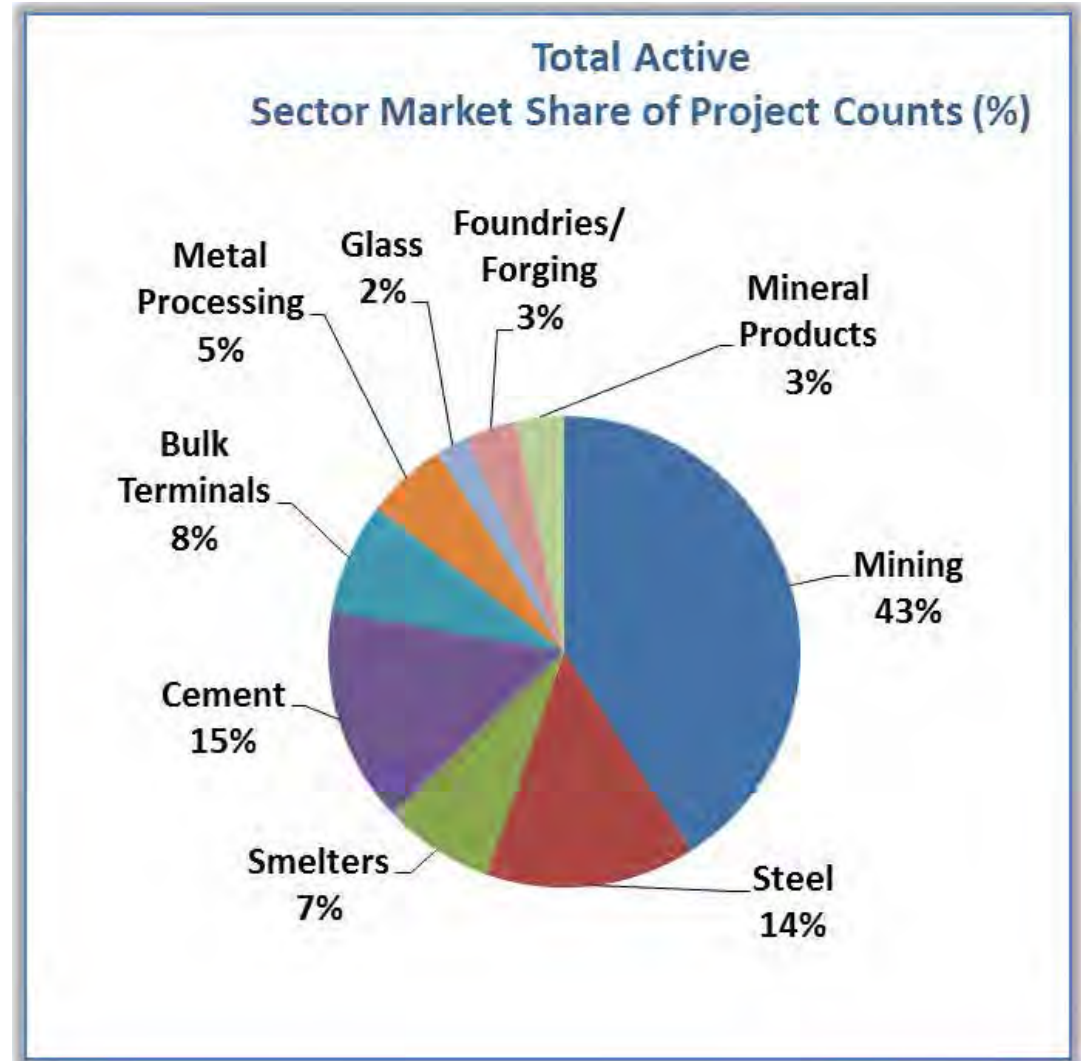
Metals & Minerals Outlook

Metals & Minerals Industry

Global Active Projects

Active Projects – Planning , Engineering, Under Construction & Maintenance

Sector	TIV	Projects
Mining	\$1.4 Trillion	10,500
Steel	\$338 bn	3,695
Smelters	\$242 bn	1,880
Bulk Terminals	\$162 bn	1,953
Cement	\$144 bn	3,848
Metal Processing	\$57 bn	1,270
Foundries/Forging	\$42 bn	915
Glass	\$23 bn	609
Mineral Products	\$18 bn	771
Totals	\$2.1 Trillion	21,500



Industrial Manufacturing Outlook

Industrial Manufacturing

Where will the industry see growth and recovery?

Canada 2017		
Sector	Projects	TIV (in millions)
Automotive	94	\$1,422
Distribution & Warehousing	3	\$46
Fabricated Metal Products	60	\$524
Heavy Manufacturing	37	\$72
Housing, Building Products & Furniture	6	\$6
Plastic & Rubber Products	40	\$95
Textiles	5	\$5
Transportation Systems	9	\$4,239
Grand Total	254	\$6,409

Mexico 2017		
Sector	Projects	TIV (in millions)
Automotive	98	\$2,451
Distribution & Warehousing	7	\$176
Fabricated Metal Products	27	\$129
Heavy Manufacturing	30	\$369
Housing, Building Products & Furniture	44	\$61
Plastic & Rubber Products	13	\$25
Semiconductors & Computers	7	\$18
Textiles	1	\$1
Transportation Systems	143	\$5,128
Grand Totals	370	\$8,358

United States 2017		
Sector	Projects	TIV (in millions)
Automotive	418	\$15,020
Distribution & Warehousing	158	\$7,628
Education, Hospital, Prison, Military Base & Governmental Infrastructure	46	\$2,385
Fabricated Metal Products	250	\$1,265
Heavy Manufacturing	293	\$2,458
Housing, Building Products & Furniture	120	\$896
Plastic & Rubber Products	173	\$1,812
Printing & Publishing	8	\$59
Semiconductors & Computers	66	\$9,131
Textiles	65	\$521
Transportation Systems	158	\$50,486
Grand Totals	1,755	\$91,661

Industrial Manufacturing

Where will the industry see growth and recovery?

Record automotive sales and production winding down but sales and spending remain strong

President Trumps first jobs report showed a significant increase in manufacturing jobs

Plastic & rubber products spending riding high on coat tails of automotive spending

Heavy manufacturing continues to move away from oil & gas support activities as prices remain low

Increases in e-commerce and rapid delivery demand driving warehousing & distribution spending, both speculative and operational

Antiquated infrastructure, power supply worries and desire for safer transportation keeps transportation systems spending high as President Trump promises significant Infrastructure spending in coming years

Desire for energy independence and reliable supply driving microgrid and captive power spending

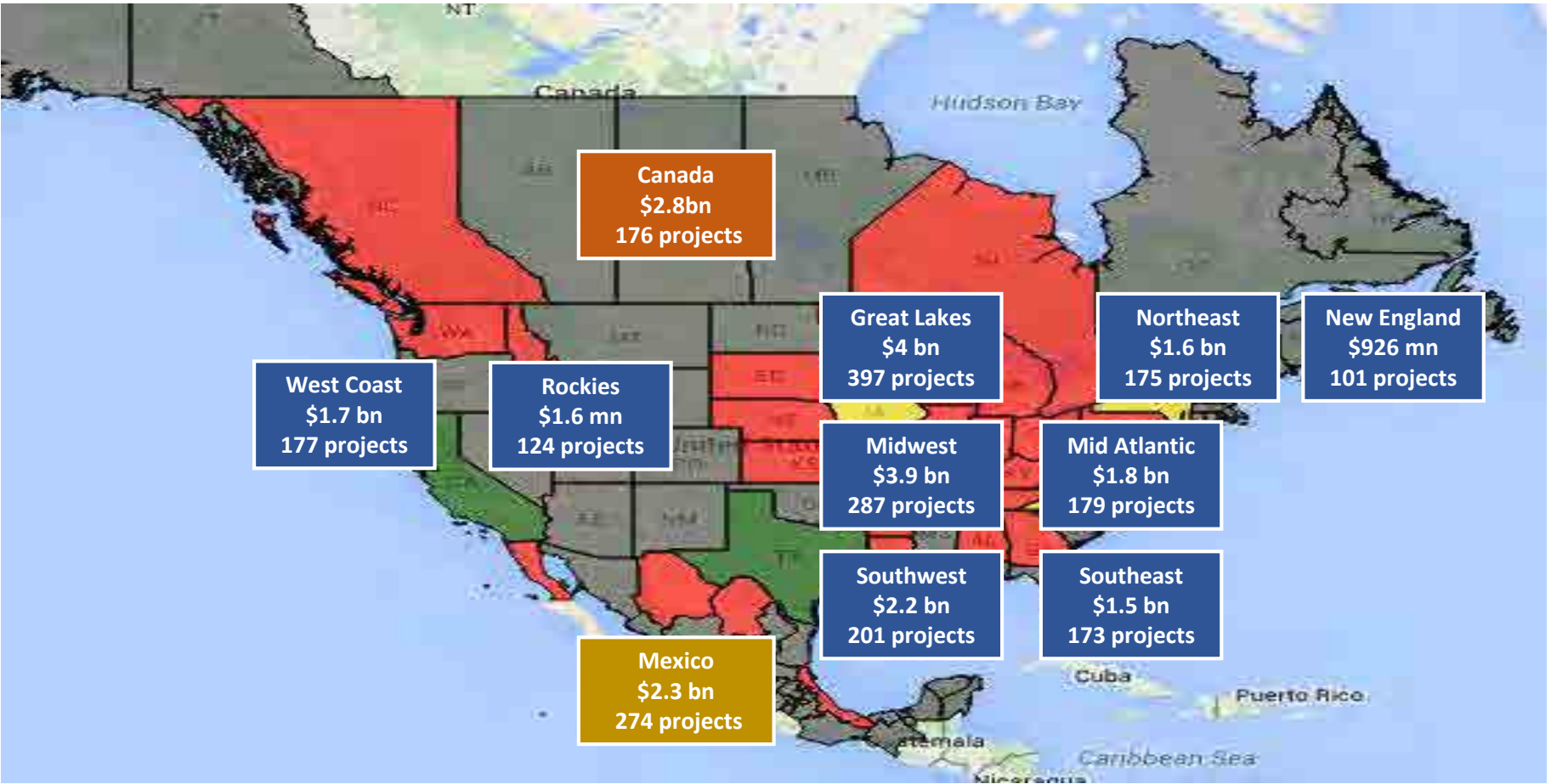
2017		
Country/Region	Projects	TIV (in millions)
Canada	214	\$5,914
Atlantic Canada	3	\$1,426
Ontario	162	\$3,325
Quebec	28	\$52
Western Canada	21	\$1,111
Mexico	323	\$8,373
United States	1,589	\$89,599
Great Lakes	466	\$10,739
Mid Atlantic	197	\$11,579
Midwest	121	\$3,333
New England	57	\$2,119
Northeast	118	\$13,499
Rocky Mountains	46	\$17,118
Southeast	303	\$13,152
Southwest	151	\$7,800
West Coast	130	\$10,260
Grand Total	2,126	\$103,886

Food and Beverage Outlook

Food & Beverage

Project Spending Outlook

Current Active Project Pipeline Projects at Planning & Engineering Stages Construction Start in 2017 - 2018



657
Under Construction Projects
\$14.6 bn TIV



24 Month Total Active
Planning/Engineering ONLY
2,264 Projects
\$24.6 bn TIV



Total Active Projects
Planning/Engineering ONLY
2017 -2030
2,587 Projects
\$28.4 bn TIV

Food & Beverage

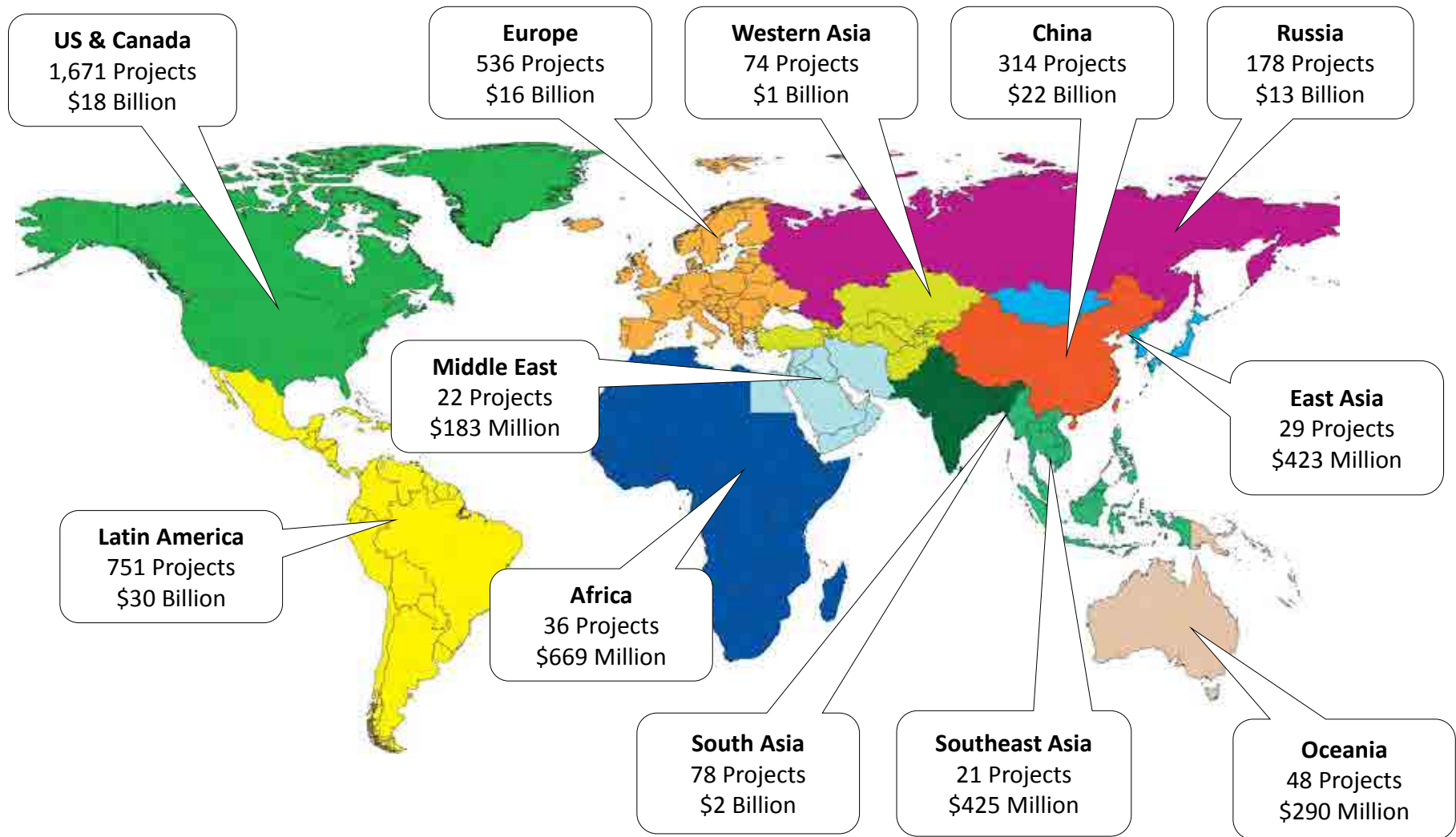
Project Spending Outlook

- The outlook for Capex generally viewed as strong with weaknesses in a few sub-sectors
- Growing food surpluses may threaten expansion plans
- Trump re-negotiating trade deals causing anxiety for industry
- Increasing demand for healthier food options driving spending
- Winners--Meat & Poultry, Prepared Foods, Beer/Spirits, Warehouse & Distribution
- Laggards—Dairy, Sugar, Carbonated Soft Drinks

Pulp, Paper & Wood Outlook

Pulp, Paper & Wood

Global Active Projects

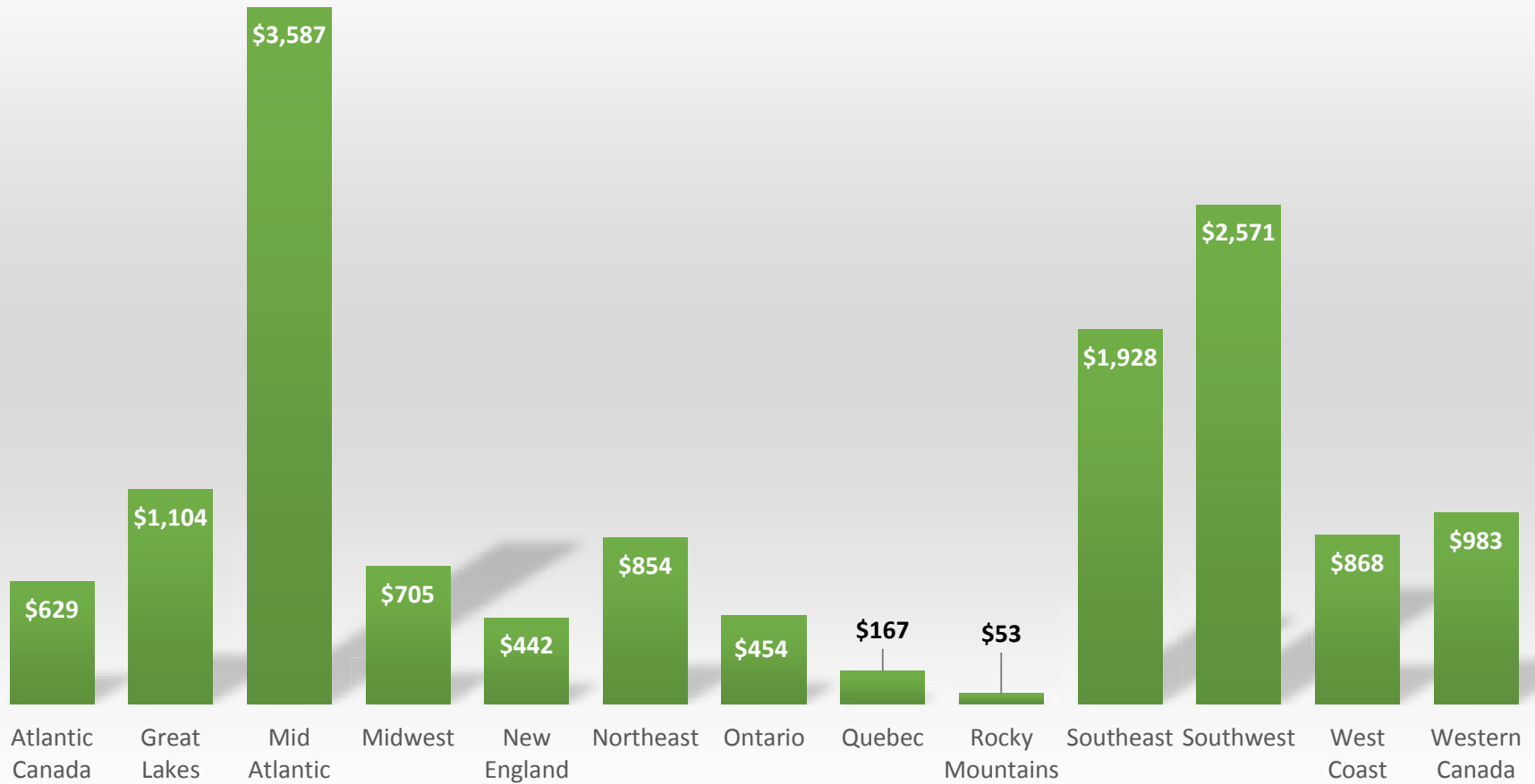


More than 3,700 Active Projects totaling \$103.9 Billion

Pulp, Paper & Wood

Spending by US & Canada Market Regions

US & Canada Future Expenditures



Pulp, Paper & Wood

North America

	Pulp	Paper	Wood
Outlook	Positive	Fair (Unchanged)	Improving
Drivers	Non-traditional products fueling consumption	Rate of decline in paper demand slowing	Recovery in housing market driving capacity expansions
	Price increases gaining traction and sustainable	Towel and Tissue grades continues to grow	Uptick in industrial & Commercial construction
	Low energy costs prove positive for margins	Online purchases driving demand for packaging products	Finished products driving demand

Project Trends

New Fiberlines

Box Plant Expansions

New Panelboard Plants

Boiler Rebuilds

MRO Budgets Getting Bigger

2017 Industrial Market Outlook

National Insulators Association



Thank You!