

2017 State Assessed Property Spring Forum

March 8, 2017



Agenda

Topic

Department of Revenue: Welcome & Introduction

BNSF: Railroad Industry Update

Union Pacific: Railroad Industry Overview and Cost of Capital Review

Xcel Energy: Capitalization Rate Inputs

Department Presentation

Open Forum

2017 Minnesota State Assessed Property Spring Forum

Alan Annis, Director of Taxes



2016 BNSF Results and 2017 Challenges

2016 BNSF Railway Results

- **2016 Revenues** **-10% vs 2015**
 - **Consumer Products** **-1% vs 2015**
 - **Industrial Products** **-14% vs 2015**
 - **Agricultural Products** **Flat vs 2015**
 - **Coal** **-27% vs 2015**
- **2016 Volumes** **-5% vs 2015**
 - **Consumer Products** **+1% vs 2015**
 - **Industrial Products** **-8% vs 2015**
 - **Agricultural Products** **+6% vs 2015**
 - **Coal** **-21% vs 2015**



2016 BNSF Railway Results

- **2016 Op. Expenses** **-8% vs 2015**
- **2016 Op. Income** **-13% vs 2015**
- **2016 Net Income** **-16% vs 2015**
- **2016 Op. Ratio** **Up to 65.5% (vs 64.0% in 2015)**
- **2016 CapEx Spend** **Down to \$3.9 Billion (from
\$5.8 Billion in 2015)**
- **2016 Fuel Surcharge** **Down to \$0.580 Billion (from Revenue
\$1.313 Billion in 2015)**
- **2016 CapEx Maint.** **\$3.5 Billion (vs \$4.1 Billion in 15)**
- **2016 Deprec. Expense** **\$2.1 Billion (vs \$1.9 Billion in 15)**



2017 Challenges

- 1. Changes in Government Policy**
 - a. U.S. & Foreign Government Policies**
 - b. Changes in Tax Code and Rates**
- 2. Compliance with Federal & State Regulations**
- 3. Stringent Environmental Laws & Regulations**
- 4. Unstable Global Economy**
 - a. Continued Slow Economic Growth**
 - b. Strong U. S. Dollar**
- 5. Intermodal Volumes and Pricing**
 - a. Soft Demand for Consumer Goods**
 - b. Three Mergers and a Bankruptcy in 2016**

2017 Challenges

6. Coal Business

- a. Cheap Natural Gas**
- b. Structural Change**

2017 Cap Rate Considerations

- **2017 is a Particularly Risky Time for U.S. Railroads**
 - **Carloads Fell for a 2nd Year in a Row (2015 & 2016)**
 - **Analysts are expecting another difficult year in 2017**
 - **Coal Shipments were Down**
 - **Oil by Rail Shipments were Down**
 - **Trump Elected President**
- **Illiquidity Adjustment – “If there are differences between a comparable property and the subject property that could affect the overall capitalization rate concluded, the appraiser must account for these differences.” (14th Edition of *The Appraisal of Real Estate*)**

A large-scale photograph of a BNSF train in motion, blurred to convey speed. The train is moving from left to right across the frame. The background is a sunset or sunrise sky with warm orange and yellow hues near the horizon, transitioning to a clear blue sky above. In the foreground, there is a dark, gravelly surface, likely a railway yard or track bed. To the left, a railway signal mast with two lights (one green, one red) stands on a small structure. The BNSF Railway logo is prominently displayed in the center of the image, overlaid on the train and sky. The logo consists of the letters "BNSF" in a large, bold, white sans-serif font, with a registered trademark symbol (®) to the upper right. Below "BNSF" is a thick white horizontal bar, and underneath that, the word "RAILWAY" is written in a smaller, white, italicized sans-serif font.

BNSF[®]
RAILWAY

A horizontal bar with a gradient from orange on the left to grey on the right, spanning the width of the page. The BNSF Railway logo is positioned on the right side of this bar. The logo features the word "BNSF" in a bold, orange sans-serif font, with a registered trademark symbol (®) to the upper right. Below "BNSF" is a thin black horizontal line, and underneath that, the word "RAILWAY" is written in a smaller, black, italicized sans-serif font.

BNSF[®]
RAILWAY



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March 8, 2017

2016 Review & Outlook

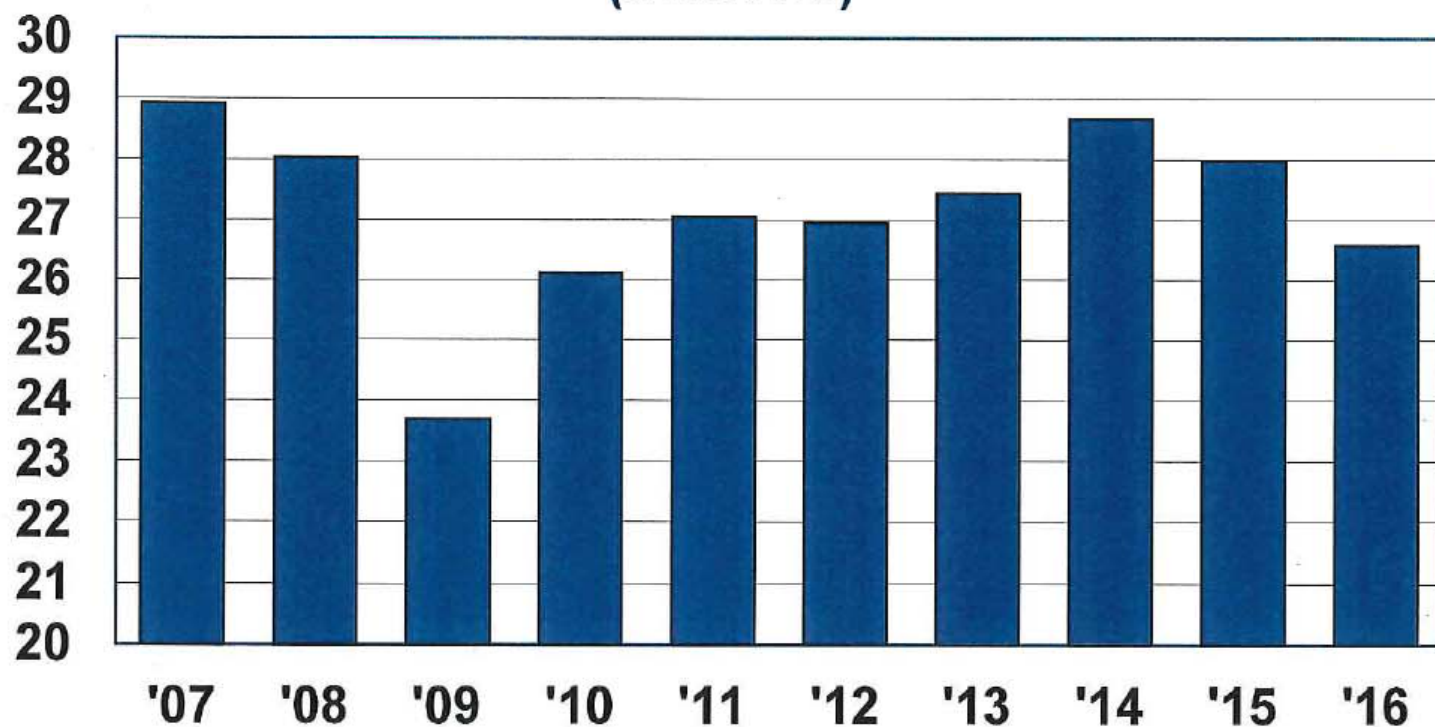


2016 U.S. Rail Industry Review

U.S Rail Carloads + Intermodal Traffic: 2007-2016



(millions)



Data are originations and do not include the U.S. operations of CN and CP.

Source: AAR *Weekly Railroad Traffic*

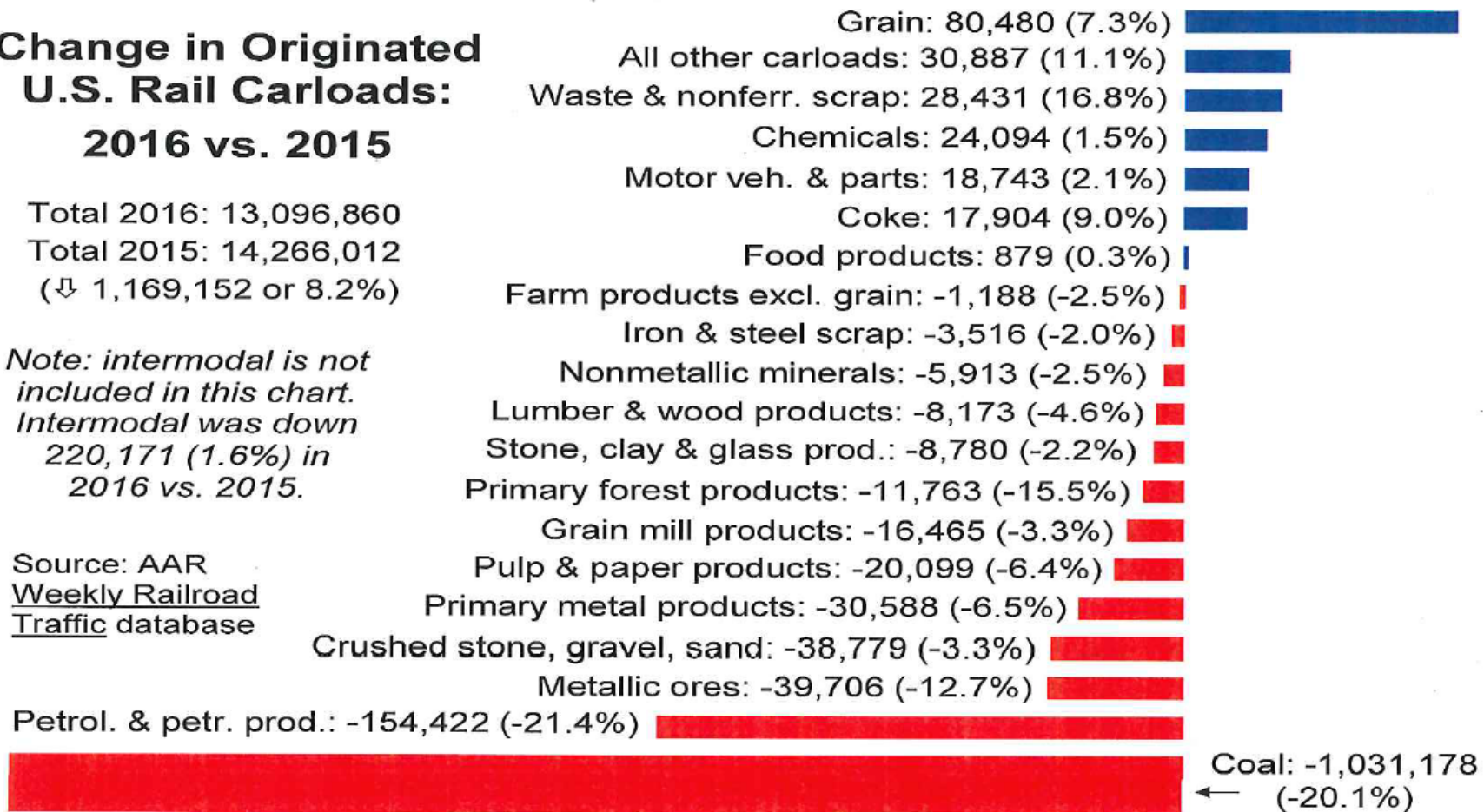


Change in Originated U.S. Rail Carloads: 2016 vs. 2015

Total 2016: 13,096,860
Total 2015: 14,266,012
(↓ 1,169,152 or 8.2%)

*Note: intermodal is not
included in this chart.
Intermodal was down
220,171 (1.6%) in
2016 vs. 2015.*

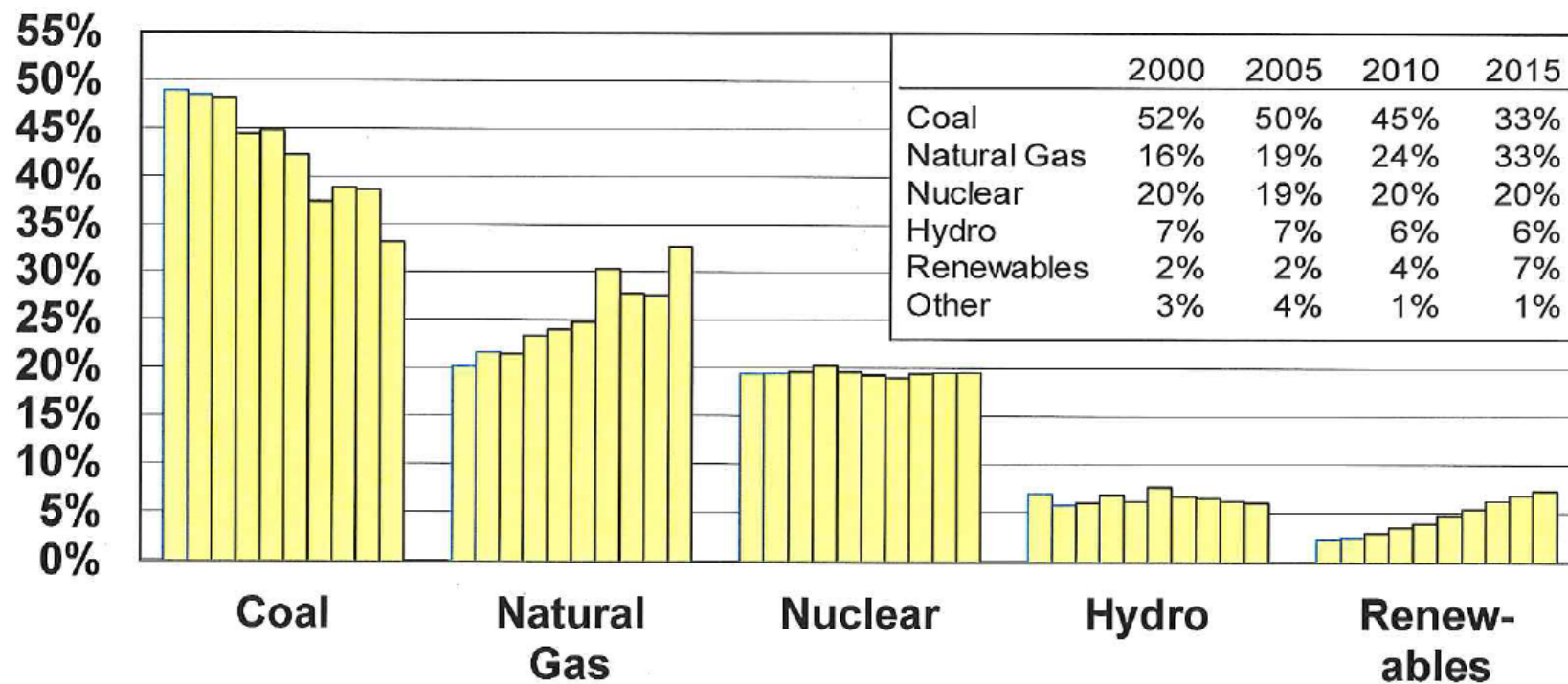
Source: AAR
Weekly Railroad
Traffic database



U.S. Electricity Generation By Type of Fuel

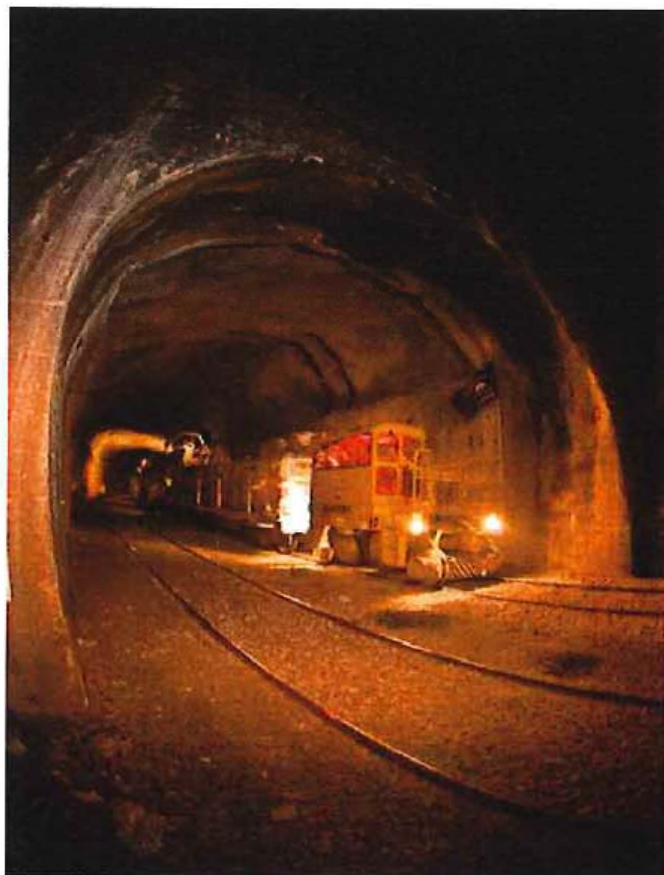


(% share of total generation, 2006-2015)



Source: Energy Information Administration

Railroads Spend More Than Most State Highway Agencies!



RR Spending on Way & Structures vs. State Disbursements for Highways - 2013 (\$ billions)

	<u>Total</u>
1. Texas	\$11.0
2. Florida	\$5.7
3. New York	\$4.9
4. Washington	\$4.7
5. California	\$4.7
6. Pennsylvania	\$4.6
7. Illinois	\$4.2
BNSF	\$4.0
UP	\$3.9
8. New Jersey	\$3.6
9. North Carolina	\$3.5
10. Virginia	\$3.2

Data include capital outlays and maintenance expenses. Sources: AAR (for rail) and FHWA Highway Statistics Table SF-2 (state highways)

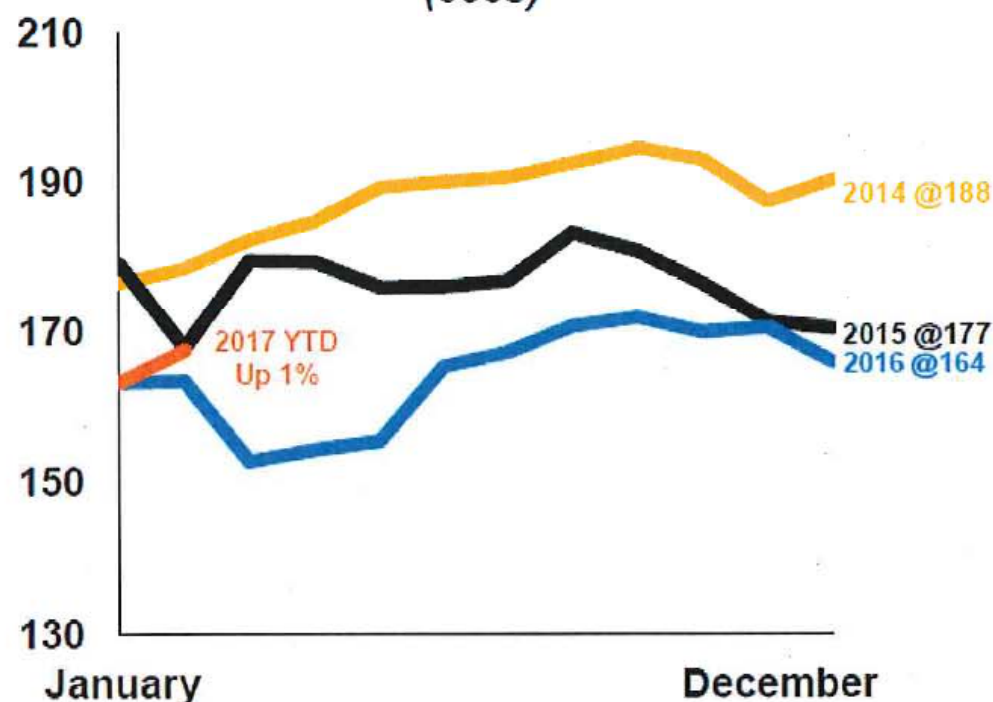


Union Pacific Railroad 2016 Review and Outlook

2017 Business Trends

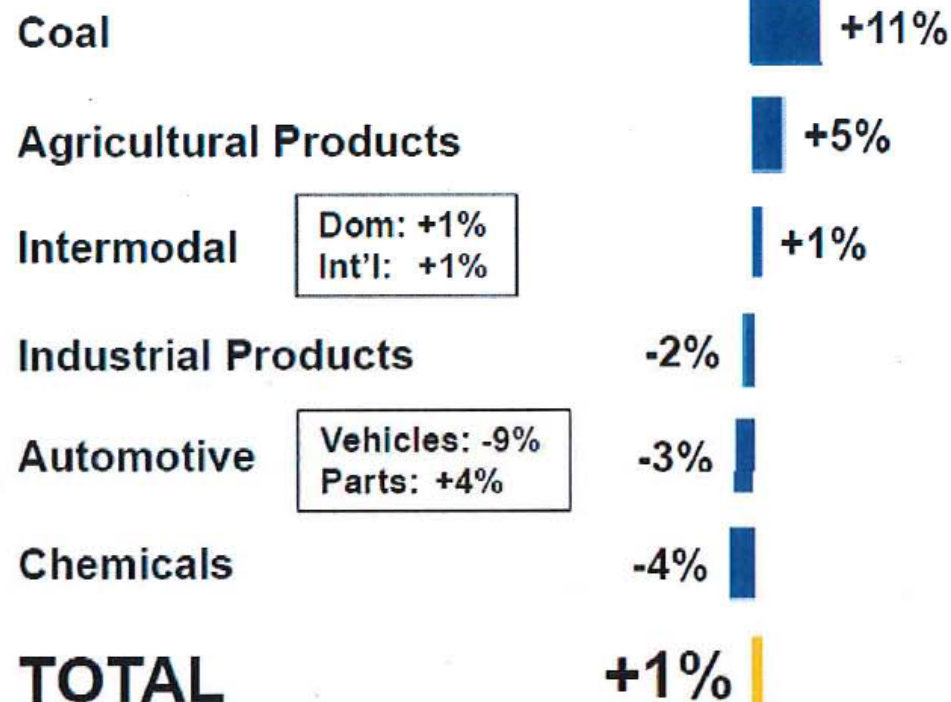
7-Day Monthly Carloadings

(000s)



2017 1QTD Volumes*

(vs 2016)



*Through February 4, 2017

Coal Trends

UNP Weekly Coal Carloads*

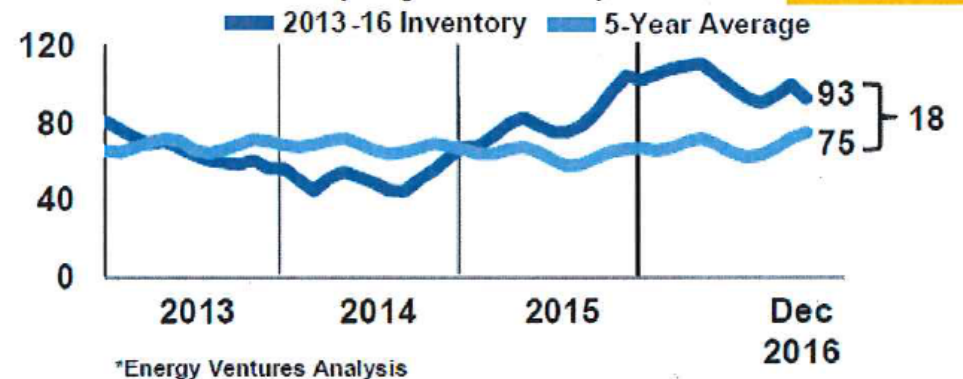
(As reported to the AAR)



- Normal Winter Weather
- Low Natural Gas Prices
- High Coal Inventory Levels

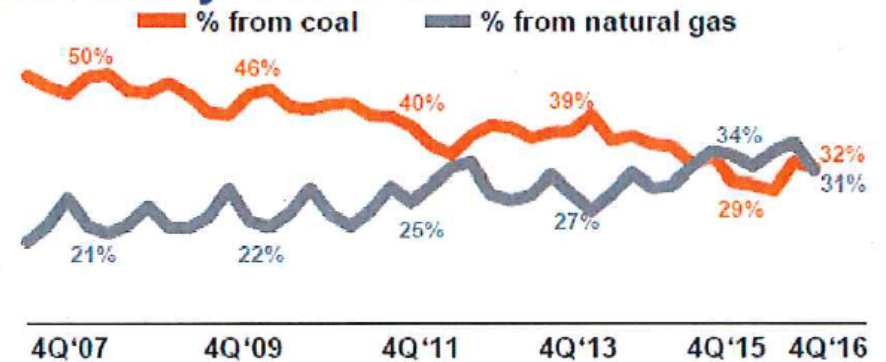
*Through February 4, 2017

Powder River Basin Coal Stockpiles* (Days of Burn)



*Energy Ventures Analysis

Electricity Generation Market Share**



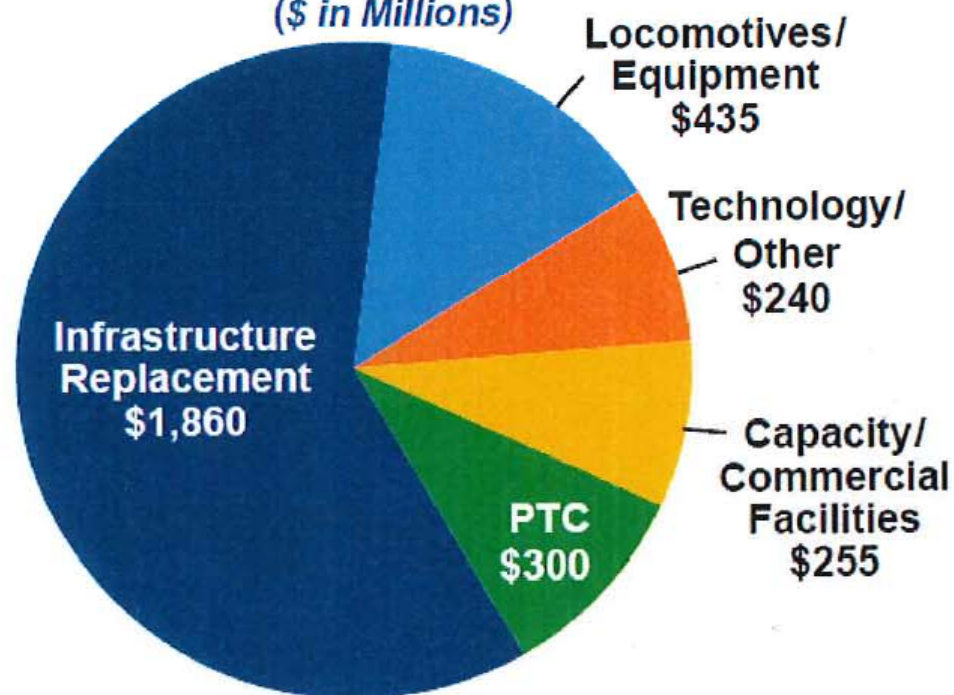
**U.S. Energy Information Administration (EIA)

Strengthening the Franchise



2017 Capital Plan: ~\$3.1 Billion*

(\$ in Millions)



*Includes cash capital, leases and other non-cash capital.

- **Safe & Resilient Infrastructure**
- **Capacity Investments**
 - Southern Region
 - Network Strategies
- **Equipment Acquisitions**
 - ~60 New Locomotives
 - 430 Freight Cars
- **Positive Train Control**

Xcel Energy

Capitalization Rate Inputs

Paul Simon



2017 Cap Rate & Assessment Overview

Jon Van Nurden & Holly Soderbeck

Capitalization Rate Study Updates

- **Rounding at the end of analysis**
- **Reversion to the 3-Stage Dividend Growth Model used in Ex Ante**
- **Empirical Capital Asset Pricing Model**

Capitalization Rate Study Updates

Empirical Capital Asset Pricing Model

- **Modifies CAPM by applying 25% weight to the equity risk premium component and 75% weight to the beta times the equity risk component**
- **“...mutes the sensitivity of the cost of equity estimate to changes in the beta coefficient, consistent with the adjustment suggested by the empirical research.”**

Kihm, Steven; Satchwell, Andrew; and Cappers, Peter. *The Financial Impacts of Declining Investment Opportunities on Electric Utility Shareholders*, Electricity Markets & Policy Group, Technical Brief, Page 20

Capitalization Rate Study Updates

Empirical Capital Asset Pricing Model

Example:

The diagram illustrates the calculation of the Indicated Equity Rate using the Empirical Capital Asset Pricing Model. It consists of two rows of calculations for weighted risk premiums, followed by a final sum with the risk-free rate. Brackets and an arrow indicate how the weighted risk premiums are combined to form the total risk premium component of the final rate.

5.50%	x	1.20	x	75%	=	4.95%	}	
Equity Risk Premium		Industry Beta		Weight		Weighted Industry Risk Premium		
5.50%	x		x	25%	=	1.38%	}	
Equity Risk Premium				Weight		Weighted Equity Risk Premium		
				2.67%	+	6.33%	=	9.00%
				Risk-Free Rate				Indicated Equity Rate

Capitalization Rate Inputs

Capital Structure

Capital Structure	2017 AY (Avg.)		2016 AY	
	Debt	Equity	Debt	Equity
Electric	35.24%	64.44%	40.00%	60.00%
Gas Distribution	26.12%	73.81%	30.00%	70.00%
Gas Transmission Pipeline	38.77%	61.23%	40.00%	60.00%
Fluid Transportation Pipeline	34.62%	65.38%	40.00%	60.00%
Railroad, Class I	19.86%	80.13%	20.00%	80.00%
Railroad, Others	30.82%	69.18%	35.00%	65.00%

Capitalization Rate Inputs

Risk Free Rate

Risk-free rate	2017 AY	2016 AY
Year-End U.S. Treasury 20-year Coupon Bond Yield	2.79%	2.67%
4th Quarter Average U.S. Treasury 20-year Coupon Bond Yield	2.52%	2.60%

Capitalization Rate Inputs

Equity Risk Premium

Equity Risk Premium	2017 AY	2016 AY
Ex Post	6.94%	6.90%
Supply Side	5.97%	6.03%
Dr. Damodaran's	5.69%	6.12%
Ex Ante	5.53%	5.90%
Duff & Phelps*	5.50%	5.00%

* Used with a risk-free rate of 4.00% for the 2016 assessment year and 3.50% for the 2017 AY.

Capitalization Rate Inputs

Cost of Debt

Corporate Bond Yield Averages - Year Ending 2015 (2016 AY)

Industrial Bonds				
	Aaa	Aa	A	Baa
Jan	3.46	3.54	3.70	4.45
Feb	3.61	3.64	3.81	4.51
Mar	3.64	3.70	3.85	4.54
Apr	3.52	3.64	3.82	4.48
May	3.98	4.07	4.24	4.89
Jun	4.19	4.27	4.45	5.13
Jul	4.15	4.25	4.44	5.20
Aug	4.04	4.13	4.32	5.19
Sep	4.07	4.21	4.43	5.34
Oct	3.95	4.11	4.33	5.34
Nov	4.06	4.21	4.43	5.46
Dec	3.97	4.16	4.38	5.46

Public Utility Bonds				
	Aaa	Aa	A	Baa
Jan	*	3.52	3.58	4.39
Feb	*	3.62	3.67	4.44
Mar	*	3.67	3.74	4.51
Apr	*	3.63	3.75	4.51
May	*	4.05	4.17	4.91
Jun	*	4.29	4.39	5.13
Jul	*	4.27	4.40	5.22
Aug	*	4.13	4.25	5.23
Sep	*	4.25	4.39	5.42
Oct	*	4.13	4.29	5.47
Nov	*	4.22	4.40	5.57
Dec	*	4.16	4.35	5.55

Capitalization Rate Inputs

Betas

Betas	2017 AY		2016 AY	
	Average Beta	Unlevered/ Relevered Beta	Selected Beta	Unlevered/ Relevered Beta
Electric	0.72	0.73	0.78	0.79
Gas Distribution	0.68	0.69	0.73	0.72
Gas Transmission Pipeline*	1.11	1.11	0.88	0.85
Fluid Transportation Pipeline*	1.06	1.08	0.90	0.96
Railroad, Class I	1.12	1.13	1.08	1.07
Railroad, Others	1.40	1.40	1.30	1.30

* Income tax data is not reliable for these market segments, which affects the unlevered/relevered calculations.

Capitalization Rate Inputs

Dividend Growth Models

Dividend Growth Models	2017 AY		2016 AY	
	DGM, Earnings (Mean)	DGM, Dividends (Mean)	DGM, Earnings	DGM, Dividends
Electric	8.96%	8.68%	9.40%	8.50%
Gas Distribution	8.13%	6.38%	10.30%	7.90%
Gas Transmission Pipeline*	13.89%	---	11.95%	---
Fluid Transportation Pipeline*	15.69%	---	17.00%	---
Railroad	10.55%	11.97%	13.30%	14.90%

Source of growth estimates is Value Line.

* Source of growth estimate for the 2016 assessment is Zacks Investment and for the 2017 assessment the source is Yahoo! Finance.

Capitalization Rate Inputs

Short-term Growth Rates

Short-term growth	2017 AY	2016 AY
Electric	5.38%	5.56%
Gas Distribution	5.25%	7.00%
Gas Transmission Pipeline	7.74%	5.08%
Fluid Transportation Pipeline	8.97%	8.28%
Class I Railroads	8.78%	11.83%
Other Railroads	6.50%	15.00%

Capitalization Rate Inputs

Long-term Growth Rates and Inflation

Long-term growth	2017 AY	2016 AY
Risk-free rate	2.79%	2.60%
World Bank forecasted change in GDP, 2019 and 2018, respectively	2.90%	2.20%
Trading Economics forecasted GDP growth for 2020	2.60%	2.80%
OECD forecasted growth rate 2031 -2060 (no updated report)	1.70%	1.70%

Estimated Inflation, using inflation-indexed and non-inflation-indexed U.S. securities

10-Year	20-Year	30-Year
1.57%	1.57%	1.74%

Capitalization Rate Inputs

Direct Capitalization Rates

Direct Equity Component	2017 AY (not finalized)	2016 AY
Electric	5.43%	6.17%
Gas Distribution	4.76%	5.26%
Gas Transmission Pipeline	9.11%	8.20%
Fluid Transportation Pipeline	8.54%	9.11%
Class I Railroads	5.52%	6.27%
Other Railroads	5.46%	6.02%

Guideline Company Selection for 2017 Study

Electric

Allete Inc.

Alliant Energy Corp.

American Electric Power Co Inc.

Ameren Corp.

Black Hills Corp.

CenterPoint Energy Inc.

CMS Energy Corp.

DTE Energy Company

~~Empire Dist. Elec.~~

Entergy Corp

~~Great Plains Energy~~

~~IDACORP~~

MGE Energy Inc.

Northwestern Corp

OGE Energy Corp.

Otter Tail Corp.

Vectren Corp.

WEC Energy Group

~~Westar Energy~~

Xcel Energy Inc.

■ Included in 2016, & 2017

■ New for 2017

■ Removed for 2017

Guideline Company Selection for 2017 Study

Gas Distribution

Atmos Energy Corp.

Chesapeake Utilities Corp.

Delta Natural Gas Co. Inc.

~~Laclede Group~~

New Jersey Resources Corp

NiSource Inc.

Northwest Natural Gas Co.

RGC Resources Inc.

South Jersey Industries

~~Southwest Gas~~

Spire Inc. (FKA. Laclede Group)

WGL Holdings Inc.

■ Included in 2016, & 2017

■ New for 2017

■ Removed for 2017

Guideline Company Selection for 2017 Study

Gas Transmission

Boardwalk Pipeline Partners L.P.

~~Energy Transfer Partners L.P.~~

Enterprise Products Partners L.P.

Kinder Morgan, Inc.

ONEOK Partners

~~Spectra Energy Partners L.P.~~

TC PipeLines, L.P.

Williams Partners, L.P.

■ Included in 2016, & 2017

■ New for 2017

■ Removed for 2017

Guideline Company Selection for 2017 Study

Fluid Transportation Pipeline

Buckeye Partners, L.P.

~~Enbridge Energy Partners, L.P.~~

Holly Energy Partners, L.P.

Magellan Midstream Partners, L.P.

NuStar Energy, L.P.

Plains All American Pipeline, L.P.

■ Included in 2016, & 2017

■ New for 2017

■ Removed for 2017

Guideline Company Selection for 2017 Study

Railroad

Canadian National Railway

Canadian Pacific Railway

CSX Corp.

Genesee & Wyoming

Kansas City Southern

Norfolk Southern Corp.

Union Pacific Corp.

■ Included in 2016, & 2017

■ New for 2017

■ Removed for 2017

Recent/Current Mergers & Acquisitions

Mergers:

- Empire District Electric and Algonquin Power – 1/1/2017
- Great Plains Energy and Westar Energy – 9/26/2016
- Energy Transfer Partners and Sunoco Logistics Partners – 11/21/2016
- Enbridge Inc. and Spectra Energy Corp. - 2/27/2017

Reorganization:

- Southwest Gas - 1/1/2017
 - Reorganizing into a holding company structure

Recent/Current Mergers & Acquisitions

- Other mergers and acquisitions?
- What are some other trends with recent mergers and acquisitions?
- Transaction method?
- Takeaways?

Other Updates to Cap Rate Analysis

- **Stock buybacks**
- **Dividend Growth Model**
- **Actual debt yields**
- **After-tax cost of debt**

Other Updates to Cap Rate Analysis

After-tax Cost of Debt

- According to Pratt and Grabowski, “because interest expense is a tax-deductible expense to a business, the net cost of debt to the business is the interest paid minus the tax savings resulting from the deductible interest payment.”
- The pre-tax cost of debt and the value of the tax shield can be combined into the after-tax cost of debt expressed as:
 - After-tax cost of debt = pre-tax cost of debt \times (1 – tax rate)

Income Approach Considerations

Income Approach Considerations

- MERC AY2008-AY2012
- Yield Capitalization
- Direct Capitalization
- Forecasting Income Streams

Administrative Appeal Process

Administrative Appeal Timeline and Process:

- Companies have 10 days from the date of the valuation to request an administrative appeal
- Department will request documentation regarding the appeal, due before conference if conference is requested
- Department will offer time-slot options for an administrative appeal conference, if desired, within 20 days of the date of the valuation
- Department will issue a determination within 60 days of the appeal deadline
- Timeline referenced above cannot conflict with statutory deadlines
- **Recording and Notes**

Discussion

Thank you!

State Assessed Property Section

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