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2018 Financial Review


Annual Report of the U.S. Investor-Owned
Electric Utility Industry



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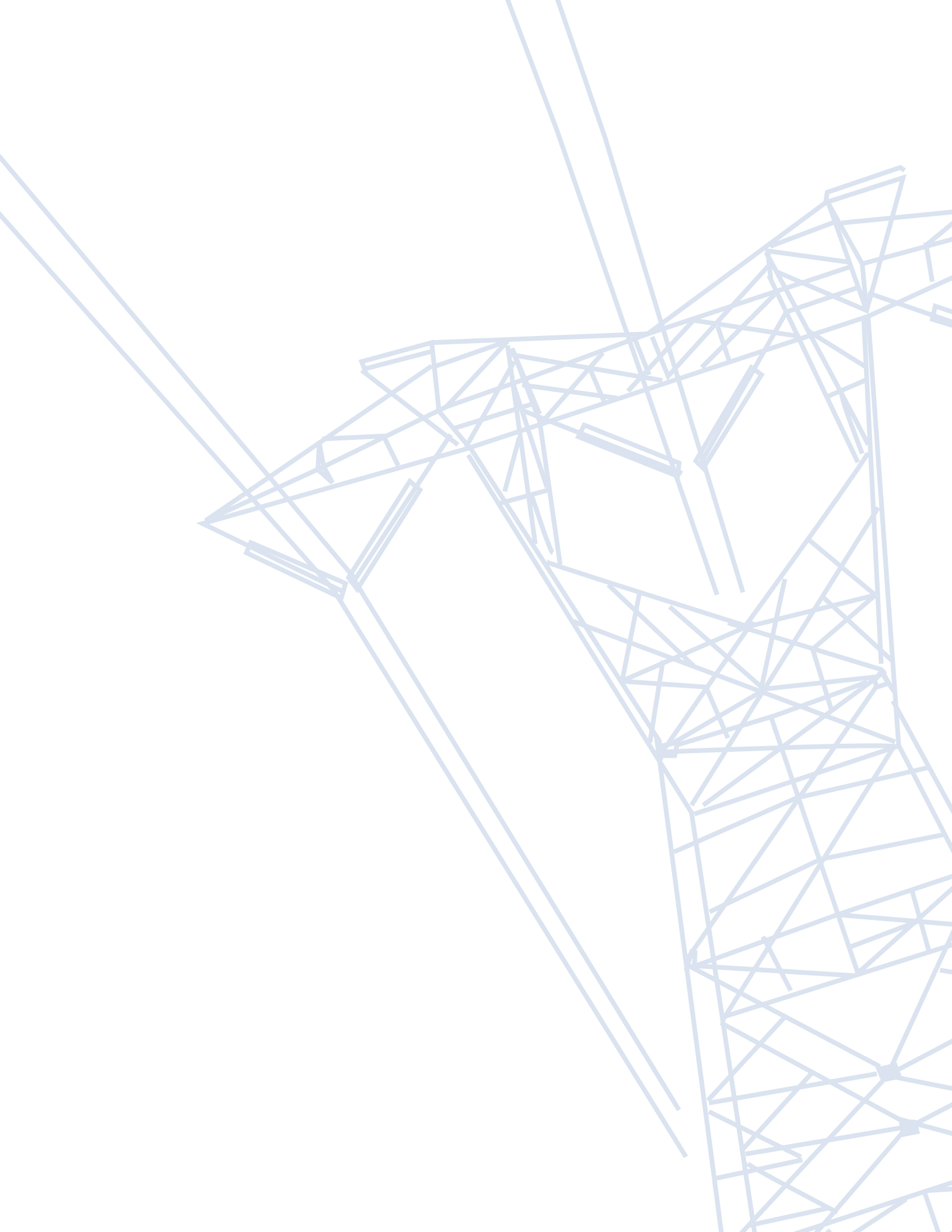
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ANNUAL REPORT
OF THE U.S. INVESTOR-OWNED
ELECTRIC UTILITY INDUSTRY

About EEI and the Financial Review

The Edison Electric Institute (EEI) is the association that represents all U.S. investor-owned electric companies. Our U.S. members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. As a whole, the electric power industry supports more than 7 million jobs in communities across the U.S. and contributes 5 percent to the nation's GDP. The 2018 Financial Review is a comprehensive source for critical financial data covering 42 investor-owned electric companies whose stocks are publicly traded on major U.S. stock exchanges. The report also includes data on five additional companies that provide regulated electric service in the United States but are not listed on U.S. stock exchanges for one of the following reasons—they are subsidiaries of an independent power producer; they are subsidiaries of foreign-owned companies; or they were acquired by other investment firms. These 47 companies are referred to throughout the publication as the U.S. Investor-Owned Electric Utilities. Please refer to page 81 for a list of these companies.



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Highlights of 2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

FINANCIAL (\$ Millions)	2018	2017^r	% Change
Total Operating Revenues	365,975	360,446	1.5%
Utility Plant (Net)	1,141,687	1,109,093	2.9%
Total Capitalization	1,023,767	986,574	3.8%
Earnings Excluding Non-Recurring and Extraordinary Items	47,811	48,905	(2.2%)
Dividends Paid, Common Stock	25,555	25,233	1.3%

r = revised Note: Percent changes may reflect rounding.

Abbreviations and Acronyms

AFUDC	Allowance for Funds Used During Construction	kWh	Kilowatt-hour
BTU	British Thermal Unit	M&A	Mergers & Acquisitions
CFTC	Commodity Futures Trading Commission	MW	Megawatt
CPI	Consumer Price Index	MWh	Megawatt-hour
DOE	Department of Energy	NARUC	National Association of Regulatory Utility Commissioners
DOJ	Department of Justice	NERC	North American Electric Reliability Corporation
DPS	Dividends per share	NO _x	Nitrogen Oxides
EEI	Edison Electric Institute	NOAA	National Oceanic & Atmospheric Administration
EIA	Energy Information Administration	NRC	Nuclear Regulatory Commission
EITF	Emerging Issues Task Force	O&M	Operations and Maintenance
EPA	Environmental Protection Agency	PSC	Public Service Commission
EPS	Earnings per share	PUC	Public Utility Commission
FASB	Financial Accounting Standards Board	PUHCA	Public Utility Holding Company Act
FERC	Federal Energy Regulatory Commission	PURPA	Public Utility Regulatory Policies Act
GDP	Gross Domestic Product	ROE	Return on Equity
GW	Gigawatt	RTO	Regional Transmission Organization
GWh	Gigawatt-hour	SEC	Securities and Exchange Commission
IPP	Independent Power Producer	SO ₂	Sulfur Dioxide
IRS	Internal Revenue Service	T&D	Transmission & Distribution
ISO	Independent System Operator		
ITC	Independent Transmission Company		



Company Categories

Two categories are used throughout this publication that group companies on their percentage of total assets that are regulated. These categories are used to provide an informative framework for tracking financial trends:

Regulated: 80% or more of total assets are regulated.

Mostly Regulated: Less than 80% of total assets are regulated.

Note: In prior editions of the Financial Review, a “Diversified” category was included for companies with less than 50% of total assets that are regulated. Some tables with historical data therefore include a “Diversified” category.

President's Letter

2018 Financial Review

The Edison Electric Institute's (EEI's) member companies—America's investor-owned electric companies—continue to lead a profound energy transformation across the nation. Amid this change, one thing remains constant—our commitment to meeting customers' needs by building and using smarter energy infrastructure, by providing even cleaner energy, and by creating the energy solutions customers want.

Our commitment guides us, and also provides opportunities to collaborate and make progress on key policy priorities: promoting investment in smarter energy infrastructure; expediting the process for permitting and siting energy infrastructure; strengthening the energy grid's resilience; supporting a diverse, domestic energy mix; increasing research and development funding and support for the full range of clean energy technologies; and promoting transportation electrification and the development of more robust battery technologies for both electric vehicles (EVs) and energy storage.

While many changes are underway, EEI's member companies continue to provide reliable, affordable, secure, and increasingly clean energy to the customers and communi-

ties they serve. Our industry also remains an integral and robust component of our nation's economy, contributing \$865 billion to GDP and supporting more than 7 million American jobs.

To deliver the clean energy future that customers want and expect, EEI's member companies are transitioning to even cleaner generation sources and are leading the way on renewables. In just one decade, the mix of resources used to generate electricity has changed dramatically and is increasingly clean. More than one-third of U.S. electricity now comes from carbon-free sources (nuclear energy and wind, solar, hydropower, and other renewables). In addition, natural gas surpassed coal as the main source of electricity in the United States for the third year in a row in 2018. Electric companies are the nation's largest investors in renewable energy, providing virtually all of the wind in the country—and the majority of installed solar and hydropower capacity.

EEI's member companies also invest more than \$100 billion each year to make the energy grid cleaner, smarter, stronger, more dynamic, and more secure; to diversify the nation's energy mix; and to integrate new technologies that benefit customers. Smarter energy infrastructure is key to giving customers the energy solutions they want.



EEI and our member companies also are working constantly to improve grid security, reliability, and resiliency, and we will continue to strengthen cyber and physical defenses and to elevate preparedness.

Our strong industry-government partnership, coordinated through the CEO-led Electricity Subsector Coordinating Council, will continue to be critical to accomplishing our shared goal of protecting the energy grid against all threats.

To better serve customers and investors, EEI launched the first investor-driven and industry-specific environmental, social, governance, and sustainability-related (ESG/sustainability) reporting template in August 2018, helping our member companies tell their very positive ESG story to investors and other key stakeholders. Building off the success of the ESG template, EEI now is working with the American Gas Association and midstream and upstream natural gas associations on a new initiative focused on natural gas sustainability, to demonstrate that the entire natural gas supply chain is becoming more sustainable from an ESG perspective.

As an industry, we also are passionate about electric transportation, and especially EVs. 2018 was a watershed year for EVs. In late October, we reached a milestone—more than 1 million EVs on America's roads. Today, the momentum from manufacturers around the world truly continues to surge. Electric transportation is a huge win for our industry: it grows load; attracts new customers; reduces carbon emissions and improves air quality; and helps reinforce the energy grid.

EEI's member companies are taking the lead in supporting electric transportation by investing more than \$1 billion over the next five years to deploy charging infrastructure and to create customer programs and projects to accelerate electric transportation. It is vital that we advance public policies that support the substantial investments companies are making to drive this transformation. EEI and our member companies support legislation that will help to reduce CO₂ emissions from the transportation sector by expanding the existing EV and hydrogen fuel cell tax credits that our customers support.

As you will see in this year's Financial Review, EEI's member companies continue to build upon a strong financial foundation. The industry's average credit rating was BBB+ for the fifth straight year in 2018, after increasing from the BBB average that previously had held since 2004. This improved credit quality greatly supports the continued level of elevated capital expenditures, which set another

record high of \$119.5 billion in 2018. Strong dividend performance continues to support electric company stocks. The industry's average dividend yield at the end of 2018 stood at 3.4 percent, and 39 electric companies, or 93 percent of the industry, increased their dividend last year, a new industry record.

Looking ahead, I am optimistic about our industry. EEI's member companies remain committed to providing the safe, reliable, affordable, and increasingly clean energy that drives our nation's economy and powers our everyday lives. Already, they are making significant strides in carbon reduction, deployment of renewables, transportation electrification, and more. Among large industrial sectors, we are far and away out ahead as we work to deliver—and to lead—America's energy future.

By continuing to work together on the issues driving the industry's transformation, EEI and our member companies are demonstrating Power by Association, and we are delivering America's energy future.

We truly value the partnership that we share with the financial community.

Thomas R. Kuhn



President
Edison Electric Institute

Industry Financial Performance

Income Statement

As shown in the table *U.S. Electric Output*, the U.S. electric power industry in 2018 made 4,113,724 gigawatt-hours (GWh) of electricity available for distribution in the continental U.S., a 3.1% increase over 2017's total of 3,989,942 GWh. This is the highest annual output on record, surpassing the previous record of 4,100,611 GWh set in 2007. The electric output data is compiled by the Edison Electric Institute on a weekly basis and represents all electricity placed on the grid in the contiguous 48 states by investor-owned electric utilities, rural electric cooperatives, government power projects and independent power producers.

Seven of the nine U.S. power regions experienced higher electric output in 2018 relative to 2017. The South Central region produced the largest year-to-year gain, at 5.1%, while four other regions showed gains of 3.6% or more. The two regions that saw declines were the Pacific Southwest and Pacific Northwest, where output fell 2.5% and 2.2%, respectively.

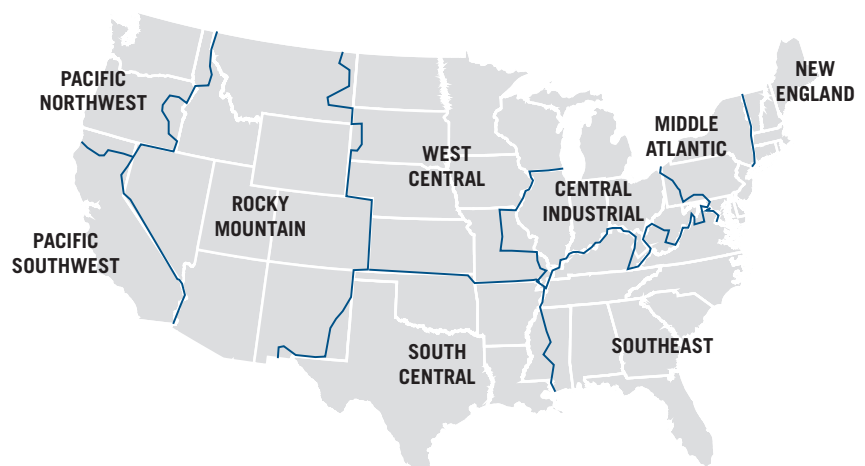
U.S. Electric Output (GWh) Periods Ending December 31

Region	2018	2017	% Change
New England	122,211	120,584	1.3%
Mid-Atlantic	440,401	424,973	3.6%
Central Industrial	684,580	658,276	4.0%
West Central	337,891	325,952	3.7%
Southeast	1,051,898	1,013,044	3.8%
South Central	762,943	725,643	5.1%
Rocky Mountain	281,198	278,313	1.0%
Pacific Northwest	155,948	159,537	(2.2%)
Pacific Southwest	276,654	283,621	(2.5%)
Total United States	4,113,724	3,989,942	3.1%

Note: Represents all power placed on grid for distribution to end customers; does not include Alaska or Hawaii.

Source: EEI Business Information Group.

EEI U.S. Electric Output – Regions



Source: EEI Business Information Group.

EEl calculates weather-normalized electric output using cooling degree day (CDD) and heating degree day (HDD) data from the National Oceanic and Atmospheric Administration (NOAA) (see table, *U.S. Weather*). On a weather-adjusted basis, total U.S. electric output was essentially flat, rising 0.01% compared to 2017, due mostly to the above-average number of cooling degree days across all nine electric output regions in 2018. The South Central region had the largest weather-adjusted electric output increase, at 2.0%. The only other region that saw higher output after adjusting for weather was the Pacific Northwest region, up 0.7% compared to its 2017 weather-adjusted total. The Pacific Southwest region showed the largest year-to-year decline in weather-normalized output, at 1.4%.

The U.S. economy had a banner year in 2018, with strong growth, high levels of consumer and business confidence, and a plummeting unemployment rate. The economy grew at an average annual rate of 3.2% in the first three quarters of 2017 (exceeding 4% in the 2nd quarter), which was significantly higher than the 2.5% growth that occurred during the same time period in the previous year, and higher than the average rate of 2.3% at which the economy has grown since the end of the recession in 2009. The official unemployment rate fell to a nearly 50-year low of 3.7% in late 2018, and during the year the number of job openings grew to exceed the number of job seekers – something which has not hap-

U.S. Weather					
January – December 2018					
	Total	Dev from Norm	% Change	Dev from Last Year	% Change
Cooling Degree Days					
New England	740	323	77%	168	29%
Mid-Atlantic	991	335	51%	221	29%
East North Central	1,013	305	43%	282	39%
West North Central	1,181	253	27%	246	26%
South Atlantic	2,443	479	24%	158	7%
East South Central	1,968	420	27%	276	16%
West South Central	2,759	310	13%	(6)	(0%)
Mountain	1,458	215	17%	(28)	(2%)
Pacific	895	191	27%	(114)	(11%)
United States	1,537	321	26%	128	9%
Heating Degree Days					
New England	6,390	(221)	(3%)	284	5%
Mid-Atlantic	5,692	(219)	(4%)	474	9%
East North Central	6,320	(177)	(3%)	636	11%
West North Central	6,909	159	2%	953	16%
South Atlantic	2,670	(183)	(6%)	351	15%
East South Central	3,432	(172)	(5%)	584	21%
West South Central	2,273	(14)	(1%)	639	39%
Mountain	4,779	(430)	(8%)	388	9%
Pacific	2,853	(375)	(12%)	22	1%
United States	4,333	(191)	(4%)	451	12%

A mean daily temperature (average of the daily maximum and minimum temperatures) of 65 degrees Fahrenheit is the base for both heating and cooling degree day computations. National averages are population weighted.

Source: National Oceanic and Atmospheric Administration, National Weather Service, Climate Prediction Center.

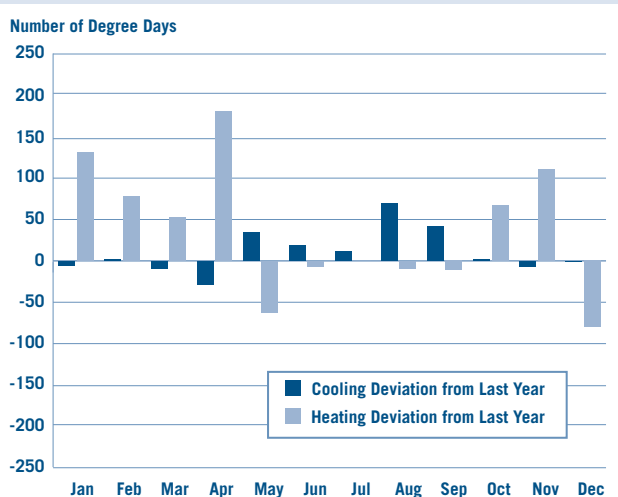
pened since before the year 2000. Inflation-adjusted total U.S. retail sales grew by 2.5% last year, industrial production grew by 3.4%, and the economy also benefited from a surge in government spending stemming from the Congressional budget deal in February. The generally strong economy in 2018, however, was hampered by weak housing sales, which fell below 2017 levels, after having grown for each of the previous three years, and a

faltering stock market, with the S&P 500 index ending the year at a level more than 6% lower than the end of last year.

Note to Consolidated Financial Statements: Vectren Corporation was acquired by CenterPoint Energy on February 1, 2019. Both are included in the 47 U.S. Investor-Owned Electric Utilities at year-end 2018 and in this year's Financial Review data where Vectren's information is available (e.g., Dividends,

2018 Weather Compared to 2017

AS MEASURED BY DEVIATIONS BETWEEN THE TWO YEARS



Source: National Oceanic and Atmospheric Administration and National Weather Service.

	Cooling Deviation From Last Year	Heating Deviation From Last Year
Jan	(6)	131
Feb	2	78
Mar	(9)	53
Apr	(29)	181
May	34	(62)
Jun	19	(7)
Jul	12	0
Aug	69	(9)
Sep	42	(11)
Oct	2	67
Nov	(7)	110
Dec	(1)	(80)
Total	128	451

Heating and Cooling Degree Days and Percent Changes

January–December 2018

	COOLING DEGREE DAYS			HEATING DEGREE DAYS			PERCENTAGE CHANGE			
	Total	Deviation From Norm	Deviation From Last Yr	Total	Deviation From Norm	Deviation From Last Yr	Cooling Degree Change From Norm	Cooling Degree Change From Last Yr	Heating Degree Change From Norm	Heating Degree Change From Last Yr
Jan	4	(5)	(6)	898	(19)	131	(55.6%)	(60.0%)	(2.1%)	17.1%
Feb	17	9	2	627	(105)	78	112.5%	13.3%	(14.3%)	14.2%
Mar	15	(3)	(9)	609	16	53	(16.7%)	(37.5%)	2.7%	9.5%
First Quarter	36	1	(13)	2,134	(108)	262	2.9%	(26.5%)	(4.8%)	14.0%
Apr	22	(8)	(29)	430	85	181	(26.7%)	(56.9%)	24.6%	72.7%
May	141	44	34	95	(64)	(62)	45.4%	31.8%	(40.3%)	(39.5%)
Jun	265	52	19	22	(17)	(7)	24.4%	7.7%	(43.6%)	(24.1%)
Second Quarter	428	88	24	547	4	112	25.9%	5.9%	0.7%	25.7%
Jul	376	55	12	4	(5)	0	17.1%	3.3%	(55.6%)	0.0%
Aug	353	63	69	5	(10)	(9)	21.7%	24.3%	(66.7%)	(64.3%)
Sep	236	81	42	46	(31)	(11)	52.3%	21.6%	(40.3%)	(19.3%)
Third Quarter	965	199	123	55	(46)	(20)	26.0%	14.6%	(45.5%)	(26.7%)
Oct	84	31	2	271	(11)	67	58.5%	2.4%	(3.9%)	32.8%
Nov	16	1	(7)	598	59	110	6.7%	(30.4%)	10.9%	22.5%
Dec	8	1	(1)	728	(89)	(80)	14.3%	(11.1%)	(10.9%)	(9.9%)
Fourth Quarter	108	33	(6)	1,597	(41)	97	44.0%	(5.3%)	(2.5%)	6.5%
Full Year	1,537	321	128	4,333	(191)	451	26.4%	9.1%	(4.2%)	11.6%

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Heating Degree Days Percentage Change from Historical Norm (0.9) (1.7) (4.5) (16.6) (0.6) 1.1 (9.1) (14.8) (14.2) (4.2)

Cooling Degree Days Percentage Change from Historical Norm 1.6 19.9 21.5 22.4 10.9 5.8 19.2 29.4 16.0 26.4

A mean daily temperature (average of the daily maximum and minimum temperatures) of 65°F is the base for both heating and cooling degree day computations. National averages are population weighted.

Source: National Oceanic and Atmospheric Administration and National Weather Service.

Stock Performance, Credit Ratings). However, Vectren did not file an SEC Form 10-K for 2018, so it is excluded from 2018's Consolidated Financial Statements and *Business Segmentation* section.

As shown in the *Consolidated Income Statement*, industry revenue rose by \$5.5 billion, or 1.5%, in 2018 compared with 2017, while total energy operating expenses increased by \$8.3 billion, or 7.6%. Total energy operating expenses are comprised of two primary elements: total electric generation cost and gas cost. For the consolidated industry income statement, natural gas transmission and distribution revenue is aggregated with all other revenue sources in the "Energy Operating Revenue" line. However, the cost associated with natural gas distribution (i.e., the delivery of natural gas to homes and businesses primarily for cooking and heating) is broken out separately as "Gas Cost." Gas Cost is typically highest in the first quarter due to winter heating demand and lowest in the third quarter due to the minimal heating needs during summer.

Gas distribution traditionally accounts for a smaller portion of the industry's overall revenue and earnings than do electric operations. However, the relative contribution from gas operations has increased in recent years due to acquisitions. Gas operations can help balance the earnings stream for combined gas/electric distribution companies because residential gas demand peaks in the cold winter months while electricity demand peaks in the hot summer months for most U.S. utilities.

Consolidated Income Statement

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

12 Months Ended

(\$ Millions)	12/31/2018	12/31/2017r	% Change
Energy Operating Revenues	\$365,975	\$360,446	1.5%
Energy Operating Expenses			
Total Electrical Generation Cost	97,583	90,482	7.8%
Gas Cost	19,331	18,137	6.6%
Total Energy Operating Expenses	116,915	108,619	7.6%
Revenues less energy operating expenses	249,060	251,827	(1.1%)
Other Operating Expenses			
Operations & maintenance	93,120	91,634	1.6%
Depreciation & Amortization	50,336	47,539	5.9%
Taxes (not income) - Total	19,381	19,206	0.9%
Other Operating Expenses	18,814	16,010	17.5%
Total Operating Expenses	298,566	283,008	5.5%
Operating Income	67,409	77,438	(13.0%)
Other Recurring Revenue			
Partnership Income	1,950	1,183	64.8%
Allowance for Equity Funds Used for Construction	1,900	1,785	6.5%
Other Revenue	3,267	3,116	4.9%
Total Other Recurring Revenue	7,118	6,084	17.0%
Non-Recurring Revenue			
Gain on Sale of Assets	5,278	1,012	421.5%
Other Non-Recurring Revenue	138	493	(72.0%)
Total Non-Recurring Revenue	5,416	1,505	259.8%
Interest expense	24,957	23,889	4.5%
Other expenses	873	600	45.6%
Asset Writedowns	4,077	4,166	(2.1%)
Other Non-Recurring Expenses	17,872	5,630	217.5%
Total Non-Recurring Expenses	21,949	9,796	124.1%
Net Income Before Taxes	32,164	50,743	(36.6%)
Provision for Taxes	885	10,128	(91.3%)
Dividends on Preferred Stock of Subsidiary	-	-	NM
Other Minority Interest Expense	-	-	NM
Minority Interest Expense	-	-	NM
Trust Preferred Security Payments	-	-	NM
Other After-tax Items	-	-	NM
Total Minority Interest and Other After-tax Items	-	-	NM
Net Income Before Extraordinary Items	31,279	40,614	(23.0%)
Discontinued Operations	414	(1,554)	(126.6%)
Change in Accounting Principles	-	-	NM
Early Retirement of Debt	-	-	NM
Other Extraordinary Items	-	-	NM
Total Extraordinary Items	414	(1,554)	(126.6%)
Net Income	31,693	39,061	(18.9%)
Preferred Dividends Declared	542	37	NM
Other Preferred Dividends after Net Income	2	2	0.0%
Other Changes to Net Income	(2)	(3)	(22.6%)
Net Income Attributable to Noncontrolling Interests	(300)	597	NA
Net Income Available to Common	31,447	38,422	(18.2%)
Common Dividends	25,555	25,233	1.3%

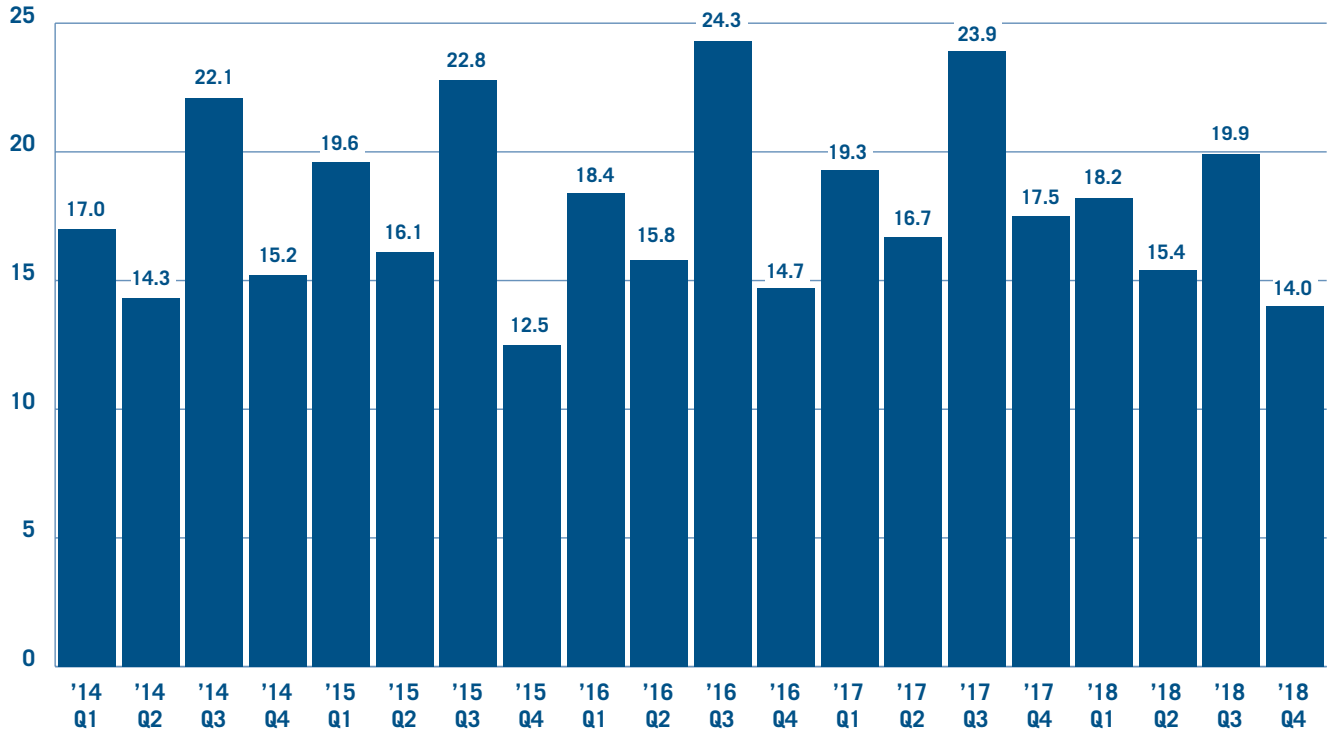
r = revised NM = not meaningful

Source: S&P Global Market Intelligence and EEI Finance Department.

Quarterly Net Operating Income

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)

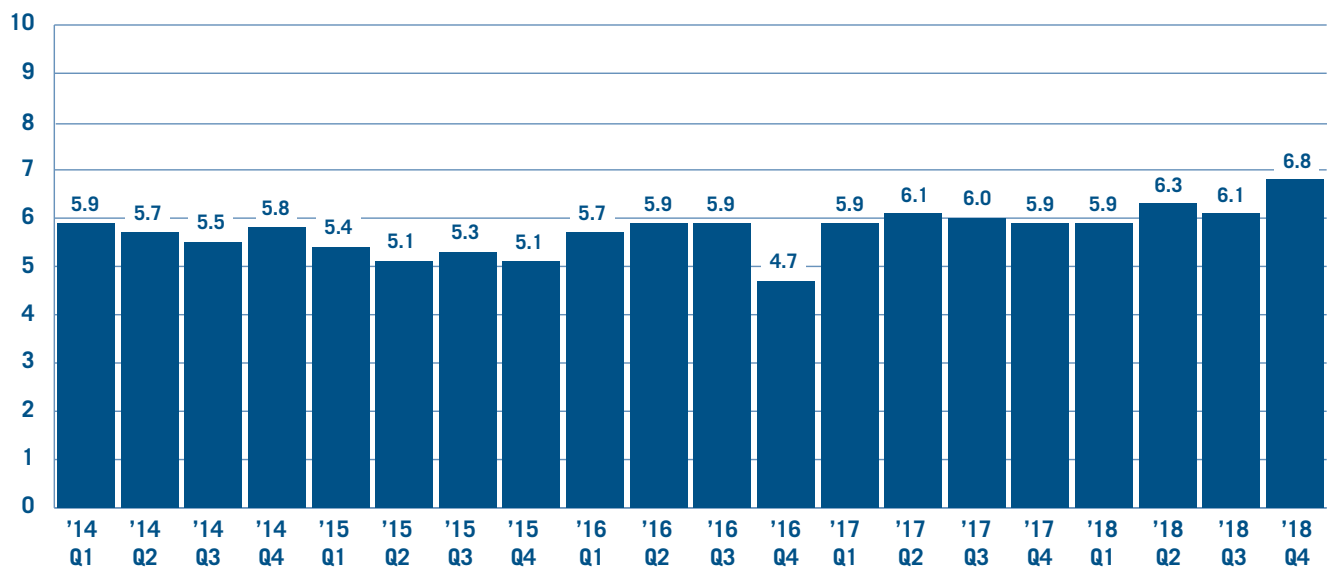


Source: S&P Global Market Intelligence and EEI Finance Department.

Quarterly Interest Expense

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



Source: S&P Global Market Intelligence and EEI Finance Department.

The industry's total annual net income decreased by \$7.4 billion, or 18.9%, in 2018 compared with the total in 2017. A significant factor in

this change was the \$12.2 billion, or 124.1%, increase in non-recurring expenses year-over-year, largely driven by PG&E Corporation's expenses

associated with the catastrophic wildfires in California.

Individual Non-Recurring and Extraordinary Items 2009–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	2009	2010	2011	2012	2013	2014	2015	2016	2017r	2018
Net Gain (Loss) on Sale of Assets	7,176	3,410	891	311	414	996	789	767	1,012	5,278
Other Non-Recurring Revenue	(494)	2,065	946	264	78	296	(4)	888	493	138
Total Non-Recurring Revenue	6,682	5,475	1,837	576	492	1,292	785	1,655	1,505	5,416
Asset Writedowns	(2,022)	(8,805)	(2,743)	(5,646)	4,276	8,762	5,189	17,487	4,166	4,077
Other Non-Recurring Charges	(822)	(545)	(851)	(3,136)	3,510	2,675	1,764	3,109	5,630	17,872
Total Non-Recurring Charges	(2,844)	(9,350)	(3,594)	(8,783)	7,786	11,437	6,953	20,596	9,796	21,949
Discontinued Operations	(63)	(476)	(1,011)	(4,317)	(88)	295	(1,148)	(732)	(1,554)	414
Change in Accounting Principles	–	–	–	–	–	–	–	–	–	–
Early Retirement of Debt	–	–	–	–	–	–	–	–	–	–
Other Extraordinary Items	(5)	10	960	–	–	–	–	–	–	–
Total Extraordinary Items	(68)	(466)	(51)	(4,317)	(88)	295	(1,148)	(732)	(1,554)	414
Total Non-Recurring and Extraordinary Items	3,771	(4,341)	(1,808)	(12,524)	(7,381)	(9,850)	(7,316)	(19,674)	(9,844)	(16,119)

r = revised

Note: Figures represent net industry totals. Totals may reflect rounding.

Source: S&P Global Market Intelligence and EEI Finance Department.

Top Net Non-Recurring and Extraordinary Gains (Losses) 2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

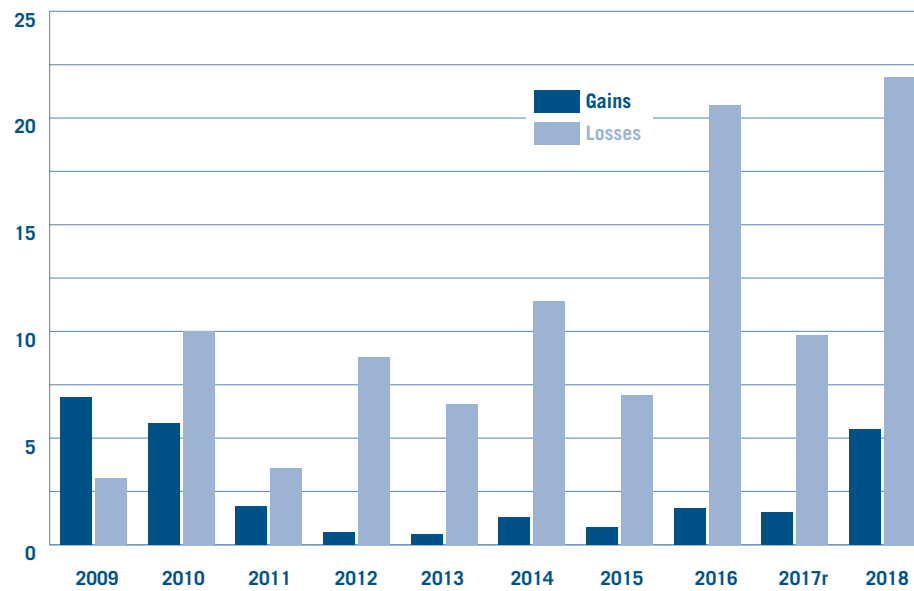
(\$ Millions)	Gains	Losses	Net Total
Company			
PG&E Corp.	–	11,809	11,809
NextEra Energy	4,118	235	3,883
Edison International	–	2,747	2,747
SCANA Corp.	–	1,457	1,457
Duke Energy	(89)	1,045	1,134
Southern Company	291	1,307	1,016
Sempra Energy	531	1,122	591
Berkshire Hathaway Energy	–	538	538
Entergy Corp.	–	532	532
Dominion Energy	380	751	371

Source: S&P Global Market Intelligence and EEI Finance Department.

Aggregate Non-Recurring and Extraordinary Items 2009-2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



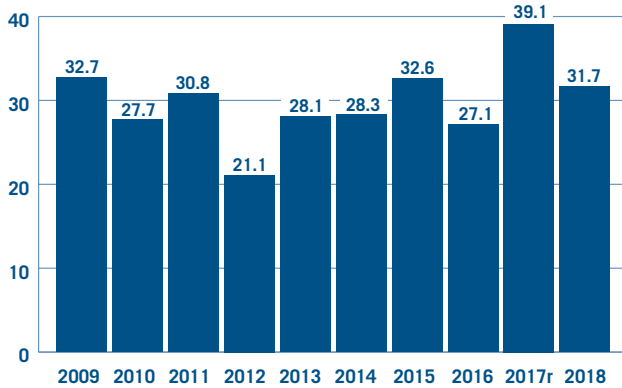
	2009	2010	2011	2012	2013	2014	2015	2016	2017r	2018	Total
Gains	6.9	5.7	1.8	0.6	0.5	1.3	0.8	1.7	1.5	5.4	26.1
Losses	3.1	10.0	3.6	8.8	6.6	11.4	7.0	20.6	9.8	21.9	102.9
Total	3.8	(4.3)	(1.8)	(8.2)	(6.2)	(10.1)	(6.2)	(18.9)	(8.3)	(16.5)	(76.8)

r = revised Note: Totals may reflect rounding.
Source: S&P Global Market Intelligence and EEI Finance Department.

Net Income 2009-2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



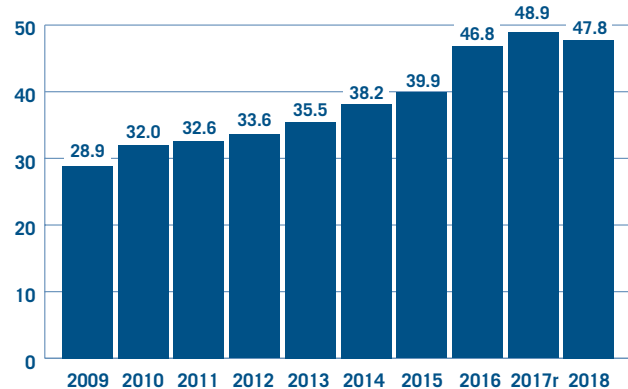
r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

Net Income Before Non-Recurring and Extraordinary Items 2009-2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

Balance Sheet

The industry's consolidated balance sheet remained healthy in 2018. Common Equity as a percent of total capitalization at December 31, 2018 was unchanged from the year-earlier level, at 43.0%. Long-term Debt, including current and non-current amounts, was reduced as a percent of total capitalization to 55.0% at year-end 2018 from 55.6% the year before.

Short-term and long-term debt each increased in absolute terms. Short-term debt rose from \$37.4 billion at year-end 2017 to \$44.7 billion at the end of 2018. Long-term debt (including the current portion) climbed from \$548.8 billion to \$562.7 billion. Yet these increases were offset by \$15.3 billion in Proceeds from the Issuance of Common Equity during 2018 and \$31.4 billion in Net Income Available to Common Shareholders (before payment of \$25.6 billion in common dividends).

Early in 2018 there was some concern on the part of credit analysts that 2017's tax reform could affect industry credit strength; a number of utilities were placed on credit watch negative as a result. Yet these concerns were addressed when utilities managed the credit impact of tax reform and issued new equity as needed.

Capitalization Structure

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Capitalization Structure	12/31/2018	12/31/2017r	12/31/2016r
Common Equity	440,486	424,276	406,311
Preferred Equity & Noncontrolling Interests	20,543	13,486	13,901
Long-term Debt (current & non-current)*	562,738	548,813	521,270
Total	1,023,767	986,574	941,482
Common Equity %	43.0%	43.0%	43.2%
Preferred & Noncontrolling %	2.0%	1.4%	1.5%
Long-term Debt %	55.0%	55.6%	55.4%
Total	100.0%	100.0%	100.0%

* Long-term debt not adjusted for (i.e., includes) securitization bonds.

r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

Broad Trends Show Little Change

The broad trends that have impacted the industry for the past several years, and that have supported the industry's overall strong financial condition, continued in 2018. These included an emphasis on regulated business strategies, generally constructive state regulation, moderate and steady profitability, and accommodating financial markets characterized by very low interest rates and a hunger for yield—whether in the form of dividends or bond interest—on the part of investors worldwide.

The favorable financial market environment for companies seeking to raise capital through bond and equity offerings continued in 2018 and U.S. interest rates remained very low by historical standards. While the 10-year U.S. Treasury yield began the year at 2.5% and rose to 3.2% by October, rates fell again late in the year and the 10-year yield finished 2018 at 2.7%. Relatively strong

economic data failed to translate into higher inflation as year-to-year gains in the consumer price index held around 2.0% before receding in the fourth quarter. Corporate credit spreads (the difference between risk-free Treasury yields and yields on comparable maturity corporate bonds) were fairly steady during the year. The credit spread for Moody's Aaa-rated corporate bond index ranged from 90 to 100 basis points through early November, then rose to 130 basis points by late December as economic sentiment weakened. Moody's Baa-rated corporate bond spread ranged from 180 to 200 basis points through October before closing the year at 240 basis points.

Bond investors worldwide again turned to the U.S. for income as interest rates in Europe and Japan remained at very low levels, suppressed by lethargic economies and asset purchase programs at the European Central Bank and the Bank of Japan.

The 10-year German government yield fell from 0.6% early in 2018 to under 0.2% in December. The yield for a broad index of Eurozone 10-year government bonds spent most of 2018 around 1.2%. Japan's 10-year government yield remained below 0.1% for most of the year, falling below zero at year-end. By comparison, the income available from U.S. government and corporate bonds was attractive indeed. The utility industry's high-quality debt securities and steady common stock dividends held strong appeal for global investors seeking income without an uncomfortable level of financial risk.

Majority of Companies Show No Leverage Increase

Only 16 companies, or 34% of the industry, saw long-term debt rise as a percent of total capitalization. Nineteen companies, or 40% of the industry, showed no change. Twelve companies decreased this metric. These figures are roughly comparable to those of 2017, when leverage increased for 15 companies, or 31% of the industry. Twenty-two companies, or 45% of the industry, saw no change in 2017 while twelve showed a decrease in leverage.

The industry's aggregate total common equity rose by \$23.3 bil-

lion, or 5.3%, from \$437.8 billion at year-end 2017 to \$461.0 billion at year-end 2018. The rise in balance sheet equity was supported by aggregate net income of \$31.7 billion and \$14.0 billion in net stock issuance (proceeds from stock offerings less buybacks, which totaled \$1.3 billion), although payment of \$25.6 billion in common stock dividends constrained the total income retained as equity on the balance sheet. The balance sheet shows changes in equity resulting from public stock offerings, which increase equity, and retained earnings or losses, which increase or decrease equity (see chart, *Proceeds from Issuance of Common Equity*). Industry credit quality — tied closely in recent years to the management of capital spending, merger and acquisition activity, and related financing strategies — remained at BBB+ in 2018 for a fifth straight year after improving in 2014 to an average BBB+ from BBB. The improvement in 2014 was the first change since 2004, when the average rating rose to BBB from BBB-.

Total long-term debt (current and non-current) has risen from \$314.9 billion at year-end 2007 to \$562.7 billion at year-end 2018, an 79% increase, driven higher mostly by the need to finance consistently high levels of investment in utility infrastructure.

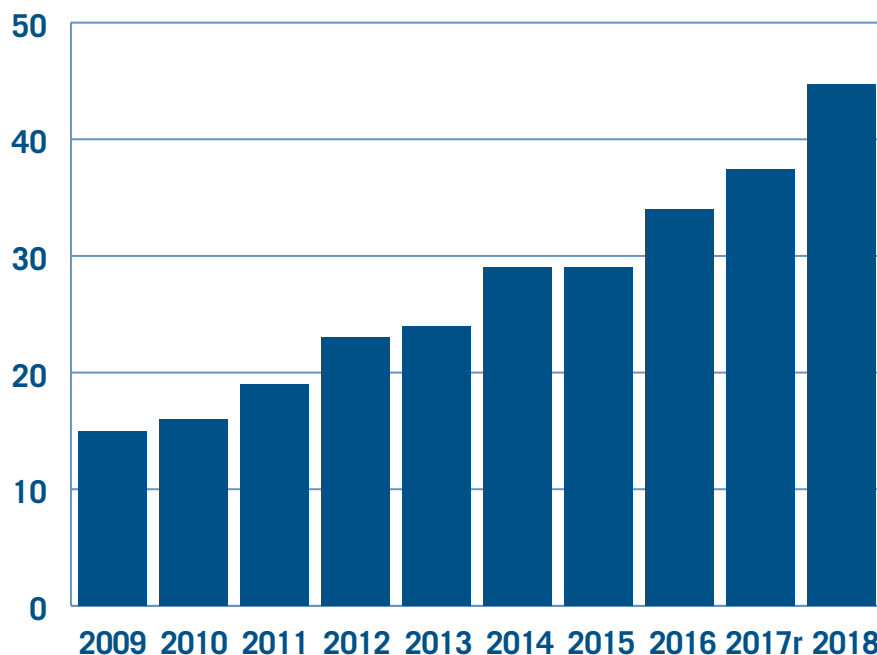
Impact of Elevated Capex

The impact of historically high levels of capital spending is evident in the industry's consolidated balance sheet. Total net property, plant and equipment in service increased by 25% from year-end 2014 to year-end 2018.

Short-term Debt 2009–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)

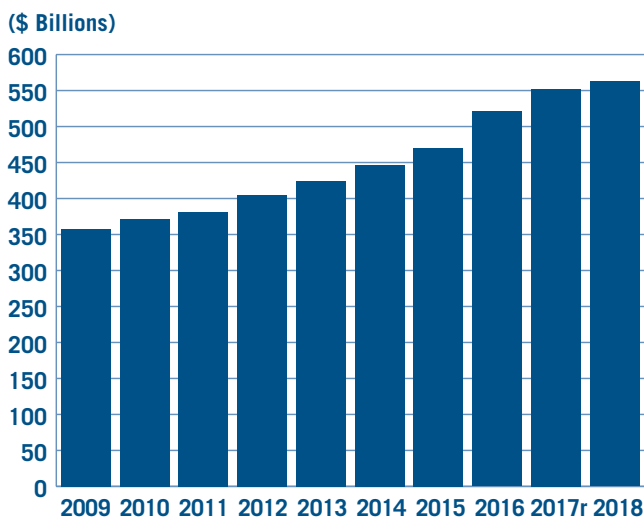


r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

Long-term Debt 2009–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

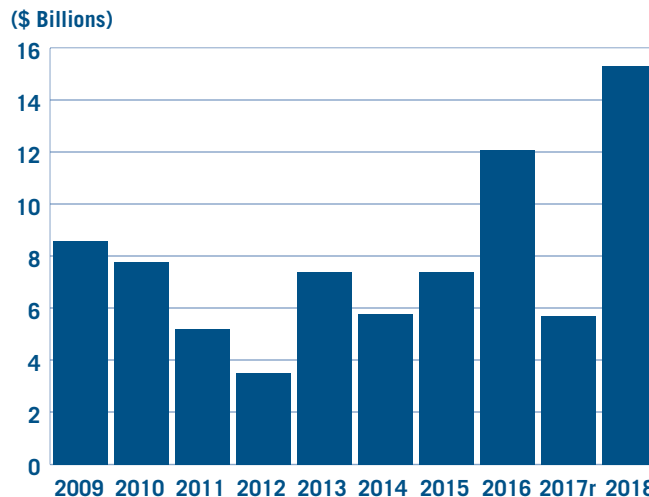


r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

Proceeds from Issuance of Common Equity 2009–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

Date	PP&E in Service, Net (\$Mil)	% Change from 12/31/2014
12/31/2018	\$1,053,052	25%
12/31/2017r	\$1,015,100	21%
12/31/2016r	\$969,457	16%
12/31/2015	\$898,152	7%
12/31/2014	\$839,351	

Source: S&P Global Market Intelligence and EEI Finance Department.

Deferred taxes were relatively steady, at \$97.9 billion versus \$96.4 billion at the end of 2017, after falling 39% from \$158.3 billion at year-end 2016. Deferred taxes had risen

nearly 30% from year-end 2012 to the end of 2016 due to persistently high capital spending and the impact of accelerated depreciation. The very large decrease in Deferred Taxes

in 2017 was due to the change in tax deductions that resulted from the Trump Administration’s tax reform, passed by Congress as the Tax Cuts and Jobs Act of 2017.

Debt-to-Cap Ratio by Category 2018 vs. 2017r

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Regulated		Mostly Regulated		Total Industry	
	Number	%	Number	%	Number	%
Lower	8	23.5%	4	30.8%	12	25.5%
No Change*	14	41.2%	5	38.5%	19	40.4%
Higher	12	35.3%	4	30.8%	16	34.0%
Total	34	100.0%	13	100.0%	47	100.0%

*No change defined as less than 1.0%

Note: December 31, 2018 vs. December 31, 2017. Refer to page v for category descriptions.

Source: S&P Global Market Intelligence and EEI Finance Department.

Capitalization Structure by Category 2018 vs. 2017r

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Regulated			Mostly Regulated		
	2018	2017r	Change	2018	2017r	Change
Common Equity	255,520	257,659	(2,139)	184,965	166,617	18,349
Total Preferred Equity	7,750	4,573	3,177	12,793	8,913	3,880
Long-term Debt (current & non-current)*	353,285	348,845	4,440	209,453	199,968	9,486
Total Capitalization	616,556	611,077	5,479	407,212	375,497	31,714
Common Equity %	41.4%	42.2%	-0.7%	45.4%	44.4%	1.1%
Preferred Equity %	1.3%	0.7%	0.5%	3.1%	2.4%	0.8%
Long-term Debt %	57.3%	57.1%	0.2%	51.4%	53.3%	-1.8%
Total	100.0%	100.0%	—	100.0%	100.0%	—

r = revised

Note: Long-term debt not adjusted for (i.e., includes) securitization bonds.

Source: S&P Global Market Intelligence and EEI Finance Department.

Consolidated Balance Sheet

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	12/31/2018	12/31/2017 ^r	% Change	\$ Change
PP&E in service, gross	1,482,481	1,436,303	3.2%	46,178
Accumulated depreciation	429,429	421,203	2.0%	8,227
PP&E in service, net	1,053,052	1,015,100	3.7%	37,951
Construction work in progress	72,079	75,341	(4.3%)	(3,262)
Net nuclear fuel	15,534	15,813	(1.8%)	(279)
Other property	1,022	2,840	(64.0%)	(1,817)
PP&E, net	1,141,687	1,109,093	2.9%	32,593
Cash & cash equivalents	16,227	14,437	12.4%	1,789
Accounts receivable	43,723	39,699	10.1%	4,024
Inventories	22,248	22,842	(2.6%)	(594)
Other current assets	43,144	43,562	(1.0%)	(418)
Total current assets	125,341	120,539	4.0%	4,801
Total investments	105,252	95,903	9.7%	9,348
Other assets	252,690	240,144	5.2%	12,547
Total Assets	1,624,969	1,565,680	3.8%	59,290
Common equity	440,486	424,276	3.8%	16,210
Preferred equity	2,329	0	NM	2,329
Noncontrolling interests	18,214	13,486	35.1%	4,728
Total equity	461,029	437,762	5.3%	23,267
Short-term debt	44,729	37,439	19.5%	7,291
Current portion of long-term debt	50,667	34,623	46.3%	16,043
Short-term and current long-term debt	95,396	72,062	32.4%	23,334
Accounts payable	68,756	67,374	2.1%	1,382
Other current liabilities	54,146	36,766	47.3%	17,380
Current liabilities	218,297	176,201	23.9%	42,096
Deferred taxes	97,864	96,384	1.5%	1,480
Non-current portion of long-term debt	512,072	514,189	(0.4%)	(2,118)
Other liabilities	334,418	340,389	(1.8%)	(5,971)
Total liabilities	1,162,652	1,127,164	3.1%	35,488
Subsidiary preferred	712	723	(1.6%)	(11)
Other mezzanine	577	31	1766.7%	546
Total mezzanine level	1,289	754	70.9%	534
Total Liabilities and Owner's Equity	1,624,969	1,565,680	3.8%	59,290

r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

Cash Flow Statement

Net Cash Provided by Operating Activities

Net Cash Provided by Operating Activities decreased by \$1.2 billion, or 1.2%, to \$100.0 billion in 2018 from \$101.2 billion in 2017. As shown in the *Statement of Cash Flows*, a \$15.6 billion net Change in Working Capital was offset by a \$6.3 billion, or 67.3%, decline in Deferred Taxes and Investment Credits and a \$5.8 billion, or 80.8%, decline in Other Operating Changes in Cash.

Cash provided by Deferred Taxes and Investment Credits fell to \$3.1 billion in 2018 from \$9.3 billion in 2017. Deferred taxes had been at historically high levels in recent years due to the industry's elevated capital expenditures and use of bonus depreciation. The Tax Cuts and Jobs Act, which passed in late 2017, significantly reduced deferred taxes due to the reduction in the corporate income tax rate from 35% to 21% and the elimination of bonus depreciation.

Net Cash Used in Investing Activities

Net Cash Used in Investing Activities increased by \$12.7 billion, or 11.3%, to \$125.1 billion in 2018 from \$112.4 billion in 2017. Capital Expenditures accounted for about half of the increase, rising by \$6.3 billion, or 5.6%, to \$119.5 billion in 2018 from \$113.1 in 2017. The 2018 capex total was the seventh straight annual record high for the industry as a whole.

Statement of Cash Flows

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

\$ Millions	12 Months Ended		% Change
	12/31/2018	12/31/2017r	
Net Income	\$31,693	\$39,061	(18.9%)
Depreciation and Amortization	53,181	50,335	5.7%
Deferred Taxes and Investment Credits	3,053	9,330	(67.3%)
Operating Changes in AFUDC	(1,440)	(1,296)	11.1%
Change in Working Capital	12,130	(3,481)	NM
Other Operating Changes in Cash	1,391	7,237	(80.8%)
Net Cash Provided by Operating Activities	100,008	101,186	(1.2%)
Capital Expenditures	(119,472)	(113,146)	5.6%
Asset Sales	21,193	14,851	42.7%
Asset Purchases	(23,022)	(15,499)	48.5%
Net Non-Operating Asset Sales and Purchases	(1,829)	(649)	181.9%
Change in Nuclear Decommissioning Trust	(620)	(414)	49.8%
Investing Changes in AFUDC	123	78	57.6%
Other Investing Changes in Cash	(3,289)	1,706	NM
Net Cash Used in Investing Activities	(125,087)	(112,425)	11.3%
Net Change in Short-term Debt	7,821	3,965	97.2%
Net Change in Long-term Debt	27,578	31,083	(11.3%)
Proceeds from Issuance of Preferred Equity	6,567	1,274	415.3%
Preferred Share Repurchases	(87)	(2,133)	(95.9%)
Net Change in Preferred Issues	6,480	(858)	NM
Proceeds from Issuance of Common Equity	15,319	5,882	160.4%
Common Share Repurchases	(1,343)	(627)	114.3%
Net Change in Common Issues	13,976	5,255	165.9%
Dividends Paid to Common Shareholders	(25,616)	(25,534)	0.3%
Dividends Paid to Preferred Shareholders	(211)	(76)	178.7%
Other Dividends	—	—	NM
Dividends Paid to Shareholders	(25,828)	(25,610)	0.8%
Other Financing Changes in Cash	2,802	(460)	NM
Net Cash (Used in) Provided by Financing Activities	32,830	13,376	145.4%
Other Changes in Cash	(45)	82	NM
Net increase (decrease) in cash and cash equivalents	\$7,706	\$2,219	247.3%
Cash and cash equivalents at beginning of period	\$8,521	\$12,219	(30.3%)
Cash and cash equivalents at end of period	\$16,227	\$14,437	12.4%

r = revised NM = not meaningful

Source: S&P Global Market Intelligence and EEI Finance Department.

The elevated level of capex is depicted in the *Capital Spending—Trailing 12 Months* chart. One of the principle drivers of the rising total has been the high level of transmission and distribution investment for grid modernization and system expansion. The industry has also

continued its considerable investment in clean energy generation, including natural gas, nuclear, wind and solar. Finally, investment in natural gas distribution utilities and gas supply pipelines has driven capital spending in the industry's natural gas infrastructure segment, espe-

cially since 2016 when four M&A deals were completed in which electric utilities bought gas delivery and/or gas pipeline companies. The \$119.5 billion of capex in 2018 is approximately triple the \$40.2 billion invested during the 12-month period ending September 30, 2004, the cyclical low following the competitive generation build-out that peaked in 2001.

Net Cash Provided by Financing Activities

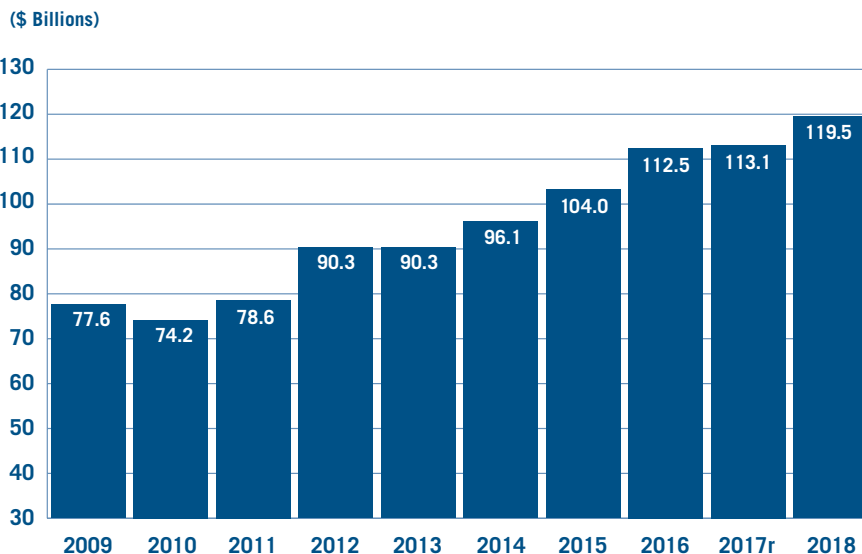
Net Cash Provided by Financing Activities increased by \$19.5 billion, or 145.4%, to \$32.8 billion in 2018 from \$13.4 billion in 2017. The largest contributor was a \$9.4 billion, or 160.4%, increase in the Proceeds from Issuance of Common Equity, to \$15.3 billion in 2018 from \$5.9 billion in 2017. A number of electric utilities issued common equity in 2018 to address the impact of the Tax Cuts and Jobs Act on cash flow. The lower corporate tax rate combined with the loss of bonus depreciation reduced cash flow for some companies.

Free Cash Flow Deficit Continues in 2018

The industry’s aggregate free cash flow deficit increased to negative \$45.1 billion in 2018 from negative \$37.5 billion in 2017. Rising capital expenditures were largely responsible. The other two main line-item contributors were similar in each year. Net Cash Provided by Operating Activities fell to \$100.0 billion in 2018 from \$101.2 billion in 2017, while Dividends Paid to

Capital Expenditures 2009–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

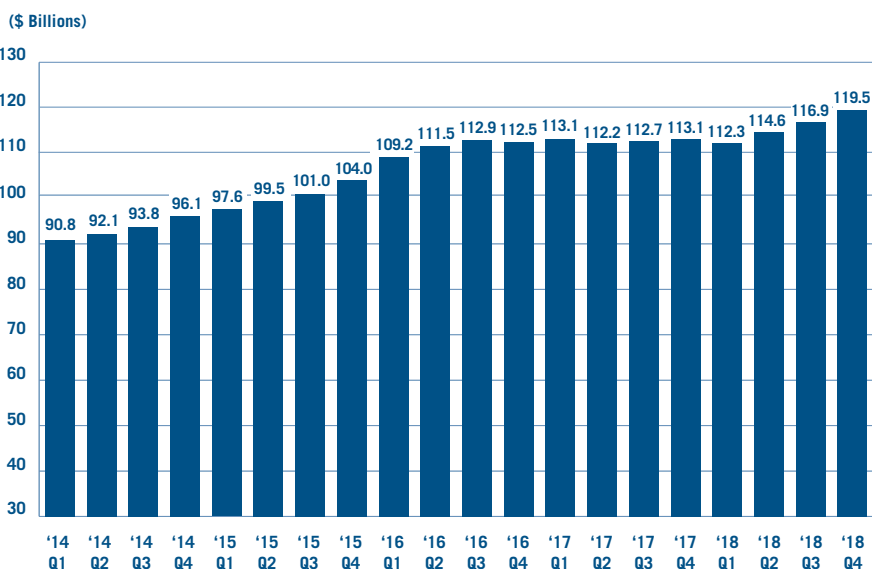


r = revised

Source: S&P Global Market Intelligence, company reports, and EEI Finance Department.

Capital Spending—Trailing 12 Months

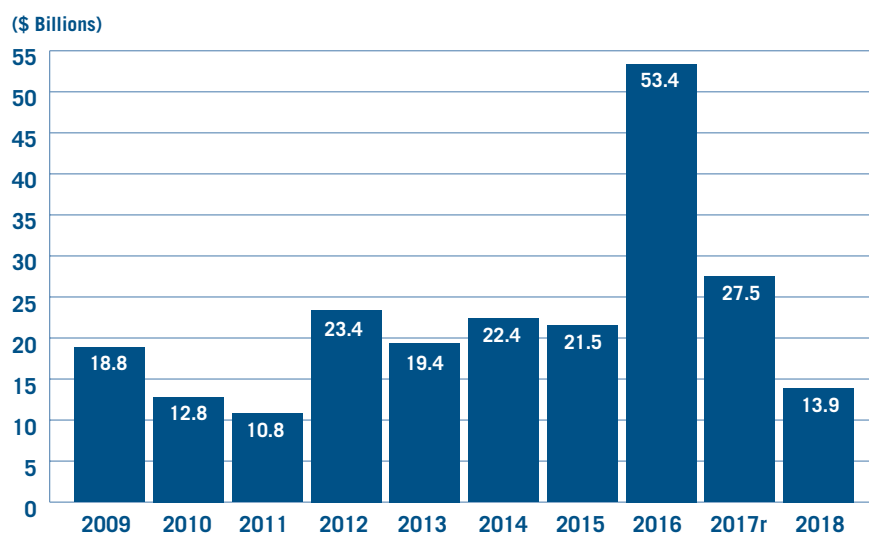
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: S&P Global Market Intelligence and EEI Finance Department.

Net Change in Long-term Debt 2009–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



r = revised

Note: Based on data from industry's consolidated balance sheet.

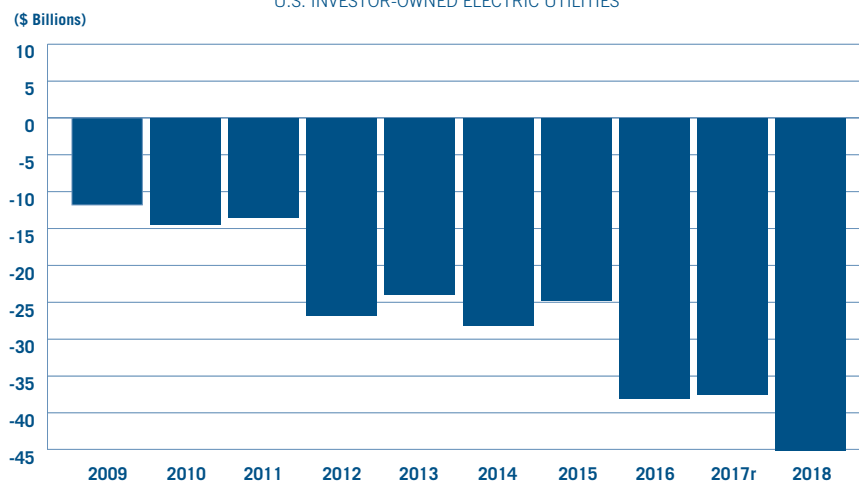
Source: S&P Global Market Intelligence and EEI Finance Department.

Common Shareholders edged up to \$25.6 billion from \$25.5 billion. The industry's calendar-year free cash flow was last positive in 2004. There is a strong association on the regulated side of the business between rising capex, declining free cash flow and regulatory lag (defined as the time between a rate case filing and decision). Regulatory lag delays the recovery of costs associated with capital investment and can result in utilities significantly under-earning their allowed return on equity (ROE).

Total industry-wide cash dividends more than doubled during the 2003 through 2018 period, rising from \$12.3 billion in 2003 to \$25.6 billion in 2018. While some analysts define free cash flow as the difference between cash flow from operations and capital expenditures, we also deduct common stock dividends due to the utility industry's strong tradition of dividend payments.

Free Cash Flow (FCF) 2009–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



(\$ Billions)	2009	2010	2011	2012	2013	2014	2015	2016r	2017	2018
Net Cash Provided by Operating Activities	82.9	77.7	84.4	84.0	87.1	89.0	101.6	98.3	101.2	100.0
Capital Expenditures	(77.6)	(74.2)	(78.6)	(90.3)	(90.3)	(96.1)	(104.0)	(112.5)	(113.1)	(119.5)
Dividends Paid to Common Shareholders	(17.1)	(18.0)	(19.3)	(20.5)	(20.8)	(21.1)	(22.5)	(23.8)	(25.5)	(25.6)
Free Cash Flow	(11.8)	(14.4)	(13.5)	(26.8)	(24.0)	(28.2)	(24.8)	(38.1)	(37.5)	(45.1)

r = revised

Note: Totals may not equal sum of components due to rounding.

Source: S&P Global Market Intelligence and EEI Finance Department.

Dividends

The investor-owned electric utility industry added to its long-term trend of widespread dividend increases during 2018. A total of 39 companies increased or reinstated their dividend compared to 38 in 2017, 40 in 2016, 39 in 2015, 38 in 2014 and 36 in both 2013 and 2012. In 2003, only 27 of the 65 utilities tracked by EEI increased their dividend. This was just prior to the passage of legislation that reduced dividend tax rates. (Note: M&A activity reduced the number of publicly-traded utilities tracked by EEI from 65 in 2003 to 42 at year-end 2018).

The percentage of companies that raised or reinstated their dividend in

2018 was 93%, a new record high; this exceeded 2017's 88% and the previous record of 91% in 2016, the next two highest historical results. Both totals followed results of 85% in 2015 and a range of 73% to 79% back to 2012. The 2018 record high is based on data beginning in 1988. The 15% dividend tax rate has supported the high number of increases in recent years.

As of December 31, 2018, 41 of the 42 publicly traded utilities in the EEI Index were paying a common stock dividend. As shown in the Dividend Patterns table, each company is limited to one action per year. For example, if a company raised its dividend twice during a year, that counts as one in the Raised column. Companies generally use the same quarter each year for dividend changes, with the

first quarter the most common for electric utilities.

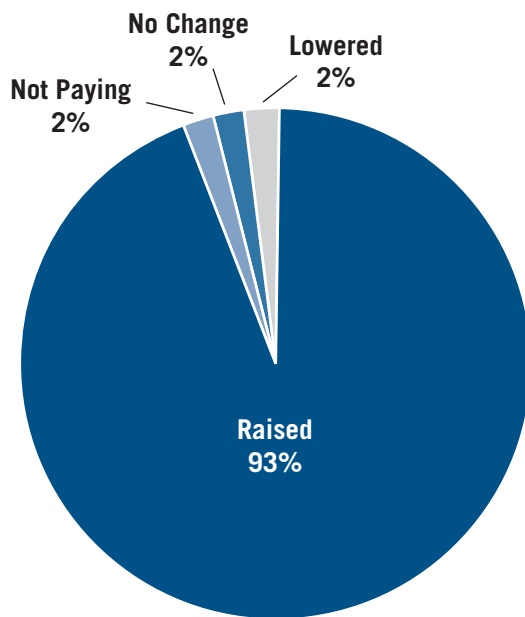
2018 Increases Average 5.7%

The average dividend increase per company during 2018 was 5.7%, with a range of 1.2% to 18.8% and a median increase of 5.6%. Evergy (+18.8% including both its Q3 and Q4 raises), NextEra Energy (+13.0% in Q1), NiSource (+11.4% in Q1) and Dominion Energy (+9.9% in Q4) posted the largest total percentage increases.

Evergy, based in Kansas City, Missouri, was formed in May 2018 with the merger of neighboring utilities Westar Energy and Great Plains Energy. The company's two increases in 2018 raised its quarterly dividend from \$0.40 to \$0.46 and then to \$0.475.

2018 Dividend Patterns

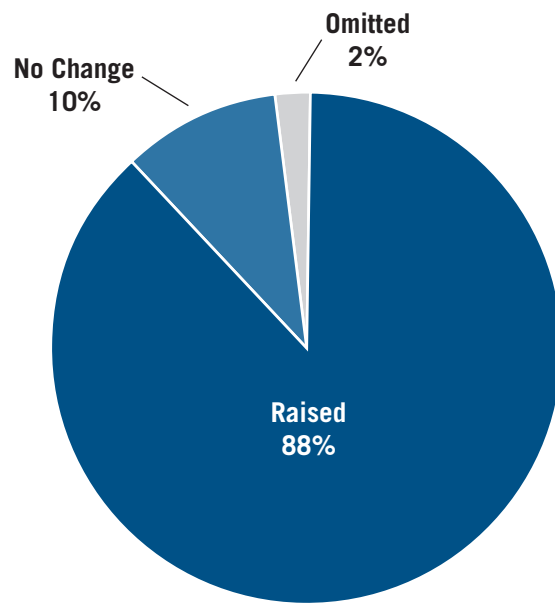
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department.

2017 Dividend Patterns

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department.

Dividend Patterns 1994–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Raised	No Change	Lowered	Omitted*	Reinstated	Not Paying	Total	Dividend Payout Ratio
1994	54	37	6	–	–	3	100	79.8%
1995	52	40	3	–	–	3	98	75.3%
1996	48	44	2	1	1	2	98	70.7%
1997	40	45	6	2	–	3	96	84.2%
1998	40	37	7	–	–	5	89	82.1%
1999	29	45	4	–	3	2	83	74.9%
2000	26	39	3	1	–	2	71	63.9%**
2001	21	40	3	2	–	3	69	64.1%
2002	26	27	6	3	–	3	65	67.5%
2003	26	24	7	2	1	5	65	63.7%
2004	35	22	1	–	–	7	65	67.9%
2005	34	22	1	1	2	5	65	66.5%
2006	41	17	–	–	–	6	64	63.5%
2007	40	15	–	–	3	3	61	62.1%
2008	36	20	1	–	1	1	59	66.8%
2009	31	23	3	–	–	1	58	69.6%
2010	34	22	–	–	–	1	57	62.0%
2011	31	22	–	1	1	–	55	62.8%
2012	36	14	–	–	1	–	51	64.2%
2013	36	12	1	–	–	–	49	61.5%
2014	38	9	1	–	–	–	48	60.4%
2015	39	7	–	–	–	–	46	67.0%
2016	40	4	–	–	–	–	44	62.9%
2017	38	4	–	1	–	–	43	64.0%
2018	39	1	1	–	–	1	42	63.9%

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Average of the Increased Dividend Actions ***	7.2%	8.2%	6.8%	7.2%	5.3%	5.7%	5.8%	5.6%	5.6%	5.7%
Average of the Declining Dividend Actions ***	(46.4%)	NA	(100.0%)	NA	(41.0%)	(34.5%)	NA	NA	NA	79.8%

* Omitted in current year. This number is not included in the Not Paying column.

** Prior to 2000 = total industry dividends/total industry earnings, starting in 2000 = average of all companies paying a dividend.

*** Excludes companies that omitted or reinstated dividends.

Note: Dividend percent changes are based on year-end comparisons.

Source: EEI Finance Department and S&P Global Market Intelligence.

NextEra Energy, headquartered in Juno Beach, Florida, raised its quarterly dividend from \$0.9825 to \$1.11 per share in Q1. The increase is consistent with the company's plan, announced in 2015, to target 12% to 14% annual growth in dividends per share through at least 2018. NextEra recorded the industry's largest percentage increases in both 2017 (+12.9%) and 2016 (+13.0%), along with Edison International and DTE Energy).

NiSource, based in Merrillville, Indiana, announced a quarterly increase of \$0.02 per share in Q1, from \$0.175 to \$0.195. The company highlighted the increase as consistent with its focus on sustainably increasing shareholder value. NiSource produced a total shareholder return of 133% for the five years ending December 31, 2018, winning the EEI Index Award in four of the last five years.

Dominion Energy, based in Richmond, Virginia, announced in Q4 an increase in its quarterly dividend from \$0.835 to \$0.9175 per share. This marked the 16th consecutive year in which the company's annual dividend rose from the previous year's amount.

Payout Ratio and Dividend Yield

The industry's dividend payout ratio was 65.2% for the twelve months ended December 31, 2018, remaining among the highest of all U.S. business sectors. The industry's payout ratio was 63.9% when measured as an un-weighted average of individual company ratios; 65.2% represents an aggregate figure. From 2000 through 2017, the industry's

Sector Comparison Dividend Payout Ratio For 12-month period ending 12/31/18

Sector	Payout Ratio (%)
EEI Index Companies*	65.2%
Utilities	59.2%
Consumer Staples	53.8%
Energy	53.6%
Industrial	34.0%
Materials	31.0%
Consumer Discretionary	29.6%
Health Care	27.7%
Technology	26.7%
Financial	25.7%

* For this table, EEI (1) sums dividends and (2) sums earnings of all index companies and then (3) divides to determine the comparable DPR.

Assumptions:

1. EEI Index Companies payout ratio based on LTM common dividends paid and income before nonrecurring and extraordinary items.
2. S&P sector payout ratios based on 2018E dividends and earnings per share (estimates as of 12/31/2018).

For more information on constituents of each S&P sector, see <http://www.sectorspdr.com/>.

Source: AltaVista Research, S&P Global Market Intelligence, and EEI Finance Department.

annual payout ratio ranged from 60.4% to 69.6%.

While the industry's net income has fluctuated from year to year, its payout ratio has remained relatively consistent after eliminating non-recurring and extraordinary items from earnings. We use the following approach when calculating the industry's dividend payout ratio:

1. Non-recurring and extraordinary items are eliminated from earnings.
2. Companies with negative adjusted earnings are eliminated.
3. Companies with a payout ratio in excess of 200% are eliminated.

The industry's average dividend yield was 3.4% on December 31, 2018, trailing only the Energy sector's 3.7% and the broader Utilities sector's 3.5% yields. The industry's yield was 3.4% on September 30, 3.3% on June 30 and 3.6% on March 31. This was the third straight year of a 3.4% yield at year-end, following yields of 3.8% at year-end 2015, 3.3% at year-end 2014, 4.0% at year-end 2013 and 4.3% at year-end 2012.

We calculate the industry's aggregate dividend yield using an un-weighted average of the yields of

EEI Index companies that are paying a dividend. The strong yields prevalent among most electric utilities have helped support their share prices over the past decade, especially given the period's historically low interest rates. The Tax Cuts and Jobs Act signed into law in December 2017 maintained pre-existing tax rates for dividends and capital gains. This is crucial to avoid a capital raising disadvantage for high-dividend companies.

The EEI Index delivered a positive total shareholder return of 3.7% in 2018, outperforming the Dow

Jones Industrial Average's negative 3.5% return and the S&P 500's negative 4.4% return. This followed an EEI Index return of 11.7% in 2017, 17.4% in 2016, a negative 3.9% return in 2015 and positive returns from 2014 back to 2009 that ranged from 2% to nearly 30%. The EEI Index has produced a positive total return in 14 of the last 16 years.

Business Category Comparison

The Regulated category had a dividend payout ratio of 60.1% in 2018 compared to 72.8% for the Mostly Regulated group. The Regulated category produced the highest annual payout ratio in 2017, 2015, 2011 and 2010 and in each year from 2003 through 2008. It was exceeded by the Mostly Regulated category in 2016, 2014, 2013, 2012 and 2009; it's likely that the weaker earnings from the competitive power business contributed to the higher payout ratio among Mostly Regulated companies in those years.

The Regulated and Mostly Regulated categories each had a 3.4% average dividend yield at year-end 2018, mirroring their yields at year-end 2017. The Diversified category no longer exists, as the only two remaining companies from 2016 were merged into the Mostly Regulated category for 2017. The yields for the Regulated and Mostly Regulated categories were 3.4% and 3.5%, respectively, on December 31, 2016.

Sector Comparison, Dividend Yield As of December 31, 2018

Sector	Dividend Yield (%)
EEI Index Companies	3.4%
Energy	3.7%
Utilities	3.5%
Consumer Staples	3.0%
Materials	2.4%
Financial	2.3%
Industrial	2.3%
Health Care	1.7%
Consumer Discretionary	1.6%
Technology	1.6%

Assumptions:

1. EEI Index Companies' yield based on last announced, annualized dividend rates (as of 12/31/2018); S&P sector yields based on 2018E cash dividends (estimates as of 12/31/2018).

For more information on constituents of each S&P sector, see <http://www.sectorspdr.com/>.

Source: AltaVista Research, S&P Global Market Intelligence and EEI Finance Department.

Share Repurchases Remain Low

Thirteen of the industry's publicly traded companies repurchased an aggregate \$1.3 billion of common shares during 2018 as an alternate way of returning cash to shareholders. This compares to the following results for the past ten calendar years:

- 2017: 12 companies, \$194 million
- 2016: 10 companies, \$267 million
- 2015: 11 companies, \$1.9 billion
- 2014: 12 companies, \$668 million
- 2013: 10 companies, \$410 million
- 2012: 14 companies, \$821 million
- 2011: 15 companies, \$1.8 billion
- 2010: 13 companies, \$2.7 billion
- 2009: 11 companies, \$908 million
- 2008: 8 companies, \$2.4 billion

All these levels were far below the \$11.9 billion of 2007. The industry's common share repurchases exceeded \$6.0 billion in 2004, 2005 and 2006 after rising from only \$120 million in 2003.

Category Comparison, Dividend Payout Ratio

Category ¹	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EEI Index	69.6	62.0	62.8	64.2	61.5	60.4	67.0	62.9	64.0	63.9
Regulated	68.2	64.1	63.4	62.1	60.5	59.4	68.7	61.1	68.7	60.1
Mostly Regulated	72.2	60.7	63.1	69.7	64.7	63.8	62.6	68.0	53.3	72.8
Diversified ²	69.2	49.7	54.7	53.4	44.7	56.4	64.9	64.6	–	–

¹ Refer to page v for category descriptions.

² Starting January 1, 2017, the Diversified Category will no longer exist due to the dwindling number of companies.

Note: In addition to the impact of dividend strategies and company earnings, the dividend payout ratios for each category are also affected by the movement of companies between categories and by dividend reinstatements and cancellations.

Source: EEI Finance Department, S&P Global Market Intelligence, and company annual reports.

Category Comparison, Dividend Yield As of December 31, 2018

Category ¹	Dividend Yield
EEI Index	3.4%
Regulated	3.4%
Mostly Regulated	3.4%

¹ Refer to page v for category descriptions.

Source: EEI Finance Department and S&P Global Market Intelligence.

Dividend Summary

As of December 31, 2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Company Name	Stock	Company Category	Annualized Dividends	Payout Ratio	Yield (%)	Last Action	To	From	Date Announced
ALLETE, Inc.	ALE	MR	\$2.24	66.1%	2.9%	Raised	\$2.24	\$2.14	2018 Q1
Alliant Energy Corporation	LNT	R	\$1.34	59.8%	3.2%	Raised	\$1.34	\$1.26	2018 Q1
Ameren Corporation	AEE	R	\$1.90	54.9%	2.9%	Raised	\$1.90	\$1.83	2018 Q4
American Electric Power Company, Inc.	AEP	R	\$2.68	62.7%	3.6%	Raised	\$2.68	\$2.48	2018 Q4
AVANGRID, Inc.	AGR	MR	\$1.76	87.5%	3.5%	Raised	\$1.76	\$1.73	2018 Q3
Avista Corporation	AVA	R	\$1.49	69.9%	3.5%	Raised	\$1.49	\$1.43	2018 Q1
Black Hills Corporation	BKH	R	\$2.02	38.1%	3.2%	Raised	\$2.02	\$1.90	2018 Q4
CenterPoint Energy, Inc.	CNP	MR	\$1.15	120.5%	4.1%	Raised	\$1.15	\$1.11	2018 Q4
CMS Energy Corporation	CMS	R	\$1.43	60.3%	2.9%	Raised	\$1.43	\$1.33	2018 Q1
Consolidated Edison, Inc.	ED	R	\$2.86	67.3%	3.7%	Raised	\$2.86	\$2.76	2018 Q1
Dominion Energy, Inc.	D	MR	\$3.67	74.8%	5.1%	Raised	\$3.67	\$3.34	2018 Q4
DTE Energy Company	DTE	MR	\$3.78	54.1%	3.4%	Raised	\$3.78	\$3.53	2018 Q4
Duke Energy Corporation	DUK	R	\$3.71	66.4%	4.3%	Raised	\$3.71	\$3.56	2018 Q3
Edison International	EIX	R	\$2.45	32.9%	4.3%	Raised	\$2.45	\$2.42	2018 Q4
El Paso Electric Company	EE	R	\$1.44	68.2%	2.9%	Raised	\$1.44	\$1.34	2018 Q2
Entergy Corporation	ETR	R	\$3.64	46.4%	4.2%	Raised	\$3.64	\$3.56	2018 Q4
Eversource Energy	ES	R	\$2.02	61.5%	3.1%	Raised	\$2.02	\$1.90	2018 Q1
Exelon Corporation	EXC	MR	\$1.38	64.4%	3.1%	Raised	\$1.38	\$1.31	2018 Q1
FirstEnergy Corp.	FE	R	\$1.52	70.2%	4.0%	Raised	\$1.52	\$1.44	2018 Q4
Hawaiian Electric Industries, Inc.	HE	MR	\$1.24	66.3%	3.4%	Raised	\$1.24	\$1.22	1998 Q1
IDACORP, Inc.	IDA	R	\$2.52	53.4%	2.7%	Raised	\$2.52	\$2.36	2018 Q3
MDU Resources Group, Inc.	MDU	MR	\$0.81	57.4%	3.4%	Raised	\$0.81	\$0.79	2018 Q4
MGE Energy, Inc.	MGEE	MR	\$1.35	54.3%	2.3%	Raised	\$1.35	\$1.29	2018 Q3
NextEra Energy, Inc.	NEE	MR	\$4.44	111.7%	2.6%	Raised	\$4.44	\$3.93	2018 Q1
NiSource Inc.	NI	R	\$0.78	NM	3.1%	Raised	\$0.78	\$0.70	2018 Q1
NorthWestern Corporation	NWE	R	\$2.20	55.4%	3.7%	Raised	\$2.20	\$2.10	2018 Q1
OGE Energy Corp.	OGE	R	\$1.46	64.0%	3.7%	Raised	\$1.46	\$1.33	2018 Q3
Otter Tail Corporation	OTTR	R	\$1.34	64.6%	2.7%	Raised	\$1.34	\$1.28	2018 Q1
PG&E Corporation	PCG	R	\$-	0.0%	0.0%	Lowered	\$-	\$2.12	2017 Q4
Pinnacle West Capital Corporation	PNW	R	\$2.95	58.2%	3.5%	Raised	\$2.95	\$2.78	2018 Q4
PNM Resources, Inc.	PNM	R	\$1.16	50.6%	2.8%	Raised	\$1.16	\$1.06	2018 Q4
Portland General Electric Company	POR	R	\$1.45	59.0%	3.2%	Raised	\$1.45	\$1.36	2018 Q2
PPL Corporation	PPL	R	\$1.64	62.0%	5.8%	Raised	\$1.64	\$1.58	2018 Q1
Public Service Enterprise Group Incorporated	PEG	MR	\$1.80	65.8%	3.5%	Raised	\$1.80	\$1.72	2018 Q1
SCANA Corporation	SCG	R	\$0.49	22.5%	1.0%	Lowered	\$0.49	\$2.45	2018 Q2
Sempra Energy	SRE	MR	\$3.58	51.1%	3.3%	Raised	\$3.58	\$3.29	2018 Q1
Southern Company	SO	R	\$2.40	77.7%	5.5%	Raised	\$2.40	\$2.32	2018 Q2
Unitil Corporation	UTL	R	\$1.46	66.1%	2.9%	Raised	\$1.46	\$1.44	2018 Q1
Vectren Corporation	VVC	R	\$1.92	92.0%	2.7%	Raised	\$1.92	\$1.80	2018 Q4
WEC Energy Group, Inc.	WEC	R	\$2.21	65.8%	3.2%	Raised	\$2.21	\$2.08	2018 Q1
Xcel Energy Inc.	XEL	R	\$1.52	57.9%	3.1%	Raised	\$1.52	\$1.44	2018 Q1
Industry Average				63.9%	3.4%				

NOTES

Business Segmentation: Assets as of 12/31/2017

Categories: R = Regulated: 80% or more of total assets are regulated. **MR = Mostly Regulated:** Less than 80% of total assets are regulated.

Dividend Per Share: Per share amounts are annualized declared figures as of 12/31/2018.

Dividend Payout Ratio: Dividends paid for 12 months ended 12/31/2018 divided by net income before nonrecurring and extraordinary items for 12 months ended 12/31/2018. While net income is after-tax, nonrecurring and extraordinary items are pre-tax, as there is no consistent method of gathering these items on a tax adjusted basis under current reporting guidelines. On an individual company basis, the Payout Ratio in the table could differ slightly from what is reported directly by the company.

“NM” applies to companies with negative earnings or payout ratios greater than 200%.

Dividend Yield: Annualized Dividends Per Share at 12/31/2018 divided by stock price at market close on 12/31/2018.

By Business Segment: Average of Dividend Payout Ratios and Dividend Yields for companies within these business segments.

Source: EEI Finance Department and S&P Global Market Intelligence.

Rate Review Summary

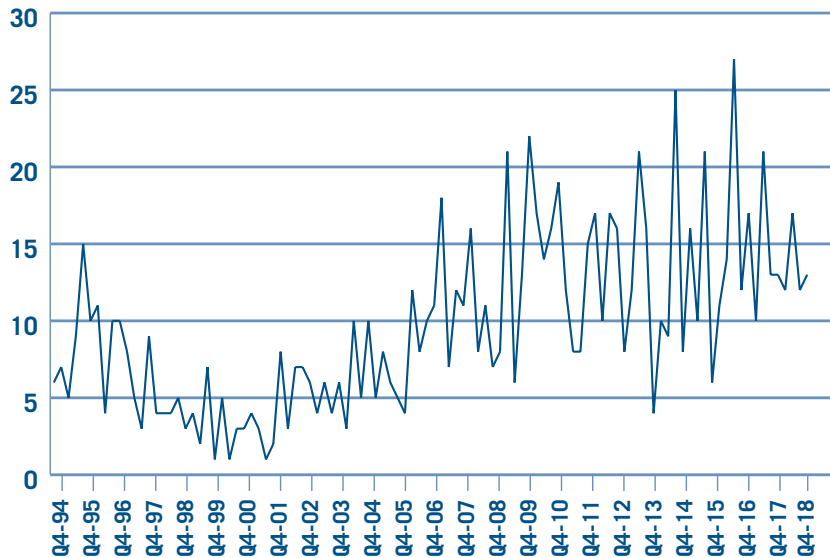
Electric utilities filed 54 new rate reviews in 2018. While two less than 2017's total, the year's activity remained consistent with the heightened pace of filings since the industry's period of restructuring nearly 20 years ago. Average awarded return on equity (ROE) was 9.51%, the lowest annual average in our 30 years of data. Average requested ROE was 10.03%, also a record low. The long-term decline in interest rates since the early 1980s is the primary reason for the corresponding declines in requested and approved ROEs. Average regulatory lag, at 8.5 months, was near its ten-month average since restructuring. Average regulatory lag will likely hold near ten months unless state commissions accelerate the speed of rate review decisions.

Filed Reviews

Efforts to recover for capital expenditures, always a primary driver of rate filings, were again prominent in 2018. Rate design was a significant theme as utilities sought to more accurately and efficiently recover costs; the most frequent request was an increase in the residential customer charge. Utilities prefer that customer charges accurately reflect fixed costs of service so that these costs are not unfairly shifted to other customer classes. The Tax Cuts and Jobs Act played a major role too. In new filings and review decisions, utilities and commissions addressed means of incorporating lower taxes in rates and passing the benefits back to customers. While not as widespread, efforts to accommodate electric vehicle (EV) use appeared in

Number of Rate Reviews Filed 1994–2018

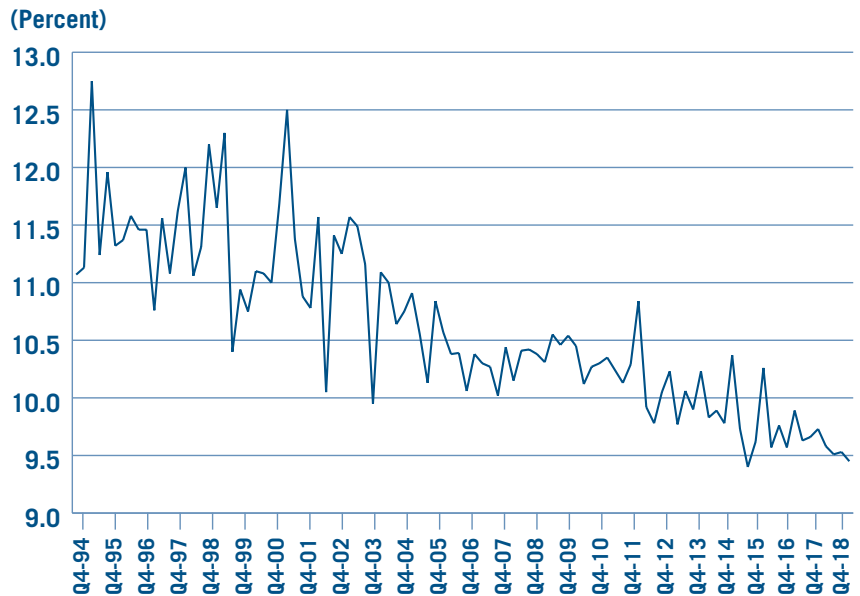
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: S&P Global Market Intelligence/Regulatory Research Assoc. and EEI Rate Department.

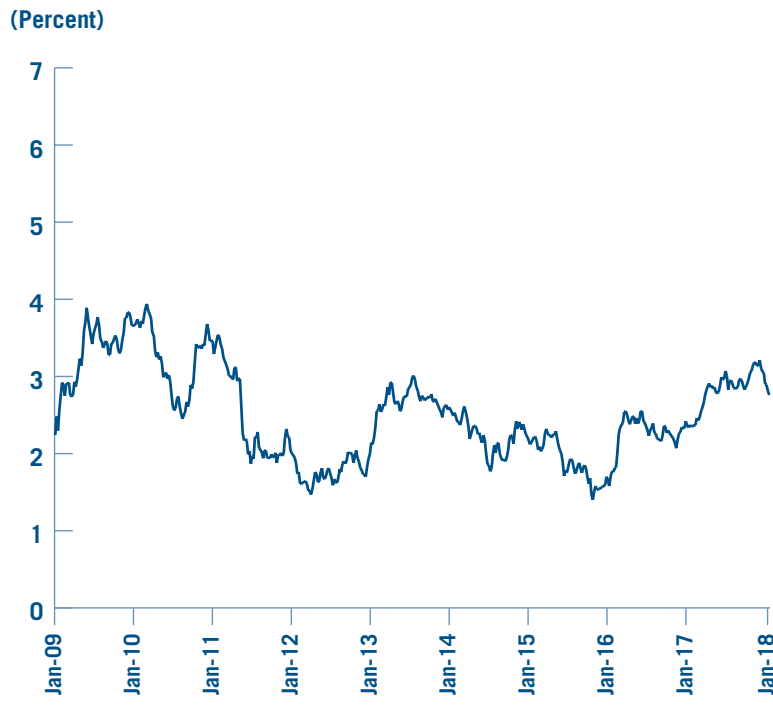
Average Awarded ROE 1994-2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: S&P Global Market Intelligence/Regulatory Research Assoc. and EEI Rate Department.

10-Year Treasury Yield 1/1/09 through 12/31/18



Source: U.S. Federal Reserve.

a number of reviews. Electric companies sought to rate-base EV charging stations, develop electric vehicle pilot programs and design tariffs for charging stations.

Electric Vehicles

Kansas City Power & Light (KCP&L) filed in Missouri in part to rate base EV charging investments and to implement a new tariff for charging stations. The commission had rejected similar requests in the utility's previous rate case stating that EV charging stations are not electric plant. The company successfully appealed that ruling to the Missouri Court of Appeals, which reversed the decision. The court stated, "Just as in the case of a self-service gasoline station, what takes place at one

of KCP&L's [charging stations] is not the service of charging a battery; instead it is the sale of electricity to the vehicle owner, for use to power his or her electric vehicle. While the vehicle's batteries may store the purchased electricity temporarily until that electricity is needed to power the vehicle, the battery is merely a storage device—it is not the 'sole source of power' driving the vehicle. ... The fact that electricity is used to charge a battery, rather than to immediately operate a machine, does not convert the transaction into a 'service,' rather than a sale or furnishing of electricity for use as power." The court said the commission has authority to design rates so that a customer class bears the costs of their activities, such as electric vehicle charging. However,

electric utilities cannot expand vehicle charging programs without commission approval.

Following the court's decision, KCP&L filed a settlement to create a new customer class for electric vehicle charging stations that would not be subsidized by other classes (see Decided Reviews for more discussion). The company has installed approximately 1,000 charging stations so far: 28% at workplace settings, 20% at retail locations, 11% at healthcare facilities, 8% at hospitality businesses and the remaining 33% at other locations.

PECO Energy in Pennsylvania proposed a five-year EV pilot program that would help it better understand EV fast-charging. The program would give a 50% demand charge credit for 30 months to customers who install a DC fast-charger.

In Kansas, Eversource filed its second attempt to rate base electric vehicle charging stations, which seeks a \$1.1 million increase in rates. A tariff would cover charging at company-owned stations at \$0.22 per kWh for a level-two charger and \$0.25 per kWh for a level-three charger, with a maximum hourly charge of \$6.00.

Kentucky Utilities and Louisville Gas & Electric both proposed lower charging rates under their electric vehicle riders. Under one rider, the companies would reduce the rate from \$2.84 per hour to \$0.75 per hour for the first two hours and \$1.00 per hour for each additional hour. This equates to a price of about \$2.13 per gallon of gas, according to the companies. The rate does not

recover all charging costs and shareholders will bear any under-recovery.

Return on Equity (ROE)

Green Mountain Power (GMP) in a Vermont filing said that “the new [federal] tax legislation reduces utility revenues and accordingly negatively impacts utility cash flows and credit metrics. As a result, the risk profile of U.S. utilities has increased, and accordingly, the required ROE for utility investment has also increased. Utility liquidity is of critical importance, particularly given GMP’s role as the sole investor-owned utility relied upon to provide service and storm-related reliability for the vast majority of Vermont’s electric customers.” The company said it will fulfill its agreement with the commission to set an ROE of 9.3% for 2019, but beyond that date “a more appropriate adjustment will likely need to be made to ensure financial strength.”

Entergy, in its Texas filing, requested a higher ROE. The company said it underearned its 9.8% authorized ROE in nine of the last ten years and earned a 6.5% ROE last year. The company attributes the under-recovery to regulatory lag, despite its expedited recovery mechanisms.

In May 2018, Kansas City Power & Light (KCP&L) merged with Westar, forming Evergy. While KCP&L filed in Kansas for a 9.85% ROE, the merger resulted in a reduction in the company’s revenue requirement, resulting in a 9.3% awarded ROE.

Rate Design

Utilities’ rate design requests often focus on increasing the residential customer charge to more accurately reflect fixed costs of service and prevent unfair cost shifts between customer classes. There were other rate design efforts in 2018 as well.

Otter Tail Power, in both North and South Dakota, proposed a two-year, opt-in, residential time-of-use rate pilot. The company said the purpose of the pilot is threefold: 1) to learn from and respond to customers, 2) to assess system costs and revenues, and 3) to inform future advanced metering infrastructure investments.

In West Virginia, Appalachian Power proposed a residential electric service tariff pilot program that would be limited to 1,000 customers. The program features a \$15 customer charge, a \$4.23 per kW demand charge, and on-peak and off-peak energy charges. Peak periods are weekdays from 7:00 a.m. to 11:00 a.m. in the winter and 4:00 p.m. to 9:00 p.m. in the summer. The company will measure customer demand monthly to determine the highest demand in a one-hour period on peak.

Northern Indiana Public Service (NIPSCO) filed partly to “align depreciation rates for . . . coal fired generating assets more closely to the expected useful life of those assets.” The company intends to retire five coal units by 2028, but seeks to extend the recovery of accruals to the end of 2030 to diminish the effect on rates. “The timeline for retirement is faster than indicated in NIPSCO’s

last [integrated resource plan], as the energy market has produced more competitive and cost effective options for NIPSCO customers,” the company said in a press release. The company intends to replace the coal plants with solar and wind generation combined with battery storage.

NIPSCO also wants to alter its rate structure for large industrial customers “to accommodate the . . . customers who want to reduce their dependence on NIPSCO generation . . . moderate rate shock for other classes . . . and ensure that rate design calculations are simple and transparent.” The company filed to replace certain industrial rate classes with a new rate that would be available to customers with at least ten MW of load and willing to sign a five-year contract. The company says the contract is necessary to ensure these customers contribute to fixed costs long enough to achieve an orderly retirement of coal plants.

Distributed Generation

In Vermont, Green Mountain Power’s filing addressed the need to recover for increased costs resulting in part from net metering, saying “Nearly all our total rate need is driven by power and transmission costs, including above-market solar prices embedded in net metering and other regional and state renewable energy policy costs. . . . Meanwhile, retail sales are expected to continue their recent downward trend in the 2019 rate period, compared to the current rate period, due in part to net metering and efficiency, with a decline of nearly 2%.”

Kentucky Utilities and Louisville Gas & Electric proposed a two-part rate change for solar customers. The proposal would: 1) reduce the levelized monthly solar capacity charge from \$6.27 to \$5.68 per quarter-kW and 2) allow customers to pay a one-time solar capacity charge of \$790 per kW subscribed in order to switch from a “buy-all/sell-all” compensation method to net billing. The net billing mechanism compares self-generated energy usage to overall energy usage at 15-minute intervals. If the customer’s generation is greater than their usage, the companies will provide a bill credit based on avoided costs.

Federal Tax Reform

Last year’s reduction in the corporate income tax rate from 35% to 21% impacts electric company rates nationwide in ways that can be complex. Potomac Edison’s filing in Maryland offers one example. The company’s requested rate increase is \$7.2 million lower than it would have been absent tax reform. The company proposes to amortize protected excess accumulated deferred income tax liabilities over the average life of company assets and amortize unprotected excess accumulated deferred tax liabilities over ten years. However, Potomac Edison would not return overcollections accrued between January 1, 2018 (the new tax rate’s effective date) and the effective date of the company’s new rates (expected in the first quarter of 2019). The company argues that refunding these amounts would constitute single-issue, retroactive ratemaking, and that it will use the overcollections to offset earnings shortfalls.

(See the *Federal Tax Reform* subhead under Decided Reviews for more on this issue.)

Public Service Co. of Oklahoma’s Performance-Based Formula Rate

Public Service Company of Oklahoma filed to address troubles with regulatory lag and to make infrastructure investments using performance-based ratemaking (PBR). Their plan would use a formula to determine a target earned ROE based on annual investments, expenses and revenues. Proposed investments include a wide range of technology and analytics designed to enhance grid performance and security and to accommodate two-way power flows. The plan seeks to smooth rate increases and ensure that earnings fall within an approved equity range by allowing adjustments to rates between rate reviews. Federal Energy Regulatory Commission (FERC) Form 1 data would be used for the PBR formula, and the company would submit filings by March 31 each year. If the earned return is more than 50 basis points below the target ROE, the company could increase rates to achieve the target. If the earned return is more than 50 basis points above the target, the company would reduce rates to achieve the target and return 75% of excess earnings to customers. The plan also includes performance incentives related to reliability, grid modernization, customer satisfaction, public safety and economic development. The maximum ROE penalty for failure to meet goals would be 40 basis points. The maximum incentive would be 10 basis points.

Empire District Electric Kansas’s Rate Mechanisms

Empire District Electric in Kansas filed for a rate stabilization mechanism (a decoupling mechanism). A decoupling mechanism promotes energy efficiency investment by breaking the link between electricity sales and revenue. It typically allows a utility to add any revenue shortfall to or subtract any overcollection from future rates by adjusting the energy charge, permitting the “true up” of any difference between the revenue requirement and revenue collected through rates. The company also hopes to implement a capital tracker that would allow it to recover costs related to grid resiliency, generation capacity and certain other costs between rate reviews.

California Wildfires

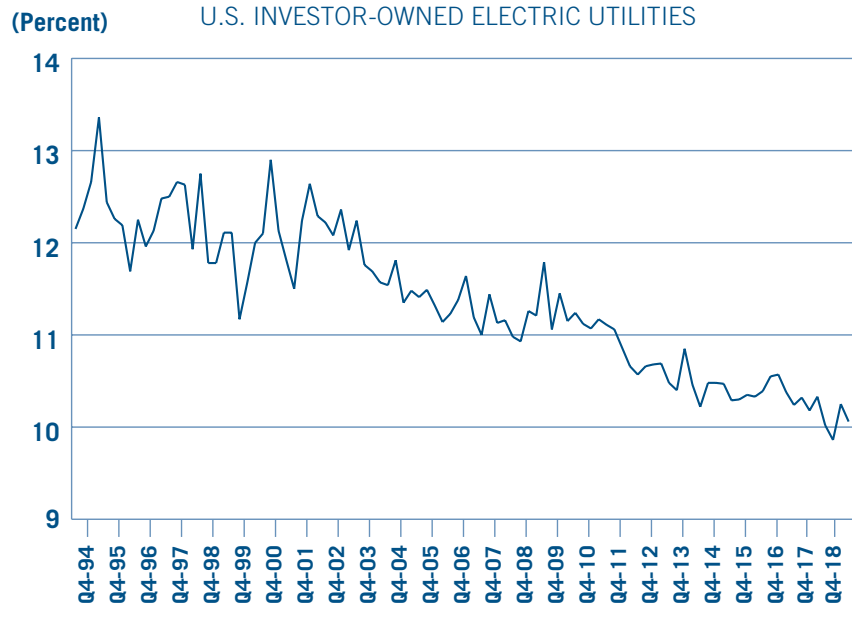
Pacific Gas and Electric sought to address wildfire issues in a December 2018 filing. The company asked for a \$925 million rate increase in part to implement wildfire safeguards and other safety and reliability measures. This request does not include costs tied to claims, which were uncertain at the time of the filing, associated with 2017 and 2018 wildfires. The company also sought to establish a ratemaking mechanism that would increase rates by \$454 million in 2021 and \$486 million in 2022. The company proposed to invest \$5 billion (approximately \$3 billion between 2018 and 2022) on wildfire safety programs that include prevention, risk monitoring, emergency response, vegetation management and system hardening to reduce wildfire risk. Measures would include installing stronger and more resilient

poles and covered power lines, adding 1,300 new weather stations, and placing more than 600 high-definition cameras across 2,000 miles of high-fire-risk areas by 2022. The company asked to establish balancing accounts, including one to capture the difference between covered and non-covered liabilities up to \$2 billion. The company would return to customers any overcollections resulting from inaccurate forecasts. The company said the 2018 Camp Fire weakened its credit and impaired its ability to raise debt and equity, which could negatively impact wild-fire safety efforts. [In January 2019, Pacific Gas and Electric Company's parent, PG&E Corporation, initiated voluntary reorganization proceedings under Chapter 11 of the U.S. Bankruptcy Code.]

Miscellaneous

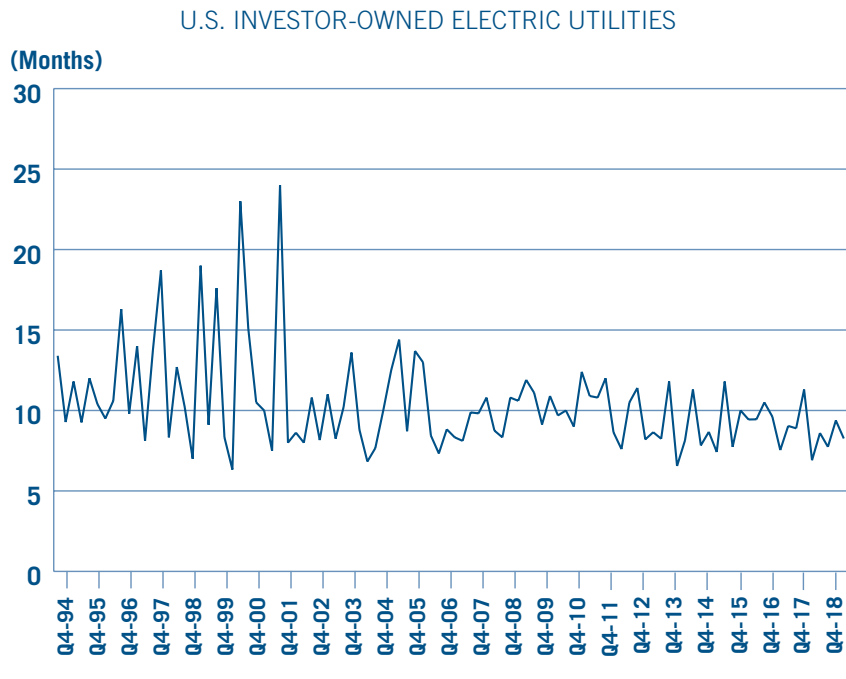
- *Electric-Company-Owned Solar* — Duke Energy Florida filed to recover for two photovoltaic plants. The average cost per kW for the plants is \$1,486, below the company's 2017 settlement-set \$1,650 cap.
- *Separate Rate Class for Net Metering* — Northwestern Corporation in Montana filed to create a separate rate class for future net metering customers. The company would charge a three-part rate (a customer charge, demand charge and a volumetric charge). The customer charge would be \$5.60.

Average Requested ROE 1994–2018



Source: S&P Global Market Intelligence/Regulatory Research Assoc. and EEI Rate Department.

Average Regulatory Lag 1994–2018



Source: S&P Global Market Intelligence/Regulatory Research Assoc. and EEI Rate Department.

Decided Reviews

Electric Vehicles

Narragansett Electric's rate review settlement in Rhode Island requires the company to implement a phased electric transportation initiative that includes an off-peak charging rebate program, a charging station demonstration program, and a pilot discount for fast chargers. The initiative also requires the company to report on: 1) how it can integrate electric vehicle infrastructure at minimal cost and 2) the effectiveness of each component of the initiative in stimulating adoption of electric vehicles.

Kansas City Power & Light in Missouri and KCP&L Greater Missouri Operations filed four partial settlements as part of their rate review. One allows the companies to include electric vehicle charging stations in rate base. As noted above in discussion of 2018's filed reviews, the commission had ruled previously that electric vehicle charging stations do not constitute electric plant and can not therefore be included in rate base. After an appeals court reversed the decision, the companies filed a settlement that requires them to create a new customer class for electric vehicle charging stations that avoids cross-subsidization with revenues from other customer classes.

In Kansas, Kansas City Power & Light's settlement approved the company's proposed electric vehicle (EV) rate schedule but did not address the effect on rate base of the plant and costs associated with EV infrastructure. Drawing upon its Missouri experience, the company said in its application that EV charg-

ing stations allow it to provide regulated service to mobile customers, that charging stations are part of the company's electric plant, and that electric utilities should recover for this regulated service in rates. The company suggested it may address the issue in its next rate review in Kansas but that the review may not occur for five years because its recent merger settlement stipulates a five-year rate freeze.

Duquesne Light's settlement in Pennsylvania allows it to implement a proposed EV pilot program. The program includes four components: 1) Installing level-two charging stations at company-owned facilities for employee use and at certain Port Authority locations for the Authority's electric bus evaluation program. The settlement limits investment in this part of the program to \$500,000. 2) Installing fast-charging stations at certain make-ready locations. The settlement limits investment in this part of the program to \$1.3 million, half in front of and including the meter, and half behind the meter in the form of rebates. 3) An education and outreach program the settlement limits to \$200,000. 4) Incentives for customers who register their electric vehicle with the company. The settlement limits these incentives to \$70,000. The settlement includes infrastructure costs associated with the program in rate base and all program costs will flow through base rates.

Rate Treatment of Cloud-Based Computing in Pennsylvania

The Pennsylvania Commission's decision in UGI Utilities' rate review allows the company to capital-

ize and include in rate base costs for its cloud-based computing initiative. The commission accepted the administrative law judges' conclusion that "the new databases will provide benefits to customers over extended periods of time and not just the period in which the costs are incurred." A settlement in Duquesne Light's review stipulated that the company capitalize cloud-based information system expenditures from May 1, 2015 forward as a regulatory asset.

Federal Tax Reform

Many rate reviews were impacted by federal tax reform. UGI Utilities' decision in Pennsylvania requires the company to refund to customers overcollections resulting from the federal tax reform act plus interest (based on mortgage interest rates) from January 1, 2018 through the date the rates go into effect. The overcollections are estimated to be \$212,000. The decision requires the company to amortize the regulatory liability associated with excess accumulated deferred income taxes (EADIT) over the life of the company's assets with the unamortized balance used to offset rate base. The company objected to the offset, saying that it treats "an expense item (federal corporate income taxes) and provide[s] customers a return thereon . . . and violates ratemaking principles by deducting the unamortized balance of an operating expense (taxes) from rate base. The fact that [the balance] has been deferred to the balance sheet should not affect this analysis." The commission rejected this argument, accepting the administrative law judges' conclusion (derived from commission

staff) that “the fact that the [deferred tax balance] is no longer due in future income tax payments, but is now due to ratepayers via a refund over the remaining useful life of the affected plant, does not change the fact that the Company has received this money from ratepayers in prior years, and the money has been available for infrastructure improvements. [The] original intent should be considered and that because the funds were an interest-free loan from the government (taxes due at some point in the future), and now due to the reclassification, the money is basically an interest-free loan from the ratepayers, the ratepayers should not be required to pay the Company a return on this balance during the time it takes to refund the money to them.” (Pennsylvania’s electric companies had argued any mechanism that requires flowback of cost savings from tax reform constitutes retroactive ratemaking.) The commission said “the tax savings and associated reductions in utility revenue requirements should be flowed back to consumers on a current basis. While ratemaking is generally prospective in nature, an exception to this rule applies in the case of expenses that are extraordinary, substantial, and nonrecurring . . .”

In Texas, Southwestern Public Service’s settlement addressed federal tax reform by lowering the revenue requirement by \$26.5 million. In addition, the settlement addressed EADIT liability and the treatment of net operating losses and balances. The revenue requirement reflects the amortization of protected and unprotected EADIT balances using

the average rate assumption method over essentially the remaining life of the related assets. The company will amortize unprotected, non-plant EADIT balances over five years and net operating loss balances over a 44-year period.

Entergy Texas’ settlement incorporates the effects of federal tax reform by granting rate credits to customers totaling \$25 million for overcollections in 2018. The credits will extend over ten months for large customers and over four years for smaller customers. The settlement stipulates that the company return the protected portion of the EADIT liability of \$242.5 million to customers through rate basing and amortization using the average rate assumption method. The company must amortize the unprotected liability of \$185.2 million over four years for residential and small commercial customers and over one year for large customers, with a 7.73% carrying charge to accrue on the unamortized balance. The company is to return these amounts to customers through a rider. Excluding the effect of tax reform and going forward, customers will receive a 5.9% rate increase. Tax reform results in a current rate reduction for customers of 7.6%.

Several other decisions in 2018 also addressed tax reform. While details vary, the broad outlines show similarity in rate treatment. The prime characteristic is that benefits from lower tax rates flow almost exclusively to customers.

Rate Change Allocation Across Rate Classes

Electric companies and commissions regularly allocate a rate change between customer classes in an attempt to either reduce cross-subsidization or achieve other policy objectives. The year offered numerous examples of electric company and commission attempts to correct for cross-subsidization.

Public Service Electric & Gas’s settlement in New Jersey allocates the company’s rate increase such that residential customers received a 3.16% bill increase, general lighting and power customers receive a 0.85% bill increase, and large customers receive increases between 0.45% and 0.65%. Indianapolis Power & Light’s settlement in Indiana assigns residential customers a 5% increase, commercial and industrial customers a 2% increase, and lighting customers an approximate 6% increase. Kansas City Power & Light’s settlements in Missouri gives residential and lighting customers a 1.43% rate reduction, medium-sized customers a 2.39% reduction, and large customers a 2.99% reduction.

UGI Utilities in Pennsylvania requested an increase in the residential customer charge from \$5.50 to \$14.00, saying its customer charge is below those of other Pennsylvania electric companies and cooperatives and that its fixed cost for a residential customer is approximately \$19.00. The commission agreed with the administrative law judges, who said the request was reasonable given their cost of service study results and the length of time since the last rate increase. The commis-

Commission Rulings On Customer Charges: 2018

Company	State	Original	Requested	Approved
Potomac Electric Power	DC	\$15.09	\$13.54	\$15.09
Delmarva Power & Light	Delaware	\$11.50	\$13.51	\$11.50
Hawaiian Electric Light	Hawaii	\$10.50	\$14.50	\$11.50
		\$15.00 (three phase)		\$16.00 (three phase)
Indiana Michigan Power	Indiana	\$7.30	\$18.00	\$10.50
				\$11.50 (time of use)
Indianapolis Power & Light	Indiana	\$17.00 (350 kWh usage and above)	\$27.00 (350 kWh usage and above)	\$17.00 (350 kWh usage and above)
		\$11.25 (less than 350 kWh usage)	\$16.00 (less than 350 kWh usage)	\$12.50 (less than 350 kWh usage)
Interstate Power & Light	Iowa	\$10.50	\$13.50	\$11.50
Kansas City Power & Light	Kansas	\$14	\$15.18	\$14.25
Duke Energy Kentucky	Kentucky	\$4.50	\$11.22	\$11.00
Kentucky Power	Kentucky	\$11.00	\$17.50	\$14.00
				\$14.50 (optional residential demand metered service)
Emera Maine – Bangor Hydro District	Maine	\$10.92 (time of use)	\$12.23 (time of use)	\$11.50 (time of use)
Delmarva Power & Light	Maryland	\$8.17	\$9.08	\$8.30
		\$12.02 (time of use)	\$13.37 (time of use)	\$12.30 (time of use)
Potomac Electric Power	Maryland	\$7.80	\$8.01	\$7.80
		\$16.77 (time of use)	\$17.25 (time of use)	\$16.77 (time of use)
DTE Energy	Michigan	\$7.50	\$9.00	\$7.50
Indiana Michigan Power	Michigan	\$7.25	\$18.00	\$7.25
Minnesota Power	Minnesota	\$8.00	\$9.00	\$8.00
Public Service Electric & Gas	New Jersey	\$2.27	\$4.24 (first year)	\$4.64
			\$6.21 (second year)	
			\$8.18 (third year)	
Southwestern Public Service	New Mexico	\$8.50	\$9.50	\$8.75
		\$9.50 (time of use)	\$10.50 (time of use)	\$9.75 (time of use)
Duke Energy Carolinas	North Carolina	\$11.80	\$17.79	\$14
Duke Energy Progress	North Carolina	\$11.13	\$19.50	\$14.00
		\$14.13 (time of use)	\$22.35 (time of use)	\$16.85 (time of use)
Otter Tail Power	North Dakota	\$8.00	\$17.70	\$14.00 (commission order modified settlement stipulating \$15.23)
		\$18.38 (demand controlled)	\$20.10 (demand controlled)	\$20.10 (demand controlled)
Dayton Power and Light	Ohio	\$4.25-\$5.00 (depending on usage)	\$13.73	\$7.00
Duquesne Light	Pennsylvania	\$10.00	\$16.25	\$12.50
PECO Energy	Pennsylvania	\$8.45	\$12.50	\$10.00
UGI Utilities	Pennsylvania	\$5.50	\$14.00	\$14.00
Narragansett Electric	Rhode Island	\$5.00	\$8.50	\$6.00 (will be phased in for low income customers)
Entergy Texas	Texas	\$7.00	\$13.64	\$10
Texas-New Mexico Power	Texas	\$6.25		\$7.85
Kentucky Utilities	Virginia	\$12.00	\$16.00	\$12.00
Avista	Washington	\$8.50	\$10.00	\$9.00

sion said: “The record indicates the residential class has been significantly subsidized by other customer classes relative to its cost of service.” Commission staff and the Office of Consumer Advocate argued that the commission should employ gradualism in alleviating subsidies, while the commission said, “gradualism concerns should not trump cost of service considerations.”

Return on Equity

UGI Utilities (UGIU) in Pennsylvania had asked for a 20-basis-point return on equity (ROE) premium to reward its service quality initiatives, such as its long-term infrastructure improvement program, voluntary energy efficiency programs, customer satisfaction initiatives, and workforce safety and training programs. The commission said the company “has been consistently recognized for high customer satisfaction. Additionally, UGIU has consistently exceeded its benchmark service reliability metrics . . . In light of the above, we are of the opinion that UGIU has demonstrated its commitment to, and focus on, providing and improving its provision of safe, reliable and quality distribution services to its customers. As such, we find that the management efforts UGIU has highlighted in the record evidence in this proceeding support an additional upward adjustment to the company’s rate of return.” The commission awarded the company a five-basis-point ROE premium.

Otherwise, the commission based the ROE calculation primarily on discounted cash flow analysis, rejecting two of the utilities in the proxy group suggested by the company be-

cause less than 50% of those companies’ revenues came from their electric business. UGIU had identified risk factors it suggested warranted a higher ROE, including rising interest rates, federal tax reform and volatility in common stock ratings. The commission rejected these risk factors as speculative.

Entergy Arkansas’s formula rate plan specifies a target ROE of 9.75% (with a dead band of 50 basis points plus or minus). This ROE would have supported a rate increase for the company of \$189.7 million. However, state law caps the increase for any customer class to 4%, which limits the company’s rate increase to \$66.7 million and makes the target ROE unachievable.

Grid Modernization

Duke Energy Ohio’s settlement allows the company to implement a rider for costs of “the continued evolution of the distribution grid and an enhanced customer experience, including programs, modifications, and offerings that may be engendered by the Commission’s PowerForward, or grid modernization review.” The rider has three components: The first will address commission directives from the PowerForward proceeding. The second will address data access and advanced metering infrastructure. The third will address infrastructure modernization.

The Virginia commission approved Virginia Electric & Power’s ability to recover through its rider additional investment in undergrounding at-risk facilities. The review was filed in response to Virginia Senate Bill 966,

which addressed grid reliability and modernization, among other issues. The law permits investment in these types of programs up to 5% of the distribution rate base. The law also provides that electric utilities replace with underground facilities any overhead distribution tap lines that averaged nine or more unplanned outages over the past ten years.

The Maine commission did not exclude certain distribution investments, such as a Tesla Powerwall residential battery storage pilot program, from Green Mountain Power’s rate review. However, the commission required the company “to explain its plans for a modern and reliable grid,” and noted that “in addition to the traditional regulatory principles that utility investments must be prudent, useful, and measurable, GMP’s reliability and automation investments must be the product of sound planning principles that are consistent with Vermont’s energy policies.”

Kentucky Power

A non-unanimous settlement (the attorney general did not sign) awarded Kentucky Power an increase in its monthly residential customer charge to \$14 from \$11. The commission found the increase to be “consistent with the principle of gradualism that the Commission has long employed.” However, it reduced the stipulated 9.75% ROE to 9.7%, arguing that “the economy of Eastern Kentucky has lagged behind national and state trends. Employment trends have not recovered to pre-recession levels, earnings trends remain stagnant and lag behind state trends, and poverty rates in the majority of [the company’s] service territory are

24.4 percent or higher.” The commission said it is “cognizant of the risk inherent to Kentucky Power’s service territory and load profile. The commission noted the Attorney General’s position that Eastern Kentucky has been economically depressed for the past decade and that the Commission should consider the economic conditions of the region in evaluating the overall rates and rate design. Therefore, given the adverse economic situation of the service territory of high unemployment, low earnings, and high poverty rates, the Commission finds a lower ROE will allow [the company] to earn a fair return while reflecting the economic situation of the customers.” Barring certain emergency situations, the settlement prevents the company from filing another rate increase until 2021.

Public Service Oklahoma

The Oklahoma commission litigated Public Service Company of Oklahoma’s case in seven months. This was much faster than other Oklahoma cases in recent years. The previous lag caused the state governor to create a task force to examine the issue. After a year-long review, the task force released its report in November 2018. The commission disallowed incentive compensation costs based on performance measures that it determined benefitted shareholders but not customers. The commission also disallowed certain executive retirement plan expenses, finding that “shareholders should bear the additional costs associated with supplemental benefits to executives.”

Duke Energy Kentucky

The commission rejected the company’s request to initiate a “targeted underground” program and associated rider for certain safety and reliability projects. The commission said the company failed to establish the need and that “The record . . . indicates that Duke Kentucky’s electric distribution system is performing well based on customer expectations and reliability metrics.” The commission also rejected the company’s request to implement a mechanism to recover incremental transmission-related costs on an expedited basis, adding “Although the Commission is aware that it recently approved a similar rider for Kentucky Power . . . the decision in that proceeding was based on evidence that demonstrated that Kentucky Power’s transmission costs were significant and volatile; therefore approval of such a rider was warranted in that proceeding.” The commission also rejected a proposed fixed-bill program in which a customer would pay a flat monthly charge for 12 months. However, the commission approved an environmental cost recovery rider.

Connecticut Light & Power

The commission approved the first electric rate review settlement in Connecticut since 1990. The settlement requires Connecticut Light & Power to share equally with customers all revenues associated with an ROE greater than 9.25%. However, the company will apply the customer’s share first to environmental remediation costs and then to catastrophic storm costs before reducing rates. The settlement also allows the company to implement a capital

tracking mechanism to recover core capital, system resiliency and grid modernization costs. The settlement expands an electric vehicle program to include publicly and privately owned charging stations as long as those stations are publicly accessible.

Public Service Company of Colorado

The commission rejected the company’s rate review on procedural grounds even though a settlement had been reached. The commission found several factors were adding complexity to the review, including: 1) a lack of clarity about the impact of federal tax reform, particularly whether settlement terms properly balance the benefits of a reduced tax rate between customers and shareholders; 2) recent state legislation that might have an effect on the case, and 3) the late introduction of cost recovery for a wind project. The commission also rejected a joint motion among the parties to amend the procedural schedule, voiding all activity with regard to the review.

Central Hudson Gas & Electric New York

The company’s settled rate review allows an 8.8% ROE, one of the lowest allowed ROEs outside of a formula rate review in recent decades. The settlement and order adopted an increasing equity ratio over a three-year period, in large part to address concerns related to the negative credit implications for the company resulting from federal tax reform.

Duke Energy Carolinas — North Carolina

Part of the company's review was settled, but the commission disallowed a grid reliability and resiliency rider saying the company "failed to show that exceptional circumstances exist to justify the establishment of the Grid Rider." The grid project would have included undergrounding, volt/var control systems, 300 megawatts of energy storage, a \$25 million investment in electric vehicle charging stations by 2021, and enhancements to the customer information system. The commission also assessed a \$70 million penalty for the company's coal ash management practices. However, the commission noted that its "duty is not to determine liability to and assess damages for torts committed by management for injury to the environment. . . . Environmental regulators and courts of general jurisdiction are the appropriate arbitrators of those disputes. . . . The issue before this economic regulatory tribunal is imprudence — who should bear the remediation costs — the utility's stockholders or its consumers and on the basis of what justification."

Dayton Power and Light

Almost three years elapsed between Dayton Power and Light's filing and the decision approving the company's settlement; the company's electric security plan proceeding interrupted the review and took precedence. The electric security plan proceeding determined that the company must use a distribution modernization rider mechanism to facilitate certain distribution and transmission projects and to pay interest obligations, make dis-

cretionary debt prepayments, and otherwise position the company to make investments to modernize and maintain its system. The settlement requires the company to work with the Ohio Consumer's Council to develop an annual plan for "proactive distribution maintenance that will focus spending on areas having the greatest impact on maintaining and improving reliability for customers."

Westar Energy (now Evergy)

The Sierra Club, Vote Solar and The Climate and Energy Project did not sign Westar's settlement in Kansas, saying it allocates too small a portion of the rate reduction to customers with distributed generation. The three groups said the allocation was not cost based and was discriminatory. The Sierra Club additionally objected to the portion of rates attributed to coal generating units, which it said Westar failed to show as economic. The settlement implements across-the-board, three-part rates for Westar's residential distributed generation customers; these incorporate a \$14.50 customer charge, a \$9.00 demand charge in the summer and a \$3.00 demand charge in the winter.

Miscellaneous

- *Kemper Removed from Settlement:* Mississippi Power's settlement removed the Kemper coal gasification plant and requires the company to sell any associated land not needed for operations. The Kemper plant incurred charges of \$6 billion (\$4 billion after tax).
- *Need for efficiency, reliability, affordability:* In approving Oklahoma Gas and Electric's

settlement agreement, the commission reaffirmed that affordability and reliability cannot be discounted in light of technology adoption, noting, "As our technology has advanced, the need for efficient, reliable and affordable delivery of electricity has increased drastically, and will continue to grow in the future."

- *Test Year* – The Pennsylvania commission, in UGI Utilities' review, allowed the company to use a fully forecasted test year with a test-year-end rate base. This technique decreases regulatory lag and ameliorates its inherent problems.
- *Time-of-Use Rates* – Settlements in Missouri require Kansas City Power & Light and KCP&L Greater Missouri Operations to file an optional residential time-of-use rate and create a customer research, education and marketing plan to promote the program. Duquesne Light's settlement in Pennsylvania requires the parties to participate in a collaborative process in implementing time-of-use rates.
- *Rate Design in the Competitive Market* – NRG Energy opposed PECO Energy's settlement in Pennsylvania. The settlement did not adopt NRG's proposal to change the way costs had been allocated since the start of competition in the state. NRG's proposal would have increased the competitive portion of the rate and thus made the optional rate less competitive in the market. The commission commented that NRG "has presented no per-

suasive or compelling evidence demonstrating that the current allocations are unfair, or that its proposed reallocations are a more equitable result than PECO's proposed rates.”

- *Peak Demand Rates for Low Load Factor Customers* – Madison Gas and Electric's settlement in Wisconsin incorporates the company's proposal for customers with a load factor less than 15% that will reduce maximum monthly on-peak demand rates by 50%. The company found evidence that low load factor customers were not causing demand-related costs consistent with their demand charges.

Business Strategies

Business Segmentation

The industry's regulated business segments — regulated electric and natural gas distribution — grew combined assets by \$62.3 billion, or 4.8%, in 2018, extending a multi-year trend and driving a \$58.9 billion, or 3.8%, increase in total industry assets. Regulated assets rose to an 81.5% share of industry assets at year end, up from 80.9% at year-end 2017. A record-high \$119.5 billion of capital expenditures and generally constructive regulatory relations supported the increase in regulated assets.

Revenue was virtually unchanged for the Regulated Electric segment, falling by \$99 million, or 0.0%. Natural Gas Distribution showed the largest revenue growth, at \$1.3 billion, while Competitive Energy revenue declined by \$1.0 billion. Overall, industry revenue rose by \$2.0 billion, or 0.5%, from 2017's total.

The Natural Gas Distribution segment was enlarged by several acquisitions that closed during 2016; these supported the segment's lead in revenue growth over the last three years. Conversely, the Competitive Energy

segment saw an approximate 2.0% decrease in both assets and revenue.

2018 Revenue by Segment

Regulated Electric revenue was nearly unchanged in 2018, falling by \$99 million, or 0.04%, to \$254.8 billion from \$254.9 billion in 2017. The segment's share of industry revenue edged down to 67.5% from 68.0% in 2017, yet it remained well above the 52.1% level of 2005.

Natural Gas Distribution revenue rose by \$1.3 billion, or 3.0%, to \$45.4 billion from \$44.1 billion in 2017. This followed a 17.6%

Business Segmentation—Revenues

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	2018	2017r	Difference	% Change
Regulated Electric	254,836	254,935	(99)	0.0%
Competitive Energy	54,329	55,367	(1,037)	-1.9%
Natural Gas Distribution	45,434	44,117	1,318	3.0%
Natural Gas Pipeline	5,201	4,578	623	13.6%
Natural Gas and Oil Exploration & Production	—	—	—	0.0%
Other	17,637	15,871	1,766	11.1%
Discontinued Operations	—	(0)	0	-100.0%
Eliminations/Reconciling Items	(11,463)	(10,854)	(609)	5.6%
Total Revenues	365,975	364,014	1,961	0.5%

r = revised

Note: Difference and percent change columns may reflect rounding. Totals may reflect rounding.

Business Segmentation—Assets

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	12/31/2018	12/31/2017 ^r	Difference	% Change
Regulated Electric	1,152,743	1,107,753	44,989	4.1%
Competitive Energy	188,859	192,764	(3,904)	-2.0%
Natural Gas Distribution	213,481	196,212	17,268	8.8%
Natural Gas Pipeline	22,862	25,678	(2,816)	-11.0%
Natural Gas and Oil Exploration & Production	722	797	(75)	-9.4%
Other	96,510	88,677	7,833	8.8%
Discontinued Operations	3	5	(2)	-48.3%
Eliminations/Reconciling Items	(50,210)	(45,832)	(4,378)	9.6%
Total Assets	1,624,969	1,566,054	58,915	3.8%

r = revised

Note: Difference and percent change columns may reflect rounding. Totals may reflect rounding.

increase in 2017 and an 8.9% increase in 2016, gains due in part to the completion in 2016 of four large acquisitions of natural gas distribution businesses.

Total regulated revenue — the sum of the Regulated Electric and Natural Gas Distribution segments — increased by \$1.2 billion, or 0.4%, to \$300.3 billion in 2018. The industry's focus on regulated operations has driven a steady growth in these segments' share of industry revenue; regulated revenue accounted for 79.5% of industry revenue in 2018, well above 2005's 65.3% level.

The *Business Segmentation—Revenues* table presents the industry's revenue breakdown by business segment. Eliminations and reconciling items were added back to total revenue to arrive at the denominator for the segment percentage calcula-

tions shown in the graphs *Revenue Breakdown 2018 and 2017*.

2018 Assets by Segment

Regulated Electric assets increased to 68.8% of industry assets at December 31, 2018 from 68.7% at December 31, 2017, rising in dollar terms by \$45.0 billion, or 4.1%, over the year-end 2017 level. Competitive Energy assets decreased by \$3.9 billion, or 2.0%, from year-end 2017. Natural Gas Distribution assets showed the highest percentage growth for the third consecutive year, jumping \$17.3 billion, or 8.8%. Natural Gas Pipeline assets experienced a drop of \$2.8 billion, or 11.0%. The asset total in the very small Natural Gas and Oil Exploration & Production segment fell 9.4%, to \$722 million.

Total regulated assets (Regulated Electric plus Natural Gas

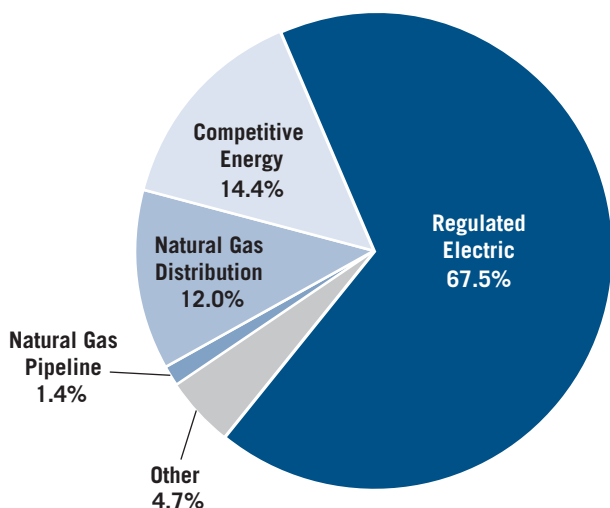
Distribution) grew to 81.5% of total industry assets at year-end 2018 from 80.9% on December 31, 2017. This aggregate measure has risen steadily from 61.6% at year-end 2002, underscoring the industry's significant regulated rate base growth in recent years and the fact that several companies sold off non-core businesses during the period. During 2018, 63% of companies increased regulated assets as a percent of total assets (or maintained a 100% regulated structure).

Regulated Electric

Regulated Electric segment operations include the generation, transmission and distribution of electricity under state regulation for residential, commercial and industrial customers. Regulated Electric revenues were nearly unchanged in 2018, falling by \$99 million, or 0.04%, although thirty-one compa-

Revenue Breakdown 2018

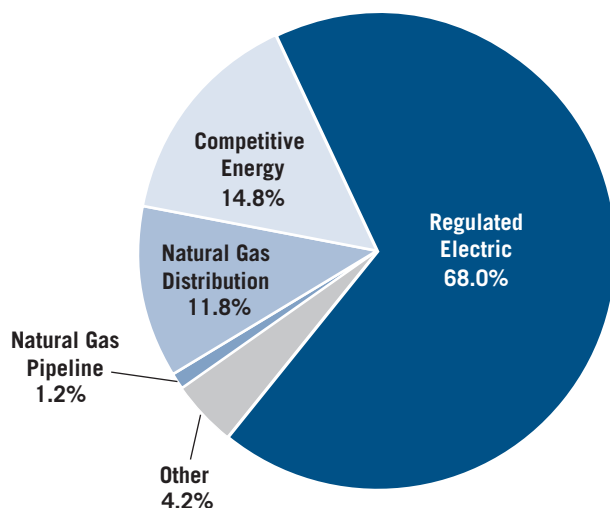
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

Revenue Breakdown 2017r

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

ies, or 66% of the industry, experienced a revenue increase. For the industry as a whole, segment revenue grew 0.8% in 2017, declined slightly in 2016 (-0.1%) and 2015 (-2.6%), and grew in 2014 (+4.9%) and 2013 (+4.7%). During the 2008 through 2012 period, annual electric output rose only in 2010 (+3.7%). Until recently, a year-to-year output decline was a rare event in an industry that typically experienced low-single-digit percent demand growth. Energy efficiency initiatives, demand-side management programs and the off-shoring of formerly U.S.-based manufacturing and heavy industry continue to constrain growth in electricity demand.

Competitive Energy

Competitive Energy revenue decreased 1.9% to \$54.3 billion from \$55.4 billion in 2017, largely due to the discontinuance of this business

segment at two Ohio-based utilities. FirstEnergy removed its Competitive Energy Services operations and DPL removed its Generation business from their respective business segmentation reporting, as both companies are discontinuing these competitive businesses. Competitive Energy revenue has generally declined over recent years as companies exited the segment while growing regulated operations. In fact, the Competitive Energy segment's 2016 revenue, at \$53.4 billion, was its lowest annual total in data going back to 2000. The segment's annual revenue peaked at \$113.2 billion in 2008. Competitive Energy covers the generation and/or sale of electricity in competitive markets, including both wholesale and retail transactions. Wholesale buyers are typically regional power pools, large industrial customers and electric utilities seeking to supplement generation

capacity. Competitive Energy also includes the trading and marketing of natural gas. Of the 22 companies that maintain Competitive Energy operations, just over half (12 companies, or 55%) grew these assets during 2018 and 64% had revenue gains from the segment.

Natural Gas

Natural Gas Distribution revenue rose by \$1.3 billion, or 3.0%, the largest gain in dollar terms of all five primary business segments. This followed increases of \$6.6 billion (+7.6%) in 2017, \$3.0 billion (+8.9%) in 2016 and a decline of \$7.8 billion (-19.2%) in 2015 due to a mild winter and falling natural gas prices. The large gas acquisitions that were completed in 2016 — Southern Company's purchase of AGL Resources, Dominion Resources' purchase of Questar, Duke Energy's acquisition of

Piedmont Natural Gas and Black Hills’ acquisition of SourceGas Holdings — drove the segment’s revenue growth in 2018, 2017 and 2016. Total gas distribution revenue for these four acquiring companies increased more than six-fold over the last three years, rising to \$7.83 billion in 2018 from \$1.26 billion in 2015. Overall, 24 of the 28 companies (86%) that report gas distribution revenue showed a year-to-year increase in 2018. This followed an increase for 93% of companies in 2017.

Natural Gas Distribution includes the delivery of natural gas to homes, businesses and industrial customers throughout the United States. The Natural Gas Pipeline business concentrates on the transmission and storage of natural gas for local distribution companies, marketers and

traders, electric power generators and natural gas producers. Added together, Natural Gas Distribution and Natural Gas Pipeline activities produced revenue of \$50.6 billion in 2018, up from \$48.7 billion in 2017. In percentage terms, the contribution to total industry revenue from these two natural gas activities increased to 13.4% in 2018 from 13.0% in 2017.

The Natural Gas and Oil Exploration & Production segment has undergone a steady decline in size over the past decade; Black Hills was the last in our universe of companies to exit these operations. No companies reported revenue for this business segment in 2018 or 2017. Only two companies carried a small amount of related assets as of December 31, 2018.

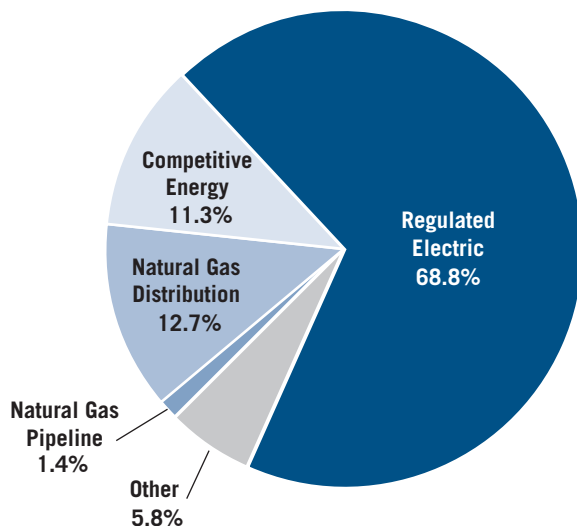
2018 Year-End List of Companies by Category

Early each calendar year, EEI updates our list of investor-owned electric utility holding companies organized by business category. The list is based on previous year-end business segmentation data presented in 10-K’s and supplemented by discussions with parent companies. Our categories are as follows: Regulated (80% or more of holding company assets are regulated) and Mostly Regulated (less than 80% of holding company assets are regulated). Starting January 1, 2017, the Diversified category, which represented companies with less than 50% of holding company assets that are regulated, was terminated due to its dwindling number of members.

We use assets rather than revenue for determining category member-

Asset Breakdown As of December 31, 2018

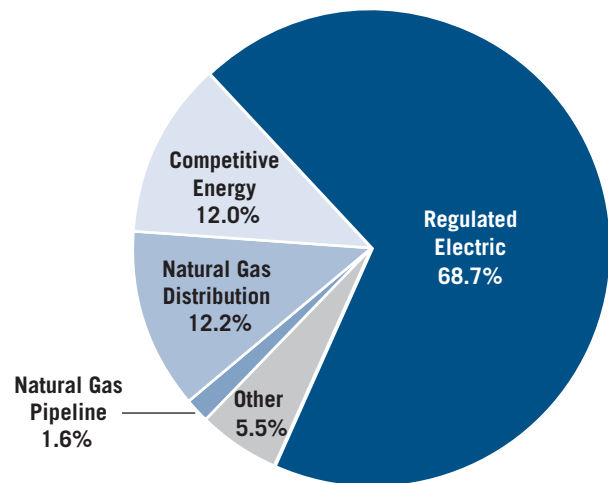
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

Asset Breakdown As of December 31, 2017r

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

List of Companies by Category at December 31, 2018

Regulated (36)

Alliant Energy Corporation	El Paso Electric Company	Pinnacle West Capital Corporation
Ameren Corporation	Entergy Corporation	PNM Resources, Inc.
American Electric Power Company, Inc.	Evergy, Inc.	Portland General Electric Company
Avista Corporation	Eversource Energy	PPL Corporation
Black Hills Corporation	FirstEnergy Corp.	<i>Puget Energy, Inc.*</i>
<i>Cleco Corporation*</i>	IDACORP, Inc.	SCANA Corporation
CMS Energy Corporation	<i>IPALCO Enterprises, Inc.*</i>	Southern Company
Consolidated Edison, Inc.	NiSource Inc.	Unitil Corporation
Dominion Energy, Inc.	NorthWestern Corporation	Vectren Corporation
<i>DPL Inc.*</i>	MGE Energy, Inc.	WEC Energy Group, Inc.
Duke Energy Corporation	OGE Energy Corp.	Xcel Energy Inc.
Edison International	Otter Tail Corporation	
	PG&E Corporation	

Mostly Regulated (11)

ALLETE, Inc.	DTE Energy Company	NextEra Energy, Inc.
AVANGRID, Inc.	Exelon Corporation	Public Service Enterprise Group Incorporated
<i>Berkshire Hathaway Energy*</i>	Hawaiian Electric Industries, Inc.	Sempra Energy
CenterPoint Energy, Inc.	MDU Resources Group, Inc.	

Note:* Non-publicly traded companies.

ship because we believe assets provide a clearer picture of strategic trends. Fluctuating natural gas and power prices can impact revenue so greatly that a company's strategic approach to business segmentation is distorted by reliance on revenue data alone. Comparing the list of companies from year to year reveals company migrations between categories and indicates the general trend in industry business models. We also base our quarterly category financial data during the year on this list.

There was a modest movement between categories in 2018. The Regulated category remained at 36 companies as two additions were off-

set by deletions related to merger activity. Dominion Energy and MGE Energy were added as their regulated asset percentages rose above 80%. Oncor Electric Delivery Company was removed due to its acquisition by Sempra Energy. The merger of Westar and Great Plains Energy to form Evergy also reduced the category by one company.

The Mostly Regulated category fell from 13 to 11 companies due to Dominion Energy and MGE Energy's migration to the Regulated category.

The total number of companies in the EEI universe fell from 49 at year-end 2017 to 47 at year-end 2018, a

result of two completed mergers. In March 2018, Sempra Energy closed its acquisition of Energy Future Holdings Corp. (EHF), including EHF's approximate 80 percent indirect ownership interest in Oncor Electric Company LLC. In May, Westar and Great Plains Energy completed their merger, creating the newly formed Evergy, Inc. At year-end 2018, the EEI universe included 36 Regulated and 11 Mostly Regulated utility holding companies. (see *List of Companies by Category at December 31, 2018*).

Mergers and Acquisitions

Years of mergers have shrunk the number of publicly-traded utility holding companies tracked by EEI to 42 at year-end 2018 from more than 80 at the start of the century. The last five years — 2013 through 2017 — produced 24 announced mergers of utility holding companies and 18 completed deals. Only two whole company deals were announced in 2018 as buyers digested recent acquisitions, surveyed the landscape of remaining opportunities and managed through the impact of tax reform on balance sheets

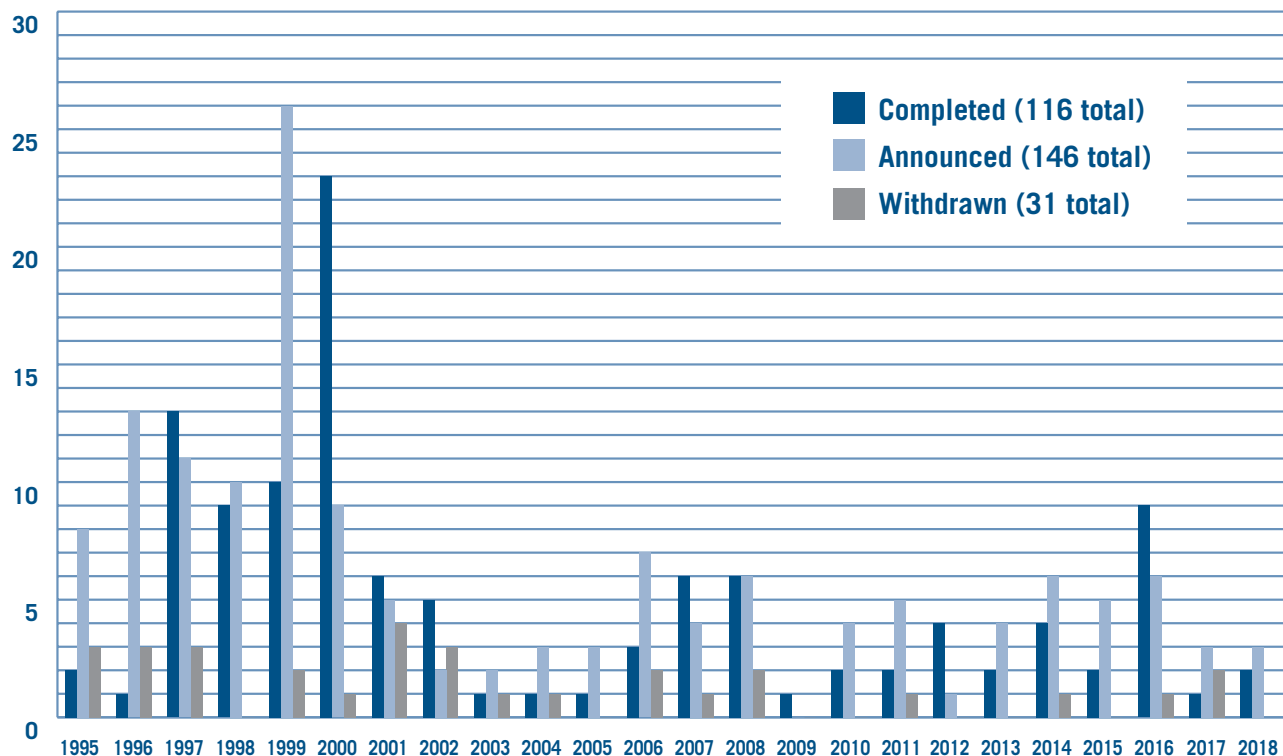
and strategies. But the pause was balanced by movement of assets within the industry as a result of restructurings and portfolio rationalizations. Persistently low global interest rates continued to drive pension fund and sovereign wealth fund interest in regulated assets that offer steady return potential well-above the meager yields available from bonds. Private equity buyers took on more renewable assets. And utility buyers focused on deepening regional footprints, capturing regulated electric and natural gas rate base growth opportunities and building renewable energy portfolios.

The year's two announced combinations of regulated utility holding companies compared with three in 2017 and six in 2016. Dominion Energy acquired South Carolina-based utility SCANA to fortify its regional presence in the Southeastern U.S. and cultivate opportunities for generation investment and natural gas pipeline expansion. CenterPoint Energy acquired Vectren to capture opportunities for synergistic growth and investment in their combined regulated utility businesses, emphasizing upgrades to natural gas distribution systems and replacement of aging pipelines.

Status of Mergers & Acquisitions 1995–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(Number of Mergers & Acquisitions)



Source: EEI Finance Department.

M&A involving operating companies and asset sales ran the gamut of themes evident in recent years. Louisiana regulated utility Cleco bought restructured independent power producer NRG's South Central generating business, with its 3.5 gigawatt portfolio, to fortify its presence in the state. NRG sold its renewables business and yieldco to private equity fund manager Global Infrastructure Partners. NextEra Energy acquired Southern Company's Gulf Power and Florida Gas utilities to solidify NextEra

Energy's Florida footprint and execute on investment opportunities at the two former Southern Company utilities. Canadian and Dutch pension fund buyers bought infrastructure investor Macquarie's interest in Washington's Puget Sound Energy. A restructured Sempra sold its renewable portfolio to ConEd, making the old-line New York utility the nation's second largest solar power producer. And Sempra, along with its majority-owned Texas distribution unit Oncor, bought InfraREIT, a real estate investment trust (REIT)

that owns and leases rate-regulated electricity delivery infrastructure assets in Texas.

Three whole company deals closed and one was withdrawn (including early 2019 actions). In early June 2018, after two years of effort, Westar Energy and Great Plains Energy completed their proposed merger that formed the new utility, Evergy, Inc. Dominion Energy and SCANA successfully closed their combination on New Year's Day 2019, while CenterPoint Energy and Vectren finalized theirs on February 1, 2019. On January 23, 2019, Canadian utility Hydro One and Washington State's Avista mutually terminated their plan to combine after Washington state regulators rejected the deal citing concern about the province of Ontario's political influence over Hydro One.

Announced Transactions

Dominion Energy Buys SCANA

The year's biggest deal was also its first. On January 3, 2018, Virginia's Dominion Energy and South Carolina-based SCANA said they hope to merge in a stock-for-stock transaction that would pay SCANA shareholders 0.6690 shares of Dominion Energy's common stock, producing an equity value of \$7.9 billion and total value of \$14.6 billion including assumption of debt. The price represented an approximate 31 percent premium for SCANA shareholders, who would own 13 percent of the combined company.

Dominion Energy called the merger a strategic combination and termed SCANA a natural fit, noting Dominion Energy's presence in the

Status of Announced Mergers & Acquisitions 1995–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Year	Completed	Announced	Withdrawn
1995	2	8	3
1996	1	13	3
1997	13	11	3
1998	9	10	–
1999	10	26	2
2000	23	9	1
2001	6	5	4
2002	5	2	3
2003	1	2	1
2004	1	3	1
2005	1	3	–
2006	3	7	2
2007	6	4	1
2008	6	6	2
2009	1	–	–
2010	2	4	–
2011	2	5	1
2012	4	1	–
2013	2	4	–
2014	4	6	1
2015	2	5	–
2016	9	6	1
2017	1	3	2
2018	2	3	–
Totals	116	146	31

Source: EEI Finance Department.

Carolinas — through its Dominion Energy Carolina Gas Transmission, electric utility Dominion Energy North Carolina, and Atlantic Coast Pipeline operations — complements those of SCANA's South Carolina regulated electric and gas subsidiary SCE&G and North Carolina gas utility PSNC Energy. Dominion Energy said the deal supports new expansion opportunities in the southeast U.S. and can boost its earnings growth rate through 2020 to eight percent or higher. SCANA has bucked flat nationwide power demand with its customer count and weather-normalized energy sales growing at about two percent annually. Dominion Energy also noted that the merger would be accretive to earnings upon closing.

The companies said a key benefit for SCANA is Dominion Energy's ability — given its larger size and financial strength — to fully resolve the July 2017 decision to cease construction of two new nuclear units at the V.C. Summer Nuclear Station in Jenkinsville, South Carolina. SCANA was part owner of the project, which it deemed prohibitively expensive to complete following the bankruptcy of the nuclear plants' contractor (Westinghouse) and a venture partner's move to abandon the project. Low natural gas prices have made costly nuclear plants far less profitable than what was expected when the construction process began ten years ago. The companies said the merger agreement seeks to offset project costs borne by SCANA's SCE&G electric customers through reductions in monthly bills totaling more than \$2 billion

over 20 years and the write-downs and absorption of about \$2.5 billion in financing obligations, regulatory assets and a natural gas-fired power station. SCANA said a merger with Dominion Energy would strengthen the company and enable it to once again focus on core operations. SCANA would operate as a wholly owned subsidiary of Dominion Energy, maintaining its local management structure and the headquarters of its SCE&G utility in South Carolina. Dominion Energy also agreed to freeze base rates for SCANA's electric and gas utility customers until 2021.

The merger was completed on January 2, 2019 after approval from state regulators in South Carolina, North Carolina, Georgia, the Federal Energy Regulatory Commission (FERC) and the Nuclear Regulatory Commission (NRC).

Cleco Acquires NRG's South Central Generating Business

On February 7, Louisiana-based regulated utility Cleco said it would acquire independent power producer NRG's South Central Generating business — including eight generating assets with capacity totaling 3,555 MW, transmission operations and contracts to provide wholesale power to Louisiana cooperatives and municipalities across Arkansas, Louisiana and Texas — for a purchase price of \$1 billion. Cleco formed a new unregulated subsidiary, Cleco Energy, to acquire the assets, although it said the long-term plan will be to merge the companies under one regulated entity. Cleco said the acquisition, the largest in its 85-year history, supports its vision

of being Louisiana's leading energy company by more than doubling its generation capacity, increasing its customer base by 77% and providing access to key industrial and residential growth areas in the region. It said the transaction will enable enhanced service through the sharing of operational expertise and management best practices, and that electricity rates for Cleco Energy and Cleco Power customers will not be impacted. Employment levels, employee compensation levels and employee benefits will be maintained for Cleco Power, Cleco Energy and Cleco employees. The acquisition was completed on February 4, 2019 after approvals from Louisiana regulators, the Texas Public Utility Commission (PUCT), the Federal Energy Regulatory Commission and the Federal Trade Commission.

Infrastructure Group Buys NRG Renewables Business

The sale of South Central to Cleco was part of a larger move announced the same day by NRG that included the sale of its ownership in yield-co NRG Yield and related renewable energy development and operations business to global infrastructure private equity firm Global Infrastructure Partners (GIP) for cash proceeds of \$1.375 billion. The transaction was completed on August 31, 2018.

NRG, which began a restructuring program in 2017 partly in response to pressure from activist investors, said the asset sales were instrumental in simplifying its value proposition, optimizing its portfolio, and strengthening its balance sheet through removal of about \$7 billion in debt associated with the

assets. NRG in 2017 said the traditional independent power producer business model, focused on wholesale generation, was no longer viable after the collapse in competitive power prices in recent years and has expanded its retail electricity supply business as a counter-cyclical revenue hedge; if wholesale generation prices fall, rising retail load may offset the impact, and vice versa. GIP said the acquired businesses were complementary to its current portfolio and well-positioned to capitalize on growing demand for low-cost, clean energy.

CenterPoint Energy Acquires Vectren

CenterPoint Energy and Vectren announced on April 23 that CenterPoint Energy would acquire Vectren for \$72.00 per share in cash, about a 10% premium to Vectren's pre-deal price. The companies said this deal was motivated by opportunities for synergistic growth in their natural gas utility businesses. Vectren's stock had previously risen after news reports in August 2017 said it was working with a financial adviser in response to takeover interest from potential buyers. Both companies are targeting growth through regulated gas infrastructure in their service territories. CenterPoint Energy is reducing its exposure to the midstream energy business while Vectren has said it wants to transition its generation away from coal to reduce emissions and adapt to changing customer preferences and regulations. The combined company is expected to have electric and natural gas delivery operations in eight states with

assets totaling \$29 billion and an enterprise value of \$27 billion.

The companies said the merger would leverage best practices for service, reliability and implementation of new technology across a larger U.S. footprint. Headquartered in Houston, CenterPoint Energy has natural gas operations in Arkansas, Louisiana, Minnesota, Mississippi, Oklahoma and Texas that serve more than 3.4 million customers. The company also delivers electricity to more than 2.4 million customers in the greater Houston area. CenterPoint Energy's competitive natural gas sales and services business serves more than 100,000 customers in 33 states. Evansville, Indiana-based Vectren provides natural gas to more than 1 million customers in Indiana and Ohio, and electricity to 145,000 customers in Indiana.

The combined company would retain the CenterPoint Energy name and Houston corporate headquarters and operate complementary regulated utility businesses in eight states, with business operations in nearly 40 states, and serve over seven million customers. CenterPoint Energy said it expects to maintain an earnings per share growth target of five to seven percent in 2019 and 2020, excluding any one-time charges related to the merger, which it expects to fund with a combination of equity and debt. It expects the resulting capital structure and credit metrics to support solid investment-grade credit quality.

The companies completed the merger on February 1, 2019 following approvals from the Federal

Energy Regulatory Commission and Federal Communications Commission. CenterPoint Energy said it would make regulatory filings in Indiana and Ohio, although neither state had formal regulatory approval authority over the merger.

NextEra Energy Acquires Gulf Power from Southern Company

On May 21, NextEra Energy and Southern Company announced that NextEra Energy would purchase Gulf Power, Florida City Gas and Southern Company's interest in two natural gas generating plants in Florida in transactions valued at \$6.475 billion, including the assumption of approximately \$1.4 billion of Gulf Power debt. NextEra Energy said the acquisition complements its existing operations in Florida and that it would employ its long-term strategy of advancing affordable, reliable and clean energy through smart infrastructure investments at both acquired utilities. Analysts noted Gulf Power's generation fleet is mostly coal-fired, potentially offering NextEra Energy the chance to grow regulated rate-base through conversion to gas and renewable generation along with energy storage. Southern Company said it would use the proceeds to pay down debt and strengthen its balance sheet.

NextEra Energy said the acquisition supports its ability to generate long-term shareholder value through a more robust financial profile, greater scale and an expanded platform for growth. NextEra Energy noted the acquisition, while financed with new debt, will expand its regulated operations and is consistent with its

desire to maintain a strong balance sheet and strong credit ratings. The company said it expects to continue to maintain \$5 billion to \$7 billion of excess balance sheet capacity to support long-term growth and raised its 2020 and 2021 adjusted earnings per share expectations as a result of the purchase.

Gulf Power serves approximately 450,000 customers in northwest Florida with 9,500 miles of power lines and 2,300 megawatts (MW) of electric generating capacity. Florida City Gas serves approximately 110,000 residential and commercial natural-gas customers in Florida's Miami-Dade, Brevard, St. Lucie and Indian River counties with 3,700 miles of natural gas pipelines.

NextEra Energy announced the completion of the Florida Gas acquisition on July 30, 2018. The acquisition of Gulf Power was completed January 1, 2019.

Canadian Pensions Buy

Macquarie's Puget Sound Stake

Washington state's Puget Sound Energy (PSE) announced on August 10 that long-time private equity investor Macquarie Infrastructure Partners would sell its 44% position in the company to a group of Canadian pension funds, including two who raised their ownership stake in the Washington state utility. The sale requires approval by state regulators. Alberta Investment Management Corporation (AIMCo) and the British Columbia Investment Management Corporation (BCI) increased positions they've held since 2009 by six percent and four percent to 13.6 percent and 20.9 percent,

respectively. Two new investors, OMERS (the defined benefit pension plan for municipal employees in Ontario, Canada) and Dutch pension fund manager PGGM will have 23.9 percent and 10 percent positions. The Canada Pension Plan Investment Board (CPPIB), an in-

vestor since 2009, continues its 31.6 percent position. The Macquarie infrastructure funds, which invested in PSE in 2009, are reaching the end of their terms and the sale was widely expected. While the transaction is private, news reports in August 2017 when Macquarie hired a financial

Merger Impacts 1995–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Date	No. of Utilities	Change
12/31/95	98	–
12/31/96	98	–
12/31/97	91	(7.14%)
12/31/98	86	(5.49%)
12/31/99	83	(8.79%)
12/31/00	71	(14.46%)
12/31/01	69	(2.82%)
12/31/02	65	(5.80%)
12/31/03	65	–
12/31/04	65	–
12/31/05	65	–
12/31/06	64	(1.54%)
12/31/07	61	(4.69%)
12/31/08	59	(3.28%)
12/31/09	58	(1.69%)
12/31/10	56	(3.45%)
12/31/11	55	(1.79%)
12/31/12	51	(7.27%)
12/31/13	49	(3.92%)
12/31/14	48	(2.04%)
12/31/15	47	(2.08%)
12/31/16	44	(6.38%)
12/31/17	43	(2.27%)
12/31/18	42	(2.33%)

Number of Companies Declined by 57% since Dec.'95

Note: Based on completed mergers in the EEI Index group of electric utilities.

Source: EEI Finance Department.

Mergers & Acquisitions Announcements Updated through February 1, 2019

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Ann'cd	Buyer	Seller/Acquired/Merged	Status	New Company	Completed Date	Months to complete	Bus. Terms	Est. Trans Value (\$MM)	
5/21/2018	NextEra Energy, Inc.	Gulf Power Company	C		1/1/2019	7	EE	NEE to pay \$4.35 billion in cash to acquire Gulf Power Company from Southern Company	4,350.0
4/23/2018	CenterPoint Energy	Vectren Corporation	C		2/11/2019	10	EG	CNP pays \$72.00/share in cash for each share of Vectren common stock	6,000.0
1/3/2018	Dominion Energy, Inc.	SCANA Corporation	C		1/1/2019	12	EE	\$6.7B debt + \$7.9 stock (per share value of \$55.35, roughly 31% premium)	14,600.0
8/21/2017	Sempra Energy	Oncor Electric Delivery Company	C		3/8/2018	6	EE	\$9.5B cash	9,450.0
7/19/2017	Hydro One Limited	Avista Corporation	W		1/23/2019			\$5.3B cash (per share value of \$53.00, roughly 24% premium)	5,300.0
7/7/2017	Berkshire Hathaway Energy	Oncor Electric Delivery Company	W		8/21/2017			\$9.0B cash	9,000.0
9/28/2016	DTE Energy	Appalachia Gathering System / Stonewall Gas Gathering	C		10/20/2016	1	EG	Undisclosed	1,300.0
7/29/2016	NextEra Energy	Oncor Electric Delivery Company	W		10/31/2017			\$9.5B debt + additional cash and common stock	11,178.0
5/31/2016	Great Plains Energy	Westar Resources	C	Energy, Inc.	6/5/2018	24	EE	\$3.6B debt + \$8.6 stock and cash (per share value of \$60.00)	12,200.0
2/9/2016	Fortis Inc.	ITC Holdings Corp.	C		10/14/2016	8	EE	\$4.4B debt + \$6.9B common shares and cash (per share value of \$44.90, roughly 33% premium)	11,300.0
2/9/2016	Algonquin Power & Utilities	Empire District Electric Company	C		1/1/2017	11	EE	\$1.6B debt + additional debt and equity (per share value of \$34.00, roughly 21% premium)	2,400.0
2/1/2016	Dominion Resources	Questar Corporation	C		9/16/2016	8	EG	\$1.5B debt + \$2.4B cash + \$500M equity (per share value of \$25.00, roughly 30% premium)	4,400.0
10/26/2015	Duke Energy	Piedmont Natural Gas	C		10/3/2016	12	EG	\$3.3B debt + \$1.0B cash + \$625M equity (per share value of \$60.00, roughly 40% premium)	4,900.0
9/4/2015	Emera	TECO Energy, Inc.	C		7/1/2016	10	EE	\$6.5B debt + \$3.9B equity (per share value of \$27.55, roughly 48% premium)	10,400.0
8/24/2015	Southern Company	AGL Resources	C		7/1/2016	10	EG	\$4.1B debt + \$8.0B equity (per share value of \$66.00, roughly 36% premium)	12,060.4
7/12/2015	Black Hills Corporation	SourceGas Holdings	C		2/12/2016	10	GG	\$760M debt + \$1.13B cash	1,890.0
2/25/2015	Iberdrola USA	UIL	C	AVANGRID, Inc.	12/16/2015	10	EE	\$1.8B debt + \$0.6B cash + \$2.4B equity (per share value of \$52.75, roughly 25% premium, of which \$10.50 will be cash)	4,756.0
12/3/2014	NextEra Energy	Hawaiian Electric	W		7/18/2016			NEE to acquire HE for \$2.6B equity + \$1.4B debt (fixed exchange ratio of 0.2413 NEE shares)	3,963.0
10/20/2014	Macquarie-led Consortium	Cleco	C		4/13/2016	18	EE	\$3.4B equity (all Cleco shares at \$55.37 / share in cash (~15% premium)) + \$1.3 debt	4,700.0
6/23/2014	Winsconsin Energy	Integrty	C	WEC Energy Group, Inc.	6/30/2015	12	EE	WEC to acquire TEG for \$5.758B equity + \$3.374B debt (fixed exchange ratio of 1.128 WEC shares + \$18.58)	9,100.0
5/1/2014	Berkshire Hathaway Energy	AltaLink (Canadian)	C		12/1/2014	7	ET	BHE to acquire AL for \$3.2B cash + \$2.7B debt	5,927.0
4/30/2014	Exelon	Pepco	C		3/23/2016	24	EE	EXC to acquire POM for \$6.8B in cash (\$27.25 per POM share)	12,337.0
3/3/2014	UIL Holdings	Philadelphia Gas Works	W		12/4/2014			UIL to acquire assets & liabilities of PGW from city of Philadelphia for \$1.86 billion in cash	1,860.0
12/12/2013	Fortis Inc.	UNS Energy	C		8/15/2014	8	EE	Fortis pays \$60.25 / share (31% premium to announcement day's close) + \$1.8B in debt	4,578.1
11/4/2013	Avista	Alaska Energy & Resources Company	C		7/1/2014	8	EE	AVA to acquire Alaska Energy & Resources Company for \$145MM equity + \$24.5MM debt	169.5
5/29/2013	MidAmerican Energy Holdings Co.	NV Energy	C	Berkshire Hathaway Energy	12/19/2013	7	EE	MidAmerican pays \$23.75 / share + assume \$4.8 billion debt	10,494.3
5/25/2013	TECO Energy, Inc.	New Mexico Gas Intermediate, Inc.	C		9/2/2014			TECO will pay \$950 million, including assume \$200 million debt to Continental Energy Systems LLC	950.0
2/20/2012	Fortis Inc.	CH Energy Group	C		6/27/2013	16	EE	Fortis pays \$65.00/share cash & assumes approx. \$687.37 MM debt.	1,609.7
5/27/2011	Fortis Inc.	Central Vermont Public Service Corp	W		7/11/2011			Fortis pays approx. \$35.10/share cash & assumes approx. \$226.4 mill in debt.	701.6
1/8/2011	Duke Energy	Progress Energy	C		7/3/2012	18	EE	0.87083 Duke shares (after 1-3 reverse split) for each Progress share + assume \$12.1 billion net debt.	32,000.0
7/11/2011	Gaz Metro LP	Central Vermont Public Service Corp	C		6/27/2012	12	GE	Gaz Metro pays \$35.25/share for each CVPS share & assumes \$226 million debt.	704.2
10/16/2010	Northeast Utilities	NSTAR	C		4/10/2012	18	EE	1.312 NU shares for each NSTAR shr, plus \$3.36 bill assume debt	7,566.7

4/28/2011	Exelon Corp.	Constellation Energy Group Inc.	C	3/12/2012	11	EE	CEG receive 0.93 shares of EXC for each CEG share. EXC assumes approx. \$2.9 bill net debt	10,623.2
4/19/2011	AES Corporation	DPL Inc.	C	11/28/2011	7	EE	AES pays 30.00/share cash & assumes approx \$1.1 billion of net debt	4,613.2
4/28/2010	PPL Corp.	E.ON U.S.	C	11/1/2010	6	EE	\$6.83 billion cash + \$764.0 million in assumed debt	7,625.0
3/12/2010	Emera Inc	Maine & Maritimes	C	12/21/2010	9	EE	\$76 mm cash + \$28.6 mm debt + \$13.8mm postretirement benefits	117.4
2/10/2010	FirstEnergy	Allegheny Energy	C	2/25/2011	12	EE	\$4.3 billion in equity + \$4.7 billion in assumed debt	9,273.2
9/17/2008	Berkshire Hathaway	Constellation Energy Group Inc.	W	12/17/2008		PE	\$4.7 bill cash + \$4.4 bill net debt and adjustments	9,152.5
7/25/2008	Sempra Energy	EnergySouth Inc.	C	10/1/2008	3	EG	\$499 million cash + 283 million debt	771.9
7/1/2008	MDU Resources Group, Inc.	Intermountain Gas Co.	C	10/1/2008	3	EG	\$245 million cash + \$82 million debt	327.0
6/25/2008	Duke Energy	Catamount Energy Corp.	C	9/15/2008	3	EP	\$240 million cash + \$80 million assumed debt	320.0
2/15/2008	Unitil Corp.	Northern Utilities / Granite State Gas Transmission	C	12/1/2008	10	EG	\$160 million cash	160.0
1/12/2008	PNM Resources, Inc.	Cap Rock Holding Corp.	W	7/22/2008		EE	\$202.5 million	202.5
10/26/2007	Macquarie Consortium	Puget Energy	C	2/6/2009	16	EE	\$3.5 billion cash + \$3.02 billion net debt	6,520.2
6/25/2007	Iberdrola S.A.	Energy East Corp.	C	9/16/2008	15	EE	\$4.5 billion cash + \$4.1 billion net debt	8,600.0
2/26/2007	KKR & Texas Pacific Group	TXU Corp. ¹	C	10/10/2007	8	PE	\$31.8 billion cash + \$12.1 billion net debt	43,882.0
2/7/2007	Black Hills Corp. / Great Plains Energy Inc. ²	Aquila Inc. (CO elec. util. + CO, KS, NE, IA gas utils.)	C	7/14/2008	17	EG	\$940 million cash +working capital and other adjustments	940.0
7/8/2006	MDU Resources Group, Inc.	Cascade Natural Gas Corporation	C	7/2/2007	12	EG	\$305.2mm in cash + (\$173.6 in debt - \$13.0 in cash equivalents)	465.8
7/8/2006	WPS Resources Corporation	Peoples Energy Corporation	C	2/21/2007	7	EG	\$2.47 billion	2,472.4
7/5/2006	Macquarie Consortium	Duquesne Light Holdings	C	5/31/2007	10	EE	\$1.59 billion cash + \$1.09 billion total debt	2,674.4
6/22/2006	Gaz Metro LP	Green Mountain Power Corp.	C	4/12/2007	10	EE	\$187 million in cash + (\$100.8 debt - \$9.1mm in cash equivalents)	279.5
5/11/2006	ITC Holdings Corp	Michigan Electric Transmission Co.	C	10/10/2006	5	EE	\$485.6mm cash + \$70mm common stock + \$311mm assumed debt	866.6
4/25/2006	Babcock and Brown Infrastructure	NorthWestern Corp.	W	7/24/2007		EE	\$2.2 billion cash	2,200.0
2/27/2006	National Grid	KeySpan Corp.	C	8/24/2007	18	EE	\$7.4 billion cash + \$4.5 billion long-term debt	11,877.5
12/19/2005	FPL Group Inc.	Constellation Energy Inc.	W	10/25/2006		EE	\$11.3 billion equity + \$4.1 billion net debt and pension liabilities	15,311.5
5/24/2005	MidAmerican Energy Holdings Co.	Pacificorp	C	3/21/2006	10	EE	\$5.1 billion cash + \$4.3 billion in net debt and preferred stock	9,300.0
5/9/2005	Duke Energy Corp.	Cinergy Corp.	C	4/3/2006	11	EE	\$9.1 billion equity + \$5.5 billion net debt and pension liabilities	14,600.0
12/20/2004	Exelon Corp.	Public Service Enterprise Group	W	9/14/2006		EE	\$12.3 billion in equity + \$13.4 billion in net debt and pension liabilities	25,700.0
7/25/2004	PNM Resources	TNP Enterprises	C	6/6/2005	12	EE	\$189 million in stock and cash and \$835 million in debt	1,024.0
2/3/2004	Ameren Corp	Illinois Power ³	C	10/1/2004	8	EE	\$19 billion in debt, pref stock, & other liab + \$400 million in cash	2,300.0
11/24/2003	Saguaro Utility Group L.P.	UniSource Energy	W	12/30/2004		PE	\$850 million cash + \$2 billion in debt	2,850.0
11/3/2003	Exelon Corp.	Illinois Power	W	11/22/2003		EE	\$275 million cash + \$1.8 billion in debt + \$150 million promissory note	2,225.0
4/30/2002	Aquila Inc	Cogentrix Energy Inc	W	8/2/2002		EIPP	\$415 million cash + \$1.125 billion in assumed debt	1,540.0
4/29/2002	Ameren Corp	CILCORP ⁴	C	1/31/2003	9	EE	\$541 million cash + \$781 in assumed debt + \$41 million in pref stock	1,400.0
10/8/2001	Northwest Natural Gas	Portland General	W	5/16/2002		GE	\$1.55 billion cash + \$250mm in stock	1,800.0
9/20/2001	Duke Energy	Westcoast Energy	C	3/14/2002	6	EG	Equity + cash valued at \$27.90 per Westcoast share	8,500.0
9/10/2001	Dominion Resources	Louis Dreyfus Natural Gas	C	11/1/2001	2	EG	\$890mm cash + \$900mm stock +\$505mm debt	2,295.0
2/20/2001	Energy East	RGS Energy	C	6/28/2002	16	EE	\$1.4 bill. cash & equity + \$1.0 bill. net debt	2,400.0
2/12/2001	PEPCO	Connectiv	C	8/1/2002	18	EE	\$2.2 bill cash & equity + \$2.8 bill. net debt	5,000.0
11/9/2000	PNM	Western Resources ⁵	W	1/8/2002		EE	Stock transfer	4,442.0
10/2/2000	NorthWestern	Montana Power ⁶	C	2/15/2002	16	EE	\$1.1 billion in cash	1,100.0
9/5/2000	National Grid Group	Niagara Mohawk	C	1/31/2002	16	EE	\$19 per share	8,900.0
8/8/2000	FirstEnergy	GPU Inc.	C	11/7/2001	15	EE	\$35.60 per share	12,000.0
7/31/2000	FPL Group	Entergy	W	4/2/2001		EE	1/1 - FPL, 0.585/1 - ETR	27,000.0
7/17/2000	AES Corporation	IPALCO	C	3/27/2001	8	IPPE	\$25 per share	3,040.0
6/30/2000	NS Power	Bangor Hydro	C	10/10/2001	16	EE	\$26.50 per share	206.0

¹ TXU (now Energy Future Holdings Corp.) was acquired by the Texas Energy Future Holdings Limited Partnership (TEF) on 10/10/2007.
TEF was formed by a group of investors led by Kohlberg Kravis Roberts and Texas Pacific Group to facilitate the merger.
² Aquila was divided with Black Hills Corp. acquiring the electric utility in Colorado and NG utilities in CO, IA, KS, and NE. Great Plains Energy Inc. acquired the MI electric utility, stock, and other corporate assets.
³ Ameren purchased Illinois Power from Dynegy Corporation. Dynegy Corp acquired Illinois Power in February 2000.

⁴ Ameren purchased CILCORP from AES Corporation. AES Corp acquired CILCORP in October 1999.
⁵ PNM purchased Western Resources' electric operations including generation, transmission, and distribution.
⁶ NorthWestern Corporation purchased Montana Power's electric and natural gas transmission and distribution assets.
Source: EEI Finance Department, S&P Global Market Intelligence.

C = Completed	E = Electric
W = Withdrawn	G = Gas
PN = Pending	O = Oil
	IPP = Independent Power Producer
	P = Privatized

adviser for the sale said the stake could be worth about \$2 billion. Puget Sound Energy provides regulated electric service to 1.1 million customers and natural gas distribution services to about 790,000 customers in the Puget Sound region of Washington state.

BCI called the Puget equity stake a strong fit with the long-term investment objectives of its pension plan clients. OMERS said owing Puget aligns with its principles as a patient, long-term investor in high-quality infrastructure assets. Dutch investor PGGM said the purchase is consistent with its policy of investing long-term pension capital in companies actively involved in the transition to a low-carbon energy future. Analysts noted that pension funds have a very long-term investment horizon and don't require an exit strategy to accommodate the ten-year life cycle common in private equity funds. Canadian pensions have been active buyers of contracted power and renewable assets in recent years in the U.S. and globally.

Sempra/Oncor Buys InfraREIT; Sells Renewables to ConEd

On October 18, Sempra and its 80% owned Texas-based regulated transmission and distribution utility Oncor announced they agreed to acquire New York Stock Exchange publicly traded InfraREIT for \$1.275 billion or \$21 per share. InfraREIT, structured as a real estate investment trust (REIT), owns and leases rate-regulated electricity delivery infrastructure assets to Sharyland Utilities, a Texas-based regulated electric utility. Sempra Energy will also acquire a 50-percent limited-

partnership interest in a holding company that will own Sharyland Utilities for approximately \$98 million. Sempra/Oncor said the transaction enlarges its regulated utility platform in the growing Texas market, calling InfraREIT's assets highly desirable beneficiaries of Texas' strong economic growth, attractive demographic trends and increased demand for electric transmission.

In summer 2018, Sempra said it would sell its entire portfolio of U.S. wind and solar assets as part of a portfolio optimization initiative to focus the company's strategy on earnings growth from regulated assets. Sempra said it would use the proceeds to fund its share of the InfraREIT purchase. New York's distribution utility ConEd was the buyer, announcing on December 13 that it purchased Sempra's U.S. operating solar assets, solar and battery storage development projects, as well as its ownership interest in a wind facility for approximately \$1.6 billion in cash. The transaction included solar generation facilities in Arizona, Nevada and California along with solar and battery storage development projects and a wind facility in Nebraska. The sale represents approximately 980 megawatts of installed capacity. The \$1.6 billion acquisition brings Con Edison's renewables portfolio to 2,600 MW in 17 states and makes Con Edison the second-largest solar energy producer in North America.

Completed Transactions

Four deals announced in 2018 were near completion by year-end, but the official closing dates fell in early 2019. NextEra Energy/Gulf

Power and Dominion/SCANA announced their deals were complete on January 1, 2019. Cleco/South Central closed on January 15, 2019, while the CenterPoint/Vectren matchup reached completion on February 1, 2019.

On May 24, 2018 Great Plains Energy and Westar Energy received final regulatory approval from the Kansas Corporation Commission (KCC) and Missouri Public Service Commission (MPSC) to combine and subsequently completed the merger, which was announced in May 2016. The proposed combination of the two neighboring utilities was premised on operational efficiencies and cost savings that could help reduce future rate increase requests. The combined company would also benefit from a diverse and sustainable generation portfolio and one of the largest portfolios of wind generation in the country. Kansas regulators said they didn't object to the merger but vetoed the original deal terms in April 2017, citing concerns over the burden of the proposed \$4.9 billion acquisition premium and related debt financing on Great Plains Energy. The utilities revised the deal structure as a stock for stock merger of equals and guaranteed more than \$100 million in customer bill credits over the first five years after the merger closes. The companies also agreed to fix base rates for up to five years in Kansas as a result of the merger. These changes won approval. The newly combined entity, Evergy Inc., serves approximately 1,000,000 customers in Kansas and 600,000 in Missouri,

with more than 51,000 miles of distribution lines and 13,000 megawatts of generation.

Three 2017 announcements were completed in 2018. Publicly traded independent power producer Calpine said on August 8, 2017 that it would be taken private by an investor group; the transaction was completed March 8, 2018. On March 8, Sempra Energy completed its \$9.45 billion acquisition of Texas-based Energy Future Holdings Corp. (EFH), including EFH's approximate 80-percent indirect ownership interest in Texas transmission and distribution utility Oncor Electric Delivery Company; the acquisition was announced on August 20, 2017. On April 9, publicly traded independent power producers Vistra and Dynegy successfully closed on their merger, which was announced on October 30, 2017.

Withdrawn Transactions

On January 23, 2019 Washington State utility Avista and Canadian utility Hydro One jointly terminated their plan for Hydro One to acquire Avista. While technically not a 2018 withdrawn deal, the events that caused the merger to be abandoned occurred during the year. The deal, announced on July 19, 2017, called for Hydro One to pay \$53 in cash per common share, a 24% premium to Avista's closing price on July 18. At that time, Hydro One said the acquisition offered geographic and regulatory diversification while adding complementary and growing natural gas distribution operations and exposure to regulated and predominantly clean generation. Avista said

combining with Hydro One would enable it to define and control its future in a consolidating industry through greater scale and financial flexibility. Avista planned to maintain its current management team, employees, Spokane headquarters and its own board of directors and said no workforce reductions would result from the merger. However, both Washington and Idaho state regulators vetoed the merger in late 2018 citing concern about the province of Ontario's political influence over Hydro One. Ontario owns 47% of the Canadian utility. In July 2018, the newly elected premiere of Ontario forced changes to Hydro One's senior management and board of directors. In December 2018, the Washington commission found that the proposed deal was not in the public interest since decisions affecting Hydro One's business operations and financial integrity were subject to overrule by Canadian politicians. Idaho denied the merger on January 3, 2019.

Construction

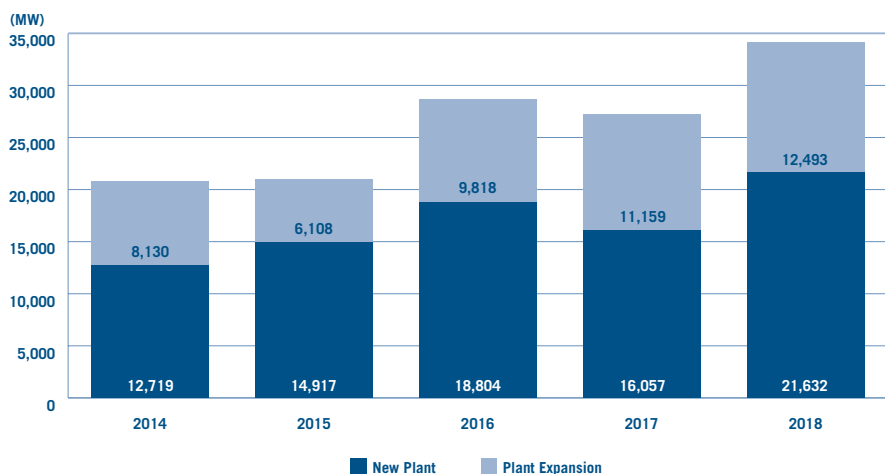
New Capacity

The electric utility industry brought 34,126 MW of new capacity online in 2018, a 25% increase from 2017 and the largest annual total increase since 2012 when 31,503 MW was brought online. Natural gas generation that can replace retiring baseload coal and nuclear plants was again the dominant fuel type, at 20,033 MW, a 60% increase over last year's amount and 59% of the industry's total new capacity added during the year. The natural gas total was more than double the amount added in 2016 and represented the highest single-year total for any fuel this century. The build-out of new renewable generation also continued at a steady pace. Wind and solar together contributed just over 13,000 MW or 39% of the industry's new capacity added; wind contributed 23.5% of the total, at 8,031 MW, while solar added 5,246 MW, or 15.4%. New wind and solar capacity exceeded 13,000 MW in each of the past four years. The investor-owned utilities that brought the most capacity online, either as new plants or expansions at existing facilities, were Dominion Energy (1,950 MW), Berkshire Hathaway Energy (1,114 MW), Duke Energy (2,410 MW), NextEra Energy (1,770 MW) and Public Service Enterprise Group (1,564 MW).

Natural gas

Natural gas generation once again dominated capacity additions, as it has in five of the past six years. The abundant domestic supply of natural gas and low natural gas prices make gas-

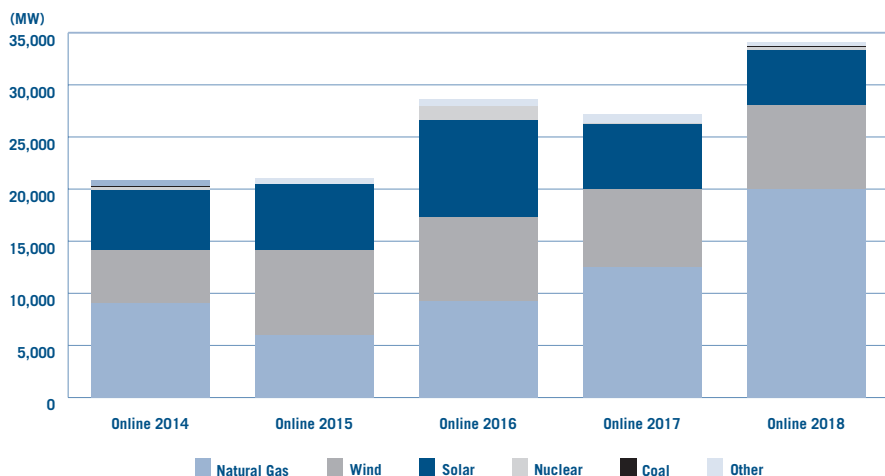
New Capacity Online 2014–2018



Note: Includes all new capacity placed on the grid by investor-owned utilities, independent power producers, municipals, co-ops, government authorities and corporations. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

New Capacity Online by Fuel Type 2014–2018



Fuel Type	2014	2015	2016	2017	2018
Natural Gas	9,081	5,971	9,282	12,530	20,033
Wind	5,041	8,179	8,045	7,456	8,031
Solar	5,808	6,316	9,287	6,222	5,246
Nuclear	227	0	1,291	102	350
Coal	136	3	45	45	10
Other	557	556	672	861	456
Total	20,849	21,025	28,622	27,216	34,126

Note: Includes all new capacity placed on the grid by investor-owned utilities, independent power producers, municipals, co-ops, government authorities and corporations. Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

fired generation more cost competitive than coal and nuclear power. Natural gas accounted for 20,033 MW of the new capacity brought online in 2018. In 2016, new solar capacity eclipsed natural gas with 9,287 MW online, but only by a thin margin; in 2016, 9,282 MW of natural gas capacity were brought online. Since the end of 2012, 64,266 MW of new gas-fired capacity has been added to the grid, about 70% more than the two second-place fuels, wind and solar, which are tied at about 38,000 MW.

Combined-cycle projects accounted for 17,659 MW, or 88% of the total gas capacity added in 2018. Simple cycle turbines contributed 1,976 MW, or 10% of the total. Among investor-owned utilities, Dominion Energy added 1,681 MW at its Greenville Combined Cycle Facility in Virginia. PSEG added 800 MW of combined cycle gas capacity at its Keys Energy Center in Maryland and expanded a combined cycle plant in Sewaren, New Jersey to 717 MW. PSEG also rerated its 32 MW combined cycle Bethlehem Energy Center in New York. Duke Energy expanded its Crystal River combined cycle facility to 820.1 MW. AES expanded its Eagle Valley combined cycle plant to 644 MW of net capacity.

New capacity additions were almost evenly divided between plant expansions, at 52% of the total, and new builds, at 47%. Rerated plants were a distant third. No fuel switching was recorded in 2018. New-build projects ranged from a 1 MW internal combustion engine in California to one rated at 1,681 MW at the Greenville combined cycle facility in Virginia.

Wind

Wind power contributed 8,031 MW of new capacity in 2018, surpassing the 8,000 MW level for the third time in four years. While wind's contribution was a distant second to natural gas, it nevertheless accounted for 24% of total added capacity in 2018. The Midwest Reliability Organization saw the most wind added, at 32% of the total. The Southwest Power Pool contributed 23% and wind additions in the Electric Reliability Council of Texas contributed 17% of the total.

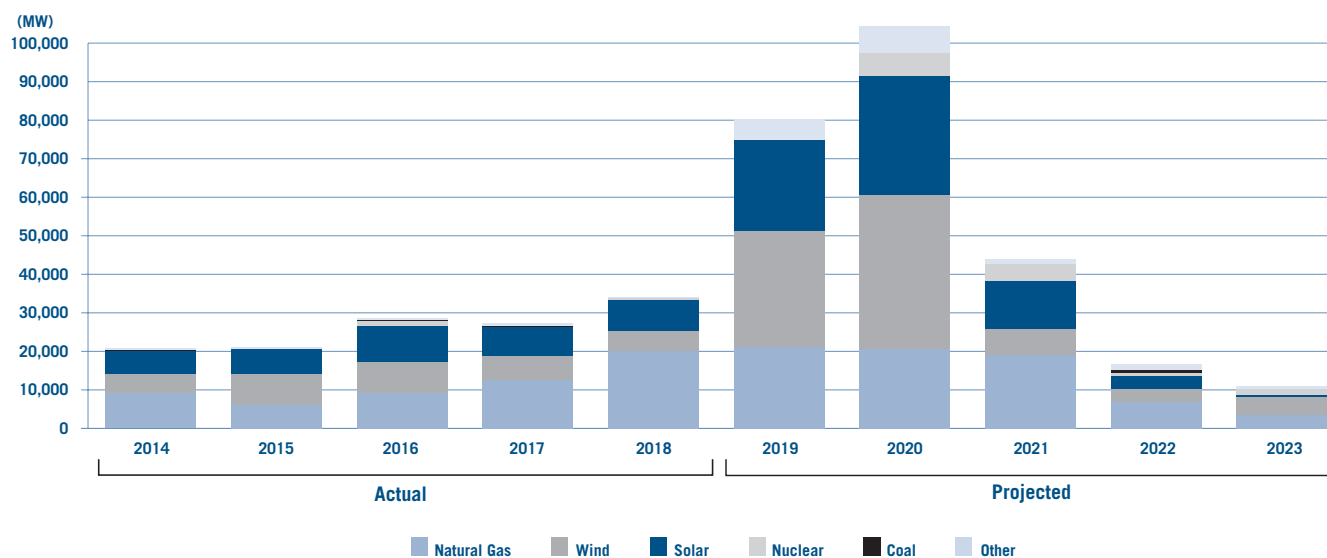
New Capacity Online by Region (MW) 2016–2018

Region	Online 2016	Online 2017	Online 2018
ASCC	156	111	1
FRCC	1,815	2,408	2,532
HCC	34	48	136
MRO	2,473	1,998	3,116
NPCC	868	529	2,948
RFC	3,927	5,358	10,606
SERC	4,763	3,720	6,428
SPP	3,702	3,411	1,947
TRE	2,958	6,522	2,882
WECC	7,926	3,111	3,530
Total	28,622	27,216	34,126

Note: Data includes new plants and expansions of existing plants, including nuclear uprates. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

Actual and Projected Capacity Additions 2014–2023



Notes: Data includes new plants and expansions of existing plants, including nuclear uprates. Data includes projects with an expected online date through 2023. Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding. 2014-2018 is actual plants brought online. 2019-2023 is projected based on projects announced as of April 2019. Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

Announced New Capacity by Region and Fuel Type in 2018 (MW)

Fuel Type	Electric Reliability Council of Texas	Reliability Coordinating Council	Hawaiian Coordinating Council	Midwest Reliability Organization	Northeast Power Coordinating Council	Reliability First	SERC Reliability Corp	Southeast Power Pool Inc.	Western Electricity Coordinating Council	Total
Coal	—	—	—	—	—	—	77	—	—	77
Natural Gas	1,754	787	—	143	713	1,894	2,973	484	271	9,018
Nuclear	—	—	—	—	—	—	—	—	—	—
Wind	4,169	—	—	2,203	4,741	2,448	923	1,065	10,513	26,061
Solar	5,101	1,692	52	773	3,771	3,697	11,261	124	5,089	31,561
Hydro	—	—	—	—	81	656	231	49	95	1,112
Other	—	—	—	—	61	7	25	2	77	174
Total	11,024	2,479	52	3,119	9,367	8,702	15,490	1,724	16,045	68,003

Notes: Data includes new plants and expansions of existing plants announced, including nuclear uprates in 2018 for years 2019–2025. Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

Seven companies together accounted for 42% of the year's new wind capacity; these were Alliant Energy, Berkshire Hathaway Energy, CMS Energy, Consolidated Edison, NextEra Energy, Southern Company and Xcel Energy. Berkshire Hathaway Energy added 1,100 MW in Iowa and Illinois, all new build other than a 170 MW expansion project at its Beaver Creek, Iowa facility. NextEra Energy added 1,008 MW from projects in Iowa, Texas, Oklahoma, Kansas and New Mexico; all were new facilities except for a 130 MW expansion in Oklahoma. Southern Company added 148 MW in Texas, while Xcel Energy added 600 MW in Colorado. Among other smaller projects, MDU Resources added 48 MW in North Dakota, Alliant Energy added 300 MW in Iowa, CMS Energy added 149 MW in Michigan and Ohio, and Consolidated Edison added 41 MW in South Dakota.

Solar

The pace of solar capacity additions declined for a third year, to 5,246 MW in 2018 from 2017's

6,222 MW, but remained above the 5,000 MW level for the fifth year in a row. New solar capacity spiked in 2016 to 9,287 MW, when it surpassed natural gas as the leading fuel for capacity additions. Solar capacity additions in 2016 reflected a large project pipeline that began construction in 2015 in anticipation of a year-end 2016 expiration and non-extension of the 30% ITC. At the end of 2015, however, the solar ITC was extended until 2021, with declining rates after 2019.

Large-scale solar-photovoltaic represented 15% of 2018's total new solar capacity, down from 25% in 2017. Among investor-owned utilities, NextEra Energy brought on the most solar capacity for a third consecutive year, at 762 MW. Elsewhere, most utilities that added solar did so in the form of smaller projects rated at 20 MW or less. Other utilities that brought new solar generation online included Duke Energy (114 MW), Consolidated Edison (100 MW), Sempra (100 MW), Dominion Energy (52 MW),

Eversource Energy (25 MW), Exelon (24 MW), CMS Energy (24 MW) and AES (21 MW).

Announcements

In 2018, the electric power sector announced plans to build a record high 68 GW of new capacity; this was 13% more than the 60 GW in 2017 and well above the 37 GW to 47 GW range of the previous three years. Renewable generation dominated announcements. Solar led at 46% of the total. Wind accounted for 38% and natural gas 13%.

About 24% of the year's newly announced capacity was in the Western Electricity Coordinating Council (WECC) region, followed by the Southeastern Electric Reliability Council (SERC) region at 23% and the Texas Reliability Entity (Texas RE) region at 16%. Other regions whose share exceeded 10% were the Northeast Power Coordinating Council (NPCC) at 14% and Reliability First at 13%.

In terms of the industry's total announced capacity by fuel type, SERC

Stage of Projected Capacity Additions (MW) 2019–2024

Fuel	Proposed	Feasibility	Application		Site Prep	Under		Total
			Pending	Permitted		Construction	Testing	
Coal	146	—	—	850	—	—	—	996
Natural Gas	25,269	868	12,820	16,196	—	17,321	584	73,058
Nuclear	4,397	1,900	2,716	3,720	—	1,194	—	13,927
Wind	49,249	4,825	17,884	13,944	1,276	5,753	606	93,537
Solar	45,912	447	15,197	5,898	7	2,947	145	70,553
Other	5,791	8,933	2,539	1,154	—	353	7	18,777
Total	130,764	16,973	51,156	41,762	1,283	27,568	1,342	270,848

Notes: Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding. Data includes new plants and expansions of existing plants, including nuclear uprates. Data includes projects with an expected online date from 2019 to 2024, as of April 2019.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

Proposed New Nuclear Plants

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Company	Site (State)	Early Site Permit	Design (# of units)	Construction & Operating License	# Units	Status
Southern Co.	Vogtle (GA)	Approved August 2009	AP1000	Approved February 2012	2	Under Construction
DTE Energy Co.	Fermi (MI)	—	ESBWR	Approved May 2015	1	COL Issued
Nuclear Innovation North America	Matorga County (TX)	—	ABWR	Approved February 2016	2	COL Issued
Duke Energy Corp.	Levy County (FL)	—	AP1000	Approved October 2016	2	COL Issued
Duke Energy Corp.	William States Lee (SC)	—	AP1000	Approved December 2016	2	COL Issued
Dominion Resources Inc.	North Anna (VA)	Approved November 2007	ESBWR	Approved June 2017	1	COL Issued
Florida Power & Light	Turkey Point (FL)	—	AP1000	Approved April 2018	2	NRC-approved
Exelon Corp.	Clinton (IL)	Approved March 2007	TBD	TBD		Early Site Permit
PSEG	Lower Alloways Creek (NJ)	Approved May 2016	TBD	TBD		Early Site Permit

Legend:

TBD: To Be Determined

ABWR: Advanced Boiling Water Reactor

AP1000: Reactor designed by Westinghouse

APWR: Advanced Pressurized Water Reactor

EPR: Pressurized Water Reactor designed by Framatome

ESBWR: Economic Simplified Boiling Water Reactor

Gen II PWR: Generation II Pressurized Water Reactor

Source: Nuclear Energy Institute, EEI Finance Department. Last updated April 2019.

For updates, please visit: <http://www.nei.org/resources/statistics/new-nuclear-plant-status>.

led solar announcements with 17% of the industry's total. WECC led wind announcements, at 15% of the total.

While not all announced projects will likely be built, 27,568 MW is under construction and expected to be completed between 2019 and 2024. Of that, 21% is wind capacity, 63% is natural gas and 11% is solar. There are no new coal plants under construction in the U.S., however,

an 850 MW coal plant in Georgia is in the permitting stage and a 77 MW coal-fueled steam turbine in Illinois is in the proposal stage.

Dominance of renewable energy can be seen on the individual state level and it is also apparent regionally. Announcements in Hawaii, although relatively small at 52 MW, were all solar. After Hawaii, SERC was the regional leader in solar as a

percent of its total announcements, at 73%. FRCC was third at 68%. MRO showed the highest wind percentage, at 71% of its total announced new capacity. WECC followed at 66% with the NPCC region close behind at 51%.

In the SERC region, solar accounted for 77% of announcements in South Carolina. In Georgia, solar was 100%. In North Carolina, it

was 99%. Out west in the WECC region, wind accounted for 99% of state-specific announcements in New Mexico. In Colorado, wind power was 90% of the total announced in state. In Wyoming it was 93%.

In ERCOT, 46% of announcements were solar capacity, 38% was wind (down from 43% in 2017); and only 16% was natural gas. Texas led industry-wide wind announcements, with 6% of the total, trailed by New York at 5.8% and New Mexico at 5%. In New York, 52% of state-specific new capacity was wind and 40% was solar. Even in Oregon, solar was 91% of total state-specific announcements. All announcements in Nevada were solar. In Pennsylvania, 80% of total in-state

announcements were hydro; this translates to 58% of all hydro new capacity announcements in 2018.

No region saw gas announcements exceed 32% of total announcements.

Retirements

Approximately 21 GW of capacity was retired in 2018. Coal accounted for 55% of the total, an 11% decrease from 2016. Looking ahead, 64 GW of capacity is slated for retirement during the five-year period from 2019 through 2023. Coal accounts for the majority, at 25 GW or 38% of the total. Natural gas is a close second at 22 GW or 34%. The remainder is mostly nuclear and oil generation, at about 8.5 GW each. Coal plant retirements are be-

ing driven by a number of economic and regulatory factors, including the competitive pricing and abundant supply of natural gas, the declining costs of renewable energy generation, customer demands for clean energy and environmental regulations.

Transmission

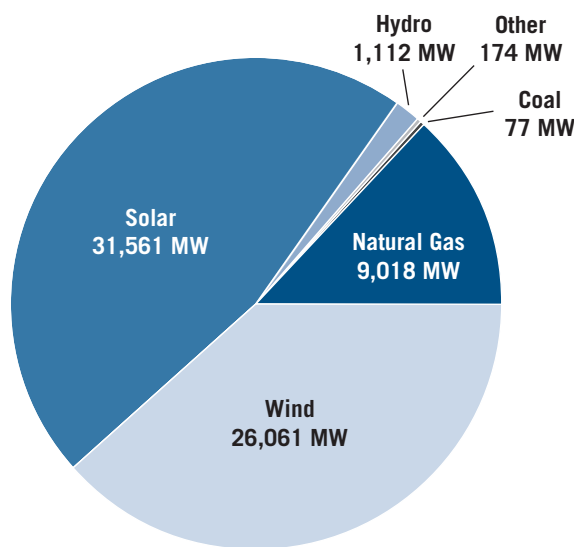
According to EEI’s 2018 *Annual Property & Plant Capital Investment Survey*, investor-owned electric utilities and stand-alone transmission companies invested a record \$21.9 billion in transmission in 2017, up 6.1% from the \$20.6 billion invested in 2016. The increase is attributable to the industry’s efforts to meet changing customer expectations while providing low-cost, reliable service. EEI members continue to invest in the transmission system in order to provide access to clean energy; to increase the reliability, security and resiliency of the energy grid; and reduce congestion so that lower-priced resources can meet customer needs now and in the future. Over the last 10 years, companies have invested more than \$157 billion in the U.S. high-voltage network.

The *EEI Transmission Capital Budget & Forecast Survey* indicates that transmission investment will continue to increase in the short term, peaking in 2018 before leveling off in 2019 and 2020. EEI forecasts its members will invest \$89 billion (nominal dollars) in transmission from 2018 to 2021. It should be noted that the projected total is an estimate subject to changing market conditions and customer demand.

The survey shows that most of the projected investment will fund

**2018 New Capacity Announcements by Fuel Type
68,003 MW**

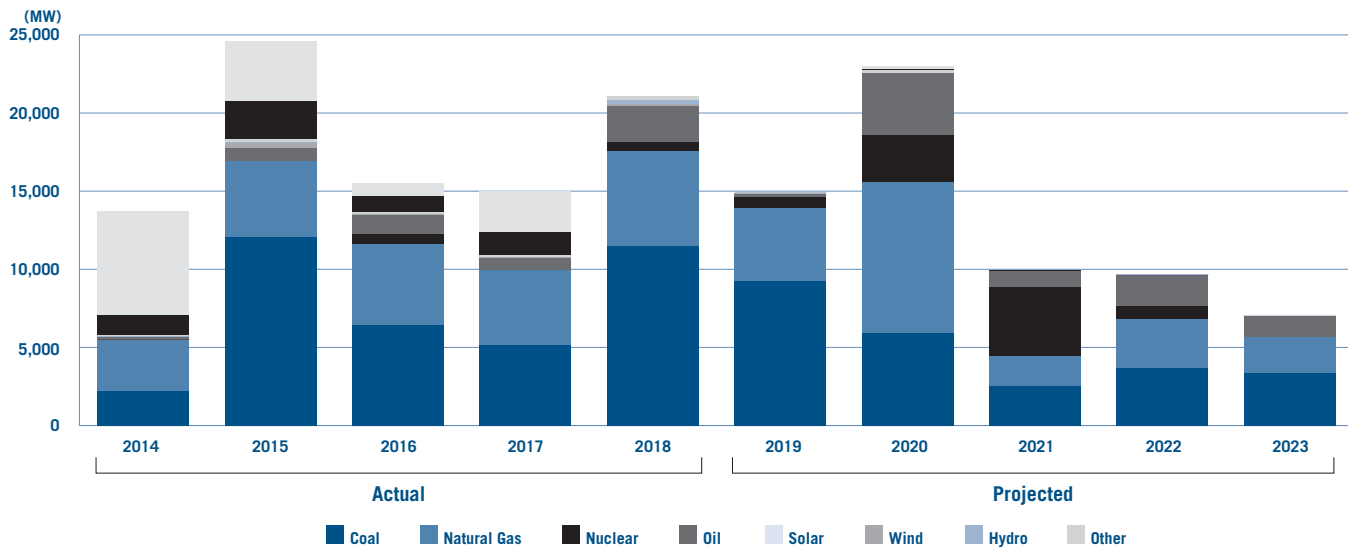
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Note: Other includes biomass, diesel/fuel oil, energy storage, fuel cells, geothermal, landfill gas, pet coke, solar/PV, waste heat, water, and wood. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

Actual and Projected Retirements 2014–2023



	Actual					Projected				
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Coal	2,191	12,041	6,457	5,152	11,509	9,260	5,897	2,531	3,686	3,360
Gas	3,296	4,876	5,179	4,750	6,051	4,661	9,695	1,912	3,120	2,285
Nuclear	—	—	577	—	550	665	3,001	4,410	823	—
Oil	135	799	1,216	805	2,345	230	3,941	1,021	1,990	1,339
Solar	7	—	5	—	—	1	—	—	—	—
Wind	30	357	98	44	80	—	—	—	—	—
Hydro	33	25	1	3	309	23	14	2	35	1
Other	120	246	105	171	233	59	175	23	—	75
Total	5,812	18,344	13,637	10,925	21,077	14,899	22,723	9,899	9,654	7,060

Notes: Data includes new plants and expansions of existing plants. Data does not include projects with an expected online date beyond 2023.
 Notes: Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding.
 2014-2018 is actual plants retired. 2019-2023 is projected based on announced retirements, as of April 2019.
 Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

expansion of the transmission network and construction of new lines that connect new energy resources to the grid, enabling an evolving energy mix. The remainder is focused primarily on replacement of existing transmission lines and system improvements such as hardening, physical and cyber security measures and the adoption of smart technologies that improve and maintain the grid's resilience.

Distribution

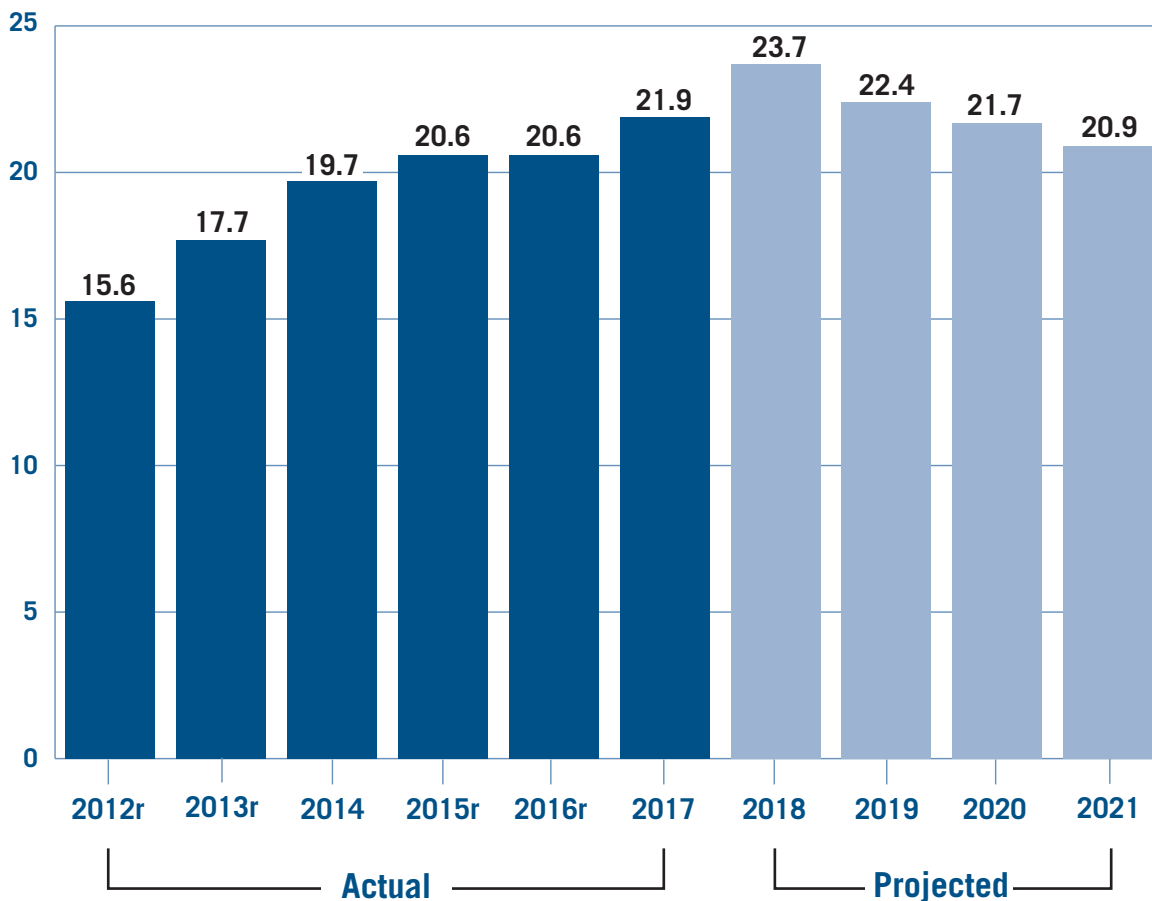
EEI's 2018 *Annual Property & Plant Capital Investment Survey* shows the industry invested \$28.8 billion in distribution during 2017, an 8.2% increase over 2016's level. While companies cited many reasons for the increase, the primary drivers were increased spending on smart grid technology, storm hardening, and improved reliability through replacement and upgrades of aging lines and equipment. Over the past 10 years, electric companies

have invested \$218 billion in the distribution network. Since 2001, combined transmission and distribution investment in the U.S. electric grid has amounted to more than a half-trillion dollars.

Distribution investment is driven primarily by the continuous need to replace end-of-life assets, serve new load, preserve reliability, improve system resiliency and restoration capabilities, and increasingly, to accommodate distributed resources. Investment in utility infrastructure

Actual and Planned Transmission Investment* 2012–2021

(\$ Billions)



r = revised

*Investment of investor-owned electric utilities and stand-alone transmission companies. Actual Investment figures were obtained from the EEI Property & Plant Capital Investment Survey supplemented with FERC Form 1 data. Projected investment figures were obtained from the EEI Transmission Capital Budget & Forecast Survey supplemented with data obtained from company 10-K reports and investor presentations. Please note that the investment totals are shown in nominal dollars and are not wholly comparable with previous versions of this chart which showed investment in Real dollars.

Source: Edison Electric Institute Economics, Statistics, and Industry Research Group.

Updated October 2018.

tends to be cyclical; large investments are made to support major development projects, investment levels off as the focus shifts to maintenance and incremental upgrades, then investment rises again to support load growth and/or adoption of new technologies. Distribution upgrades

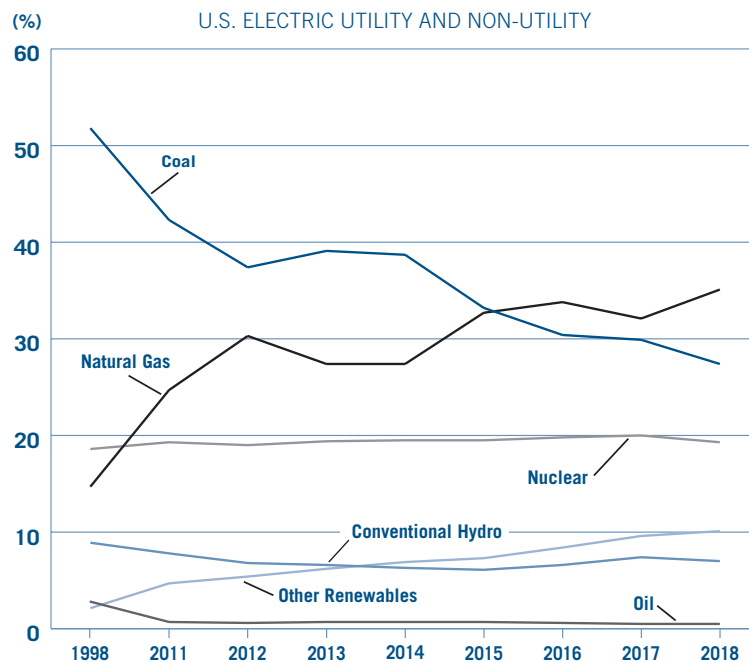
encompass not only poles and wires but, increasingly, advanced metering infrastructure (AMI) and smart inverters that enable a two-way power flow between the grid and distributed resources such as rooftop solar and battery storage. The rate and breadth of implementation of these

smart technologies, however, continues to vary by region and electric utility territory.

Fuel Sources

Two of the three primary trends that have impacted fuel use over the last decade persisted in 2018; natural gas prices remained at very low levels and renewable generation capacity continued to grow. The third multi-year trend — a notable lack of electricity demand growth — was reversed as electric generation increased 3.1% to a record high 4,113,724 GWh. This produced the sharpest year-to-year increase in nationwide generation since 2010. A cold winter and hot summer across much of the country resulted in a record number of both heating and cooling degree days, which rose 12% and 9%, respectively, over 2017 totals and pushed residential electricity sales up more than 6% for the year. The previous annual peak in generation of 4,100,611 GWh was seen in 2007. Demand subsequently fell during the 2008-2009 economic recession and the now-long-lived eco-

Fuel Sources as a Percentage of Total Electric Generation 1998–2018



U.S. Electric Utility: Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

Non-Utility Power Producer: Non-utility power producers include qualifying cogenerators, qualifying small power producers, and other non-utility generators (including independent power producers) without a designated franchised service area.

Source: U.S. Department of Energy, Energy Information Administration (EIA), March 2019.

Fuel Sources for Net Electric Generation

U.S. ELECTRIC UTILITY AND NON-UTILITY

	2017	2018
Coal	29.9%	27.4%
Gas	32.1%	35.1%
Nuclear	20.0%	19.3%
Oil	0.5%	0.5%
Hydro	7.4%	7.0%
Renewables	9.6%	10.1%
Biomass	1.6%	1.5%
Geothermal	0.4%	0.4%
Solar	1.3%	1.6%
Wind	6.3%	6.6%
Other fuels	0.5%	0.5%
Total	100%	100%

Note: Totals may not equal 100% due to rounding.

U.S. Electric Utility: Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

Non-Utility Power Producer: Non-utility power producers include qualifying cogenerators, qualifying small power producers, and other non-utility generators (including independent power producers) without a designated franchised service area.

Source: U.S. Department of Energy, Energy Information Administration (EIA). March 2019.

conomic expansion has lifted it only marginally higher; 2018's record is just a notch more than the 2007 total. Power demand has been constrained by the nation's ongoing shift to a services-based economy and by energy efficiency measures that have impacted residential, commercial and industrial customers alike such as increased installation of energy efficient appliances and energy-saving Light Emitting Diode (LED) lighting.

Natural gas maintained the lead it established in 2016 as the nation's primary generation fuel. Its share of total generation increased three percentage points, to 35.1% in 2018 from 32.1% in 2017. Coal's share fell more than two percentage points, to 27.4%, extending its relatively steady long-term decline since the late 1990s; in 1998, coal plants produced over half the nation's electricity. Nuclear's share edged down from 20.0% in 2017 to 19.3% in 2018, yet its long-term contribution to the nation's fuel mix has been remarkably stable. Nuclear power has supplied 19% to 20% of the nation's electricity for two decades. A record-high level of precipitation in California helped to push hydro's share of total generation up to 7.4% in 2017. More wet weather in 2018 held that figure at 7.0% for the year. Other renewables — which include wind, solar, geothermal and biomass — saw their collective share rise 0.5% year-to-year. Together, they accounted for 10.1% of total generation in 2018.

The nation's fuel mix has changed markedly over the past decade and EEI member companies have been leaders in implementing this change, resulting in a significant reduction in

power sector carbon emissions and the ongoing strong growth in renewable energy. More than one-third of the nation's electricity now comes from carbon-free sources (including nuclear energy, hydropower and other renewables). Zero-carbon generation produced 36.4% of the nation's electric power in 2018, up almost two percentage points from 2016, while another one-third comes from natural gas. At year-end 2018, the electric power industry's carbon dioxide emissions were 27 percent below 2005 levels and near the lowest level of the past three decades. Since 1990, the industry has cut emissions of nitrogen oxides by 84 percent and sulfur dioxide by 92 percent — all while electricity use grew 39 percent. Looking forward, three dozen EEI members have announced post-2020 carbon reduction goals with many now focused on 2030 and/or 2050 goals.

Coal

Coal fueled 27.4% of U.S. generation in 2018, down more than two percentage points from its 29.9% share the year before. The abundant supply of low-cost natural gas from the shale revolution has undercut coal's once-dominant position as the nation's primary generation fuel; coal's share has fallen from more than 50% in the late 1990s. Recent state and federal efforts to support baseload coal plants have not prevailed against the powerful effects of low natural gas prices and resulting low generation costs. Driven by these market fundamentals, flexible and relatively cleaner natural gas generation will likely continue to erode coal's market share.

Coal demand from other countries, however, remains strong. In 2018, the U.S. exported 116 million short tons of coal, the highest level of the past five years and 15% of total coal production. Electric utilities paid an average \$2.11 per million British Thermal Units (MMBtu) for coal in 2018, about the same as the \$2.12/MMBtu in 2017 but only slightly above the price in 2008. The 2018 price represents a 13% drop since 2012, when coal prices were the highest in a decade.

Coal prices in both the Central and Northern Appalachia regions increased in 2018. The average spot price for Central Appalachia coal rose 4.8%, to \$54.65 per ton. For Northern Appalachia coal, the average spot price rose 3.4%, to \$49.61 per ton. The average 2019 Powder River Basin spot price was \$9.33 per ton, down 0.2% from 2017. The average cost to produce electricity from coal decreased to \$30.97 per MWh, a 0.13% drop from \$31.01/MWh in 2017, partly because of lower operation and maintenance costs.

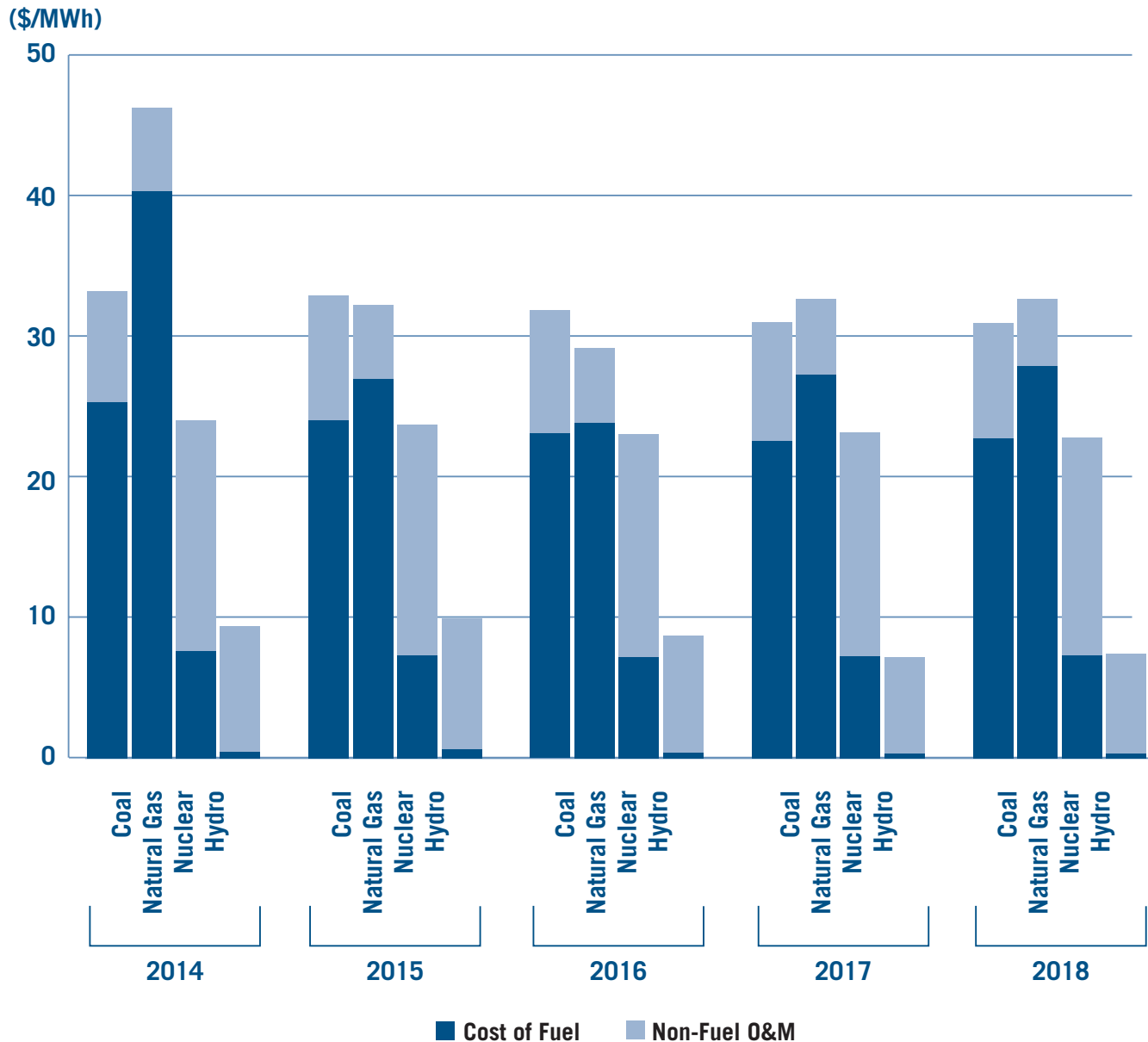
Natural Gas

Natural gas maintained its lead over coal as the primary fuel used for electricity generation in the U.S. The share of total generation fueled by natural gas rose to 35.1%, a three-percentage point increase from 2017, driven largely by natural gas-fired capacity additions and stronger electricity demand.

Natural gas production surged 12% year-to-year, to 32,734 billion cubic feet (Bcf) in 2018. Consumption increased 11% to 29,970 Bcf. Demand for natural gas

Average Cost to Produce Electricity 2014–2018

U.S. ELECTRIC UTILITY AND NON-UTILITY



U.S. Electric Utility: Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

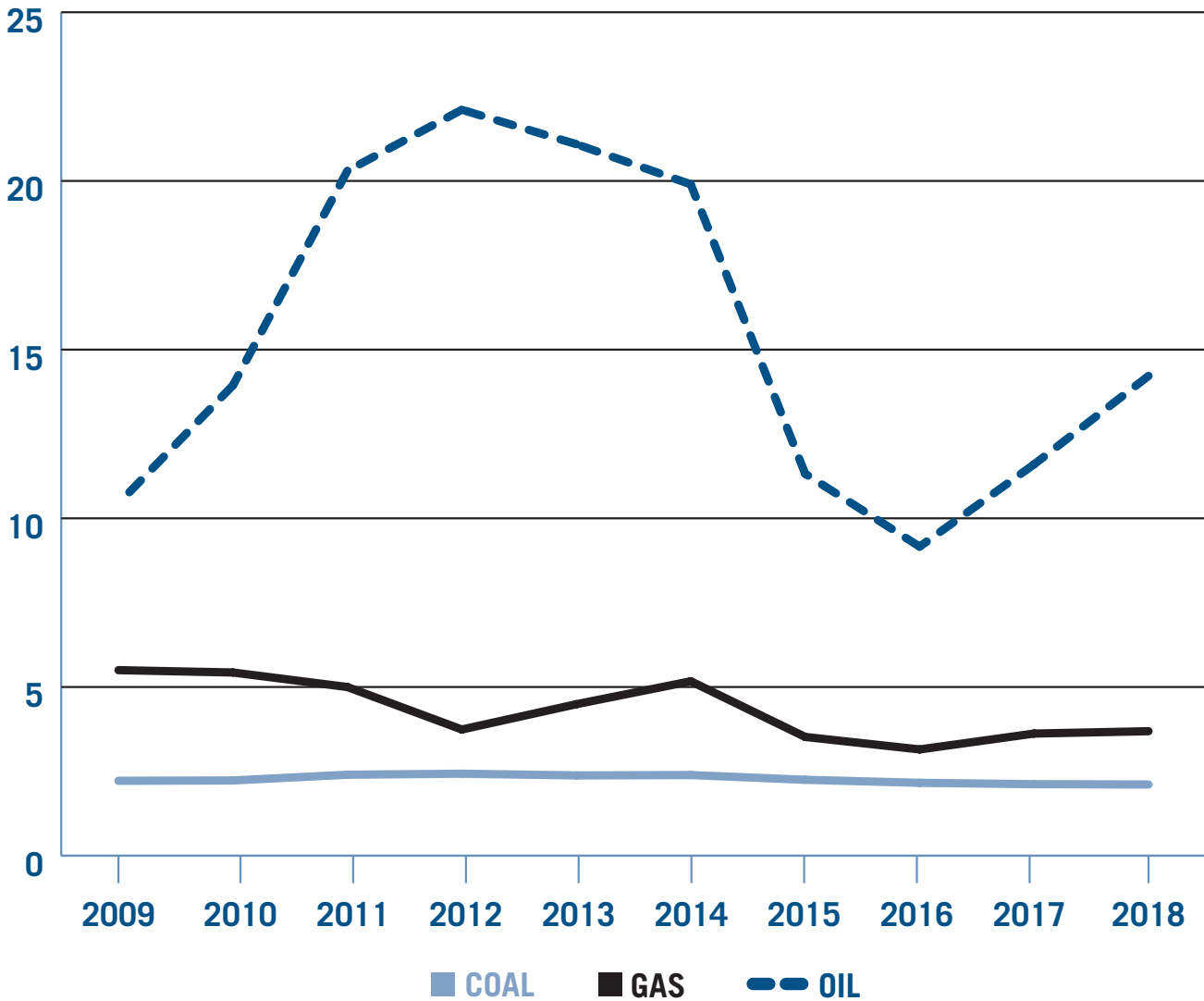
Non-Utility Power Producer: Non-utility power producers include qualifying cogenerators, qualifying small power producers, and other non-utility generators (including independent power producers) without a designated franchised service area.

Source: Velocity Suite, ABB Enterprise Software.

Average Cost of Fossil Fuels 2009–2018

U.S. ELECTRIC UTILITIES

(\$/mmBTU)



U.S. Electric Utility: Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

Source: U.S. Department of Energy, Energy Information Administration (EIA), March 2019.

from the industrial and residential sectors grew 4% and 13%, respectively. The electric power sector is the nation's single-largest user of natural gas; the sector's share of total gas consumption rose by 1.3% to 35.5%. The industrial sector, the second-largest user, saw its share decrease slightly, from 29% to 28%. The residential sector accounted for 16.6% of total consumption.

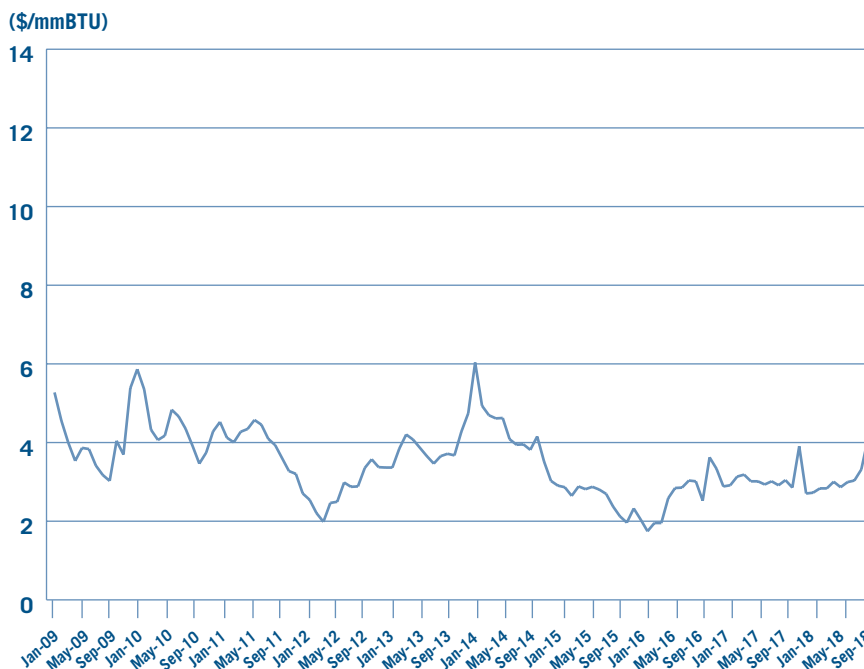
The average Henry Hub (HH) spot price — a widely watched benchmark — was \$3.17 per MMBtu in 2018, up 6% from the prior year. However, the cost to produce electricity from natural gas was unchanged, at \$32.70/MWh, partly because of lower operation and maintenance costs.

The U.S. remained a net natural gas exporter due to exports of liquefied natural gas (LNG). Export volume rose nearly 14%, to 3,605,028 million cubic feet (Mcf); this is more than triple the level ten years earlier. Imports declined about 4%, to 2,913,930 Mcf and remained well below the peak of 4,607,582 Mcf in 2007. Pipelines transported the overwhelming share of imports, at 97% of the total. Canada remained the main source of imported natural gas, producing almost the entirety of the total imported via pipelines. Mexico contributed a mere 0.12%. Liquefied natural gas imports remained virtually on par with 2017 levels as a fraction of total imports. Pipeline flows also dominated exports, at 70% of the total. Pipeline exports to Mexico

accounted for almost half of total exports, at 46.6%, and increased 8.8% year-to-year as well. Pipeline exports to Canada, about 23% of total exports, declined 8%.

While pipeline exports grew 2.5% year-to-year, LNG exports increased 53%. This was driven by a doubling of LNG exports to a range of countries including Argentina, Brazil, Chile, India, Japan, Taiwan, South Korea, the UK, Pakistan, and the Netherlands. The top three importers of US LNG were South Korea, Japan and Mexico. LNG exports to South Korea virtually doubled, while exports to Pakistan quadrupled. LNG export growth was supported by capacity expansions at Dominion Energy's Cove Point, Maryland terminal and Cheniere's Sabine Pass facility in Louisiana, which came online in 2017.

NYMEX-Henry Hub Natural Gas Close Prices 2009–2018



Source: U.S. Department of Energy, Energy Information Administration (EIA), March 2019.

Nuclear

Nuclear power has fueled between 17.8% and 20.6% of total U.S. electric generation since 1988. In 2018, it accounted for 19.3% of the electricity used in the U.S., down less than one percentage point from 2017. Since 2001, nuclear power's share of total U.S. electric generation has averaged 19.6%. High construction costs and lengthy permitting and building processes have made new nuclear plants largely uneconomical. As a result, year-to-year changes in nuclear generation are driven primarily by the duration of downtime at existing plants that result from refueling and maintenance.

The Nuclear Regulatory Commission (NRC) has granted a 20-year operational life exten-

sion to 85% of the 99 reactors originally scheduled to operate 40 years. Almost all U.S. reactors have been updated; that is, they have received NRC-approved expansions of original capacity totaling more than seven additional GW. This includes a 2012 approval to add two new units, scheduled for completion in 2021 and 2022, to the two existing pressurized water reactors at Southern Company's Vogtle facility in Georgia, which will augment nameplate capacity by 2,320 MW.

Although nuclear power's contribution to the U.S. generation mix has been steady for decades, the sector has been affected by broader changes in U.S. energy supply and demand. Since 2013, six reactors, amounting to more than 5 GW of total capacity, have been decommissioned. An additional eight, amounting to 7.5 GW capacity, are slated for retirement by 2025. Specifically, the scheduled retirement of the Three Mile Island and Pilgrim nuclear power plants by the end of 2019 will likely reduce nuclear power's share of generation in the years ahead. Plans for SCANA's NRC-approved Virgil C. Summer power plant in South Carolina were scrapped in 2017 after significant delays and cost overruns. Pressure on utilities to transition to a more flexible power grid have also forced some plant retirements, including PG&E's Diablo Canyon; that facility will sunset by 2025, replaced by renewables, energy efficiency and battery energy storage.

Nuclear power received a boost of optimism in April 2019 when the NRC issued a final environmental impact statement recommending

that the Tennessee Valley Authority receive an early site permit to build small modular reactors (SMR) at its Clinch River site near Oak Ridge, Tennessee. TVA is the first utility in the U.S. to submit such a request. The NRC has not approved any SMR design and TVA is only evaluating possibilities. Nuclear proponents believe SMRs may eventually be able to address current challenges associated with nuclear power and be better adapted to supply a modernized grid that supports widespread distributed generation.

Renewables

Renewable capacity growth continues to break records. Collectively, renewables (including hydro) accounted for a record high 17.1% of total U.S. electric generation in 2018. Non-hydro renewables also accounted for a record high 10.1% of total generation, up 0.5% from 2017. Solar generation continues to increase at a faster rate than wind, but the growth in net generation from solar slowed in 2018 to 25% year-to-year from record-breaking 48% growth in 2017. Solar's share of total nationwide output remains small, at just 1.6%, yet it accounted for 16% of total non-hydro renewable generation in 2018, up two percentage points from 2017 and its highest annual contribution on record. Wind generation rose 8%, reflecting a reduced pace from that in 2017. Wind power accounted for 65% of total non-hydro renewable generation, 0.8% less than in 2017. Biomass and geothermal continued to power less than one-quarter of the country's non-hydro renewable gen-

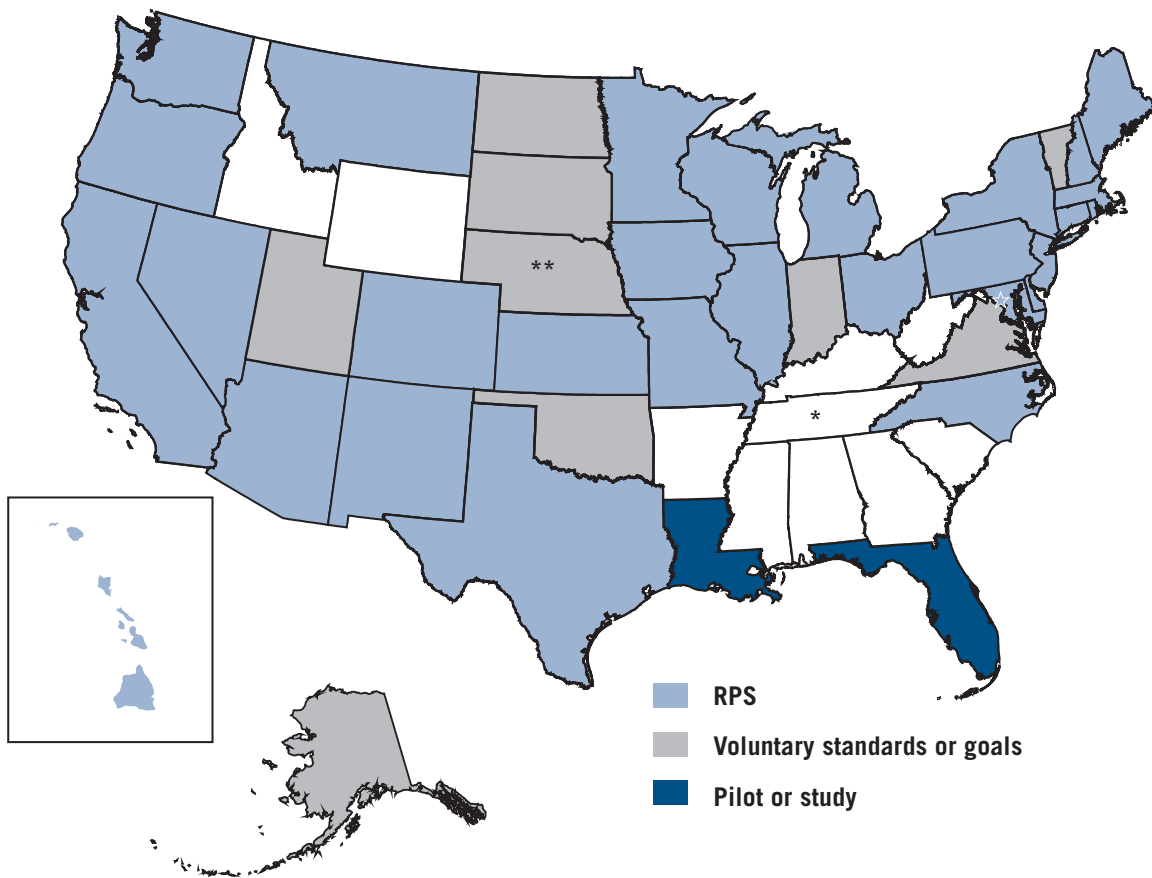
eration, at 15% and 4% of the total, respectively.

Oil

Oil generation supplied only 0.5% of U.S. electric output in 2018. Located away from continental U.S. rail infrastructure, Hawaii and Alaska (the country's two non-contiguous states) account for more than 60% of the nation's oil-fueled generation. Hawaii, which accounts for about half of all oil used for power generation, plans to generate 100% of the state's electricity from renewables by 2045. Other U.S. regions, such as Florida and New England, have significant oil-fueled capacity; this is mostly in the form of dual-fuel power plants built years ago to hedge the region's lack of natural gas infrastructure. Neither of these areas, however, generates a significant amount of electricity from oil.

Oil as an electricity generation fuel carries multifaceted risks. Oil prices are vulnerable to volatility from threatened or actual supply disruptions that result from diplomatic and military conflicts and from exchange rate fluctuations. West Texas Intermediate benchmark spot prices, for example, ranged from \$15 to \$25 per barrel in the 1990s, then jumped to \$145/barrel in 2008, right before the financial crisis.

29 States and D.C. have Renewable Electricity Portfolio Standards (RES)



- | | | |
|--|--|--|
| AZ: 15% by 2025; 4.5% DG | MI: 15% by 2021. 3.2 multiplier for solar electric | OK: 15% by 2015 (goal) |
| CA: 60% by 2030 | MN: 26.5% by 2025 (31.5% by 2020 Xcel). 1.5% solar and 0.15% PV DG by 2020. | OR: 50% by 2040 (5-10% - smaller utilities). 20 MW PV by 2025. Double credit for PV |
| CO: 30% by 2020 (10% co-ops, munis), 3% DG and 1.5% customer sited. | MO: 15% by 2021, 0.3% solar | PA: 18% by 2021, 0.5% PV by 2021 |
| CT: 40% by 2030 | MT: 15% by 2015 | RI: 38.5% by end 2035 |
| DC: 100% by 2032, 10% solar by 2041 | NC: 12.5% by 2021, 0.2% solar by 2018. (10% by 2018 co-ops, munis) | SC: 2% by 2021. 0.25 % DG by 2021 (goal). |
| DE: 25% by 2026, 3.5% PV. Triple credit for PV | ND: 10% by 2015 (goal) | SD: 10% by 2015 (goal) |
| HI: 100% by 2045 | NH: 24.8% by 2025. 0.3% solar electric by 2014 | TX: 5,880 MW by 2015, 500 MW non-wind goal, double credit for non wind |
| IA: 105 MW; 1 GW wind goal by 2010 | NJ: 50% by 2030 | UT: 20% by 2025, 2.4 multiplier for solar electric (goal) |
| IL: 25% by 2026; wind 75%, 1.5% PV and 0.25% DG | NM: 50% by 2030, 80% by 2040 | VA: 15% by 2025 (goal) |
| IN: 10% by 2025 (goal) | NV: 50% by 2030, 1.5% solar by 2025. 2.4 multiplier for PV | VT: 75% by 2032; 1% DG by 2017 + 3/5 of 1% per year until 10% by 2032 |
| KS: 20% by 2020 | NY: 50% by 2030, 0.58% customer sited by 2015 | WA: 15% by 2020, double credit for DG, 2 MW DG |
| MA: 35% by 2030 (new resources); 1% each year thereafter | OH: 12.5% by 2026, 0.5% solar by 2027 | WI: 10% by 2015 |
| MD: 25% by 2020, 2.5% solar by 2020 | | |
| ME: 40% by 2017; 8 GW wind goal by 2030 | | |

Updated April 2019.

Abbreviations: EE - Energy Efficiency; RE - Renewable Energy.

Notes: An RPS requires a percent of an electric provider's energy sales (MWh) or installed capacity (MW) to come from renewable resources. Most specify sales (MWh). Map percents are final years' targets. * TVA's goal is not state policy; it calls for 50% zero- or low-carbon generation by 2020. ** Nebraska's two largest public power districts have renewable goals.

Source: Database of State Incentives for Renewables and Efficiency, <http://www.dsireusa.org>.

Capital Markets

Stock Performance

The market's dive in late 2018 gave investors quite a surprise given the optimism that drove major averages higher for most of the year. However, utility stocks performed well as an effective portfolio diversifier and reliable hedge on broad market weakness in both Q4 and for the year as a whole.

At September 30, the EEI Index had gained about 2.2% year-to-date versus more sizeable advances by the Dow Jones Industrials (+8.8%), the S&P 500 (+10.6%) and the Nasdaq (+16.6%). Stocks rose on bullish economic data and strong corporate earnings. Real gross domestic product (GDP) grew at a 4.2% annual pace in Q2 and at 3.4% in Q3, both up from Q1's 2.2% rate and the strongest quarterly readings since Q3 2014's 4.9%. The U.S. unemployment rate fell below 4% in July and August, reaching 3.7% in September — its lowest level since 1969. Lifted in part by lower tax rates under the Trump administration's tax reform, corporate profits boomed. Based on earnings data compiled by Zacks Investment Research, S&P 500 profits rose 25% year-to-year in each of 2018's first three quarters. Given this back-

2018 Index Comparison

EEI Index	3.67
Dow Jones Industrials	(3.48)
S&P 500	(4.38)
Nasdaq Composite Index*	(3.88)

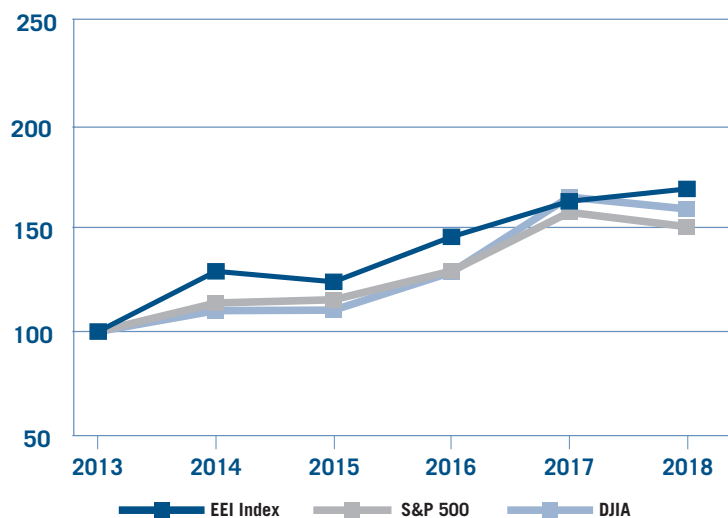
* Price gain/(loss) only. Other indices show total return.

Source: EEI Finance Department and S&P Global Market Intelligence.

Comparison of the EEI Index, S&P 500, and DJIA Total Return 1/1/14–12/31/18

REFLECTS REINVESTED DIVIDENDS

(Dollars)



All returns are annual.

Note: Assumes \$100 invested at closing prices December 31, 2013.

Source: EEI Finance Department and S&P Global Market Intelligence.

2018 Returns By Quarter

Index	Q1	Q2	Q3	Q4
EI Index	(3.3)	3.8	2.0	1.3
Dow Jones Industrial Average	(2.0)	1.3	9.6	(11.3)
S&P 500	(0.8)	3.4	7.7	(13.5)
Nasdaq Composite*	2.3	6.3	7.1	(17.5)

Category	Q1	Q2	Q3	Q4
All Companies	(3.0)	5.3	1.4	0.8
Regulated	(3.5)	5.4	2.0	0.7
Mostly Regulated	(1.9)	5.0	(0.3)	0.9

* Price gain/loss only. Other indices show total return.

For the Category comparison, straight, equal-weight averages are used (i.e., not market-cap-weighted).

Source: EEI Finance Department, S&P Global Market Intelligence.

Sector Comparison 2018 Total Shareholder Return

Sector	Total Return %
Healthcare	6.2%
Utilities	4.4%
EEI Index	3.7%
Consumer Services	2.0%
Technology	-0.6%
Telecommunications	-6.8%
Financials	-9.0%
Industrials	-11.3%
Consumer Goods	-13.4%
Basic Materials	-16.2%
Oil & Gas	-19.0%

Source: EEI Finance Dept., Dow Jones & Company, Yahoo! Finance.

drop, it's not surprising that utilities lagged the major averages.

The broad market had surged 40% since Trump's 2016 election win and may have been primed for a correction. An excuse was given by emerging trade war tensions with China, disappointing global economic data late in the year (with a

focus on weakness in China), and a sense that red-hot corporate profit gains were peaking. Indeed, the pace of Q4 corporate earnings gains was revised downward as the quarter progressed, and 2019's profit outlook dimmed along with economic sentiment. The fourth quarter market correction took the Nasdaq

Composite down 17.5%, while the S&P 500 and Dow Jones Industrials lost 13.5% and 11.3%, respectively, from September highs. These declines fully erased the strong advance through Q3, leaving the major indices with 3% to 4% losses for the full-year. By contrast, the EEI Index gained 1.3% in Q4 and returned a positive 3.7% in 2018, outperforming the major averages by 10 to 12 percentage points in Q4 and about seven to eight percentage points for the year as a whole.

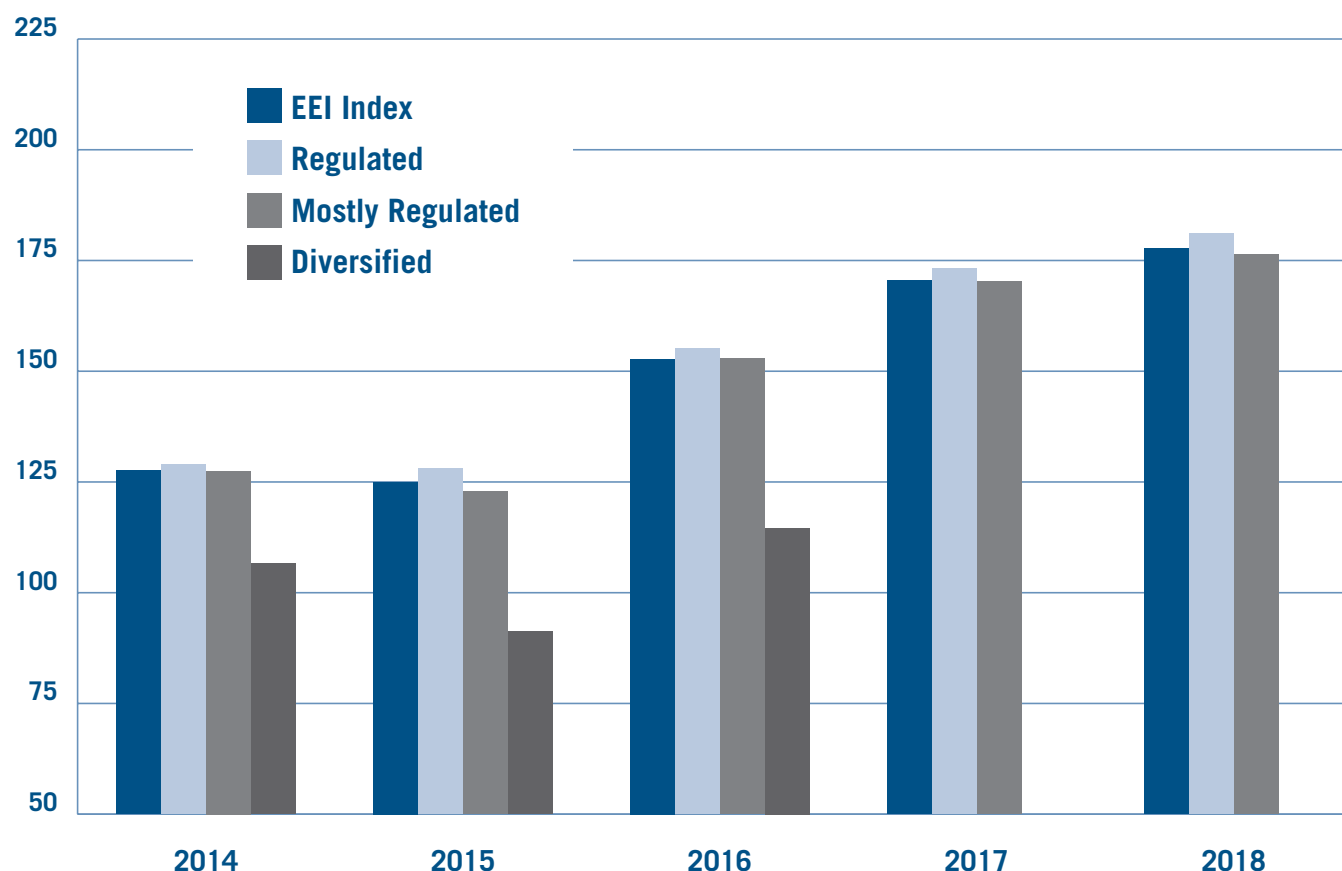
Rate Rally Stalls in Q4

The EEI Index delivered a positive return through the year's first nine months even in the face of rising interest rates. The U.S. Federal Reserve hiked the overnight Fed Funds rate by 25 basis points four times in 2018, to a target range of 2.25% to 2.50% at its December Federal Open Market Committee (FOMC) meeting. The three-month Treasury bill yield rose steadily during the year, from 1.4% in January to 2.4% by December. However, the 10-year Treasury yield is a far more important influence than short-term rates on utility stocks, whose dividend yields give them bond-like qualities but with dividend growth potential. The 10-year yield climbed from 2.5% in January to 3.2% in September in synchronization with strong U.S. economic data but fell back to 2.7% by late December on fears of slowing growth. The pull-back in this widely watched risk-free benchmark yield undoubtedly buttressed utilities' performance in Q4.

Comparative Category Total Annual Returns 2014–2018

U.S. INVESTOR-OWNED ELECTRIC UTILITIES,
VALUE OF \$100 INVESTED AT CLOSE ON 12/31/2013

(Dollars)



	2014	2015	2016	2017	2018
EEI Index Annual Return (%)	27.63	(2.05)	22.21	11.56	4.28
EEI Index Cumulative Return (\$)	127.63	125.01	152.77	170.43	177.73
Regulated EEI Index Annual Return	28.92	(0.67)	21.16	11.66	4.55
Regulated EEI Index Cumulative Return	128.92	128.05	155.15	173.24	181.11
Mostly Regulated EEI Index Annual Return	27.46	(3.67)	24.57	11.32	3.62
Mostly Regulated EEI Index Cumulative Return	127.46	122.78	152.94	170.26	176.42
Diversified EEI Index Annual Return	6.61	(14.43)	25.59	-	-
Diversified EEI Index Cumulative Return	106.61	91.23	114.57	-	-

- For the Category Comparison, straight, equal-weight averages are used (i.e., not market-cap-weighted).
- Cumulative Return assumes \$100 invested at closing prices on December 31, 2013.

Source: EEI Finance Dept., S&P Global Market Intelligence.

2018 Category Comparison

Category	Return (%)
EI Index	4.28
Regulated	4.55
Mostly Regulated	3.62

* Returns shown here are unweighted averages of constituent company returns. The EI Index return shown in the 2018 Index Comparison table is cap-weighted.

Source: EI Finance Department, S&P Global Market Intelligence, and company annual reports.

Power Demand Rises 3% in 2018

Short-term changes in power demand that impact utilities' revenue generally result from fluctuations in weather. These rarely shift long-term utility stock trends since the effect is small and transitory. But they can slightly boost or detract from quarterly earnings and may, in some cases, illuminate tightening supply trends in power markets with potential for new generation build and rate base growth.

A hot summer across much of the U.S. powered electricity demand higher in 2018. Electric output grew by 4.2% in Q3 and by 3.1% for the full-year, reaching a record high that marginally surpassed 2007's total output. The gain was largely due to weather, as weather-adjusted output was flat year-to-year. National Oceanic and Atmospheric Administration (NOAA) data shows nationwide cooling degree days — a measure of air conditioning de-

mand — were 14% higher in Q3 2018 than their 10-year average, and 17% higher versus the same quarter last year. California's statewide average temperature in July surpassed the previous record set in 1931 and the Energy Information Administration (EIA) reports that record-high temperatures in the western U.S. drove peak wholesale electricity prices in July to their highest level since 2008. Eastern seaboard temperatures were hot as well; cooling degree days were 45% above the 10-year average in New England and 30% higher in the mid-Atlantic region.

However, electricity demand has been flat in recent years due to energy efficiency measures and the slow erosion in industrial demand from the changing structure of the U.S. economy. Nationwide demand fell 2.0% in 2017, the largest year-to-year decline since the 2009 recession year. The temporary lift from 2018's weather

is unlikely to alter the slow demand-growth outlook facing the industry.

Steady Fundamentals

There was little change in the industry's generally good business fundamentals in 2018.

Demand growth during the key summer cooling season helped power electric utility industry earnings up about 10% year-to-year in Q3. Wall Street analysts also reported that many utility managements in Q4 affirmed and/or slightly raised 2018 earnings guidance along with their capex and rate base growth outlooks for the next several years.

Most utilities have exited unregulated operations and are now seeking earnings growth from regulated rate base investment programs. Most are targeting earnings per share growth rates in the mid-single digits, along with similar dividend growth targets. Investment programs include new renewables generation and new gas-

fired generation, transmission and distribution modernization and expansion, smart-grid deployment, and reliability-related network hardening.

Analysts view state regulatory relations as generally fair — balancing the interests of ratepayers, utilities and other stakeholders — with support for investments that advance state renewable energy goals, reliability, jobs creation and the enlarged tax base that comes with it. In recent years, utilities have also successfully advocated for changes to rate design — such as forward test years, rate mechanisms and adjustment clauses — that allow more timely recovery of costs associated with big-ticket capital investment programs. Industry capex has risen from \$74 billion in 2010 to a projected \$127 billion for 2018. Capex was \$40 billion in 2004, the cyclical low following the competitive generation buildout.

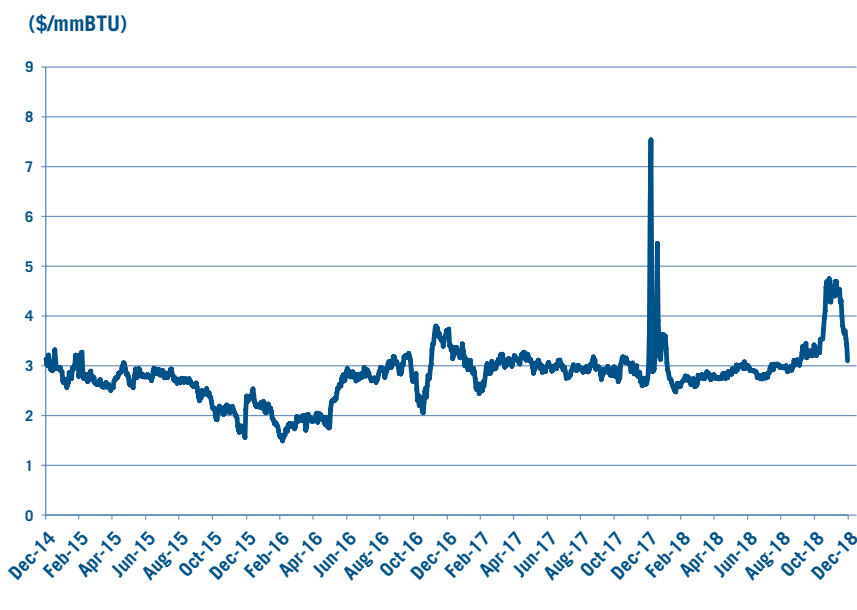
Other favorable fundamental trends for regulated utilities include continued low natural gas prices and the generally low level of interest rates. Since regulated utilities pass fuel and interest expense through to customers (and fuel can account for 40% or more of the customer’s bill), cost stability in these key areas helps keep bill inflation down and makes it easier to gain regulatory approval for rate base expansion. Despite the steep capex ramp up of recent years, the average nationwide cost of electricity for residential customers has only risen from \$0.1126/kilowatt hour (kWh) in 2008 to \$0.1289/kWh in 2017, which was barely changed from 2014’s \$0.1252, according to Energy Information Administration (EIA) data.

EEI Index Top 10 Performers Twelve-month period ending 12/31/2018

Company	Total Return %	Category
FirstEnergy Corp.	27.7	R
OGE Energy Corp.	23.8	R
SCANA Corporation	23.2	R
Exelon Corporation	18.2	MR
Otter Tail Corporation	14.9	R
Unitil Corporation	14.3	R
NextEra Energy, Inc.	14.3	MR
Ameren Corporation	13.9	R
Vectren Corporation	13.6	R
Eergy, Inc.	10.9	R

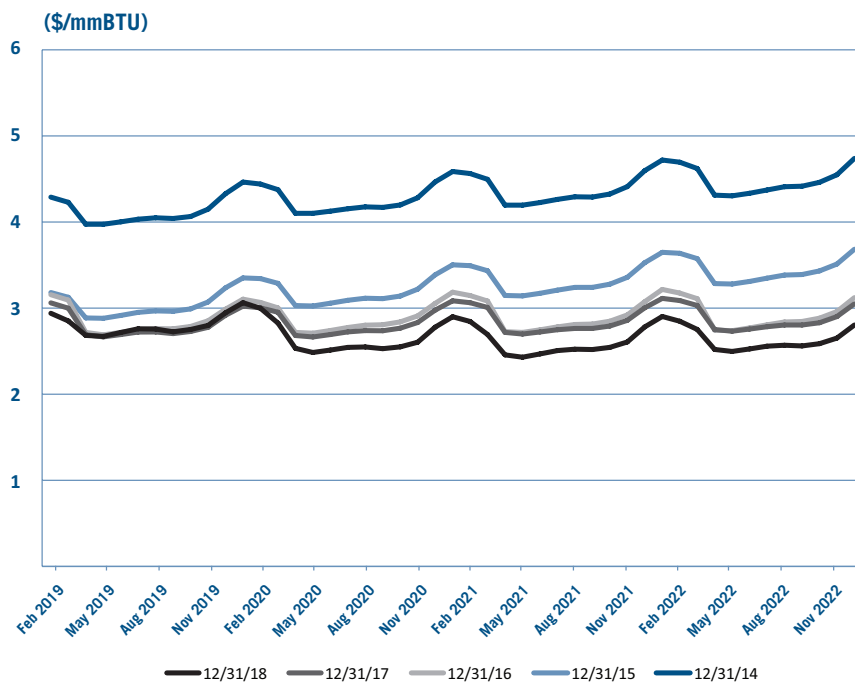
Note: Return figures include capital gains and dividends.
Source: EEI Finance Department.

Natural Gas Spot Prices - Henry Hub 12/31/14 through 12/31/18



Source: S&P Global Market Intelligence.

NYMEX Natural Gas Futures February 2019 through December 2022



Source: S&P Global Market Intelligence.

Historically Elevated Valuations

By year-end 2018, Wall Street analysts were unanimous in observing that the industry's stock valuations seemed high whether measured in absolute price/earnings (PE) ratios, PEs relative to the S&P 500, or dividend/earnings yields relative to interest rates. By year-end 2018, all metrics were near the top of their range in recent years. The industry's PE on 2019 earnings is roughly 19, more than the S&P 500's and almost double the electric utility industry's 10 to 12 PE multiple in the late 1990s. Of course, the 10-year Treasury yield was about 6% in the late 1990s, also about double today's sub-3% level.

Low interest rates are no doubt partly responsible for today's seemingly lofty valuations. But industry fundamentals are too. Utilities offer investors the appealing package of mid-single-digit earnings growth and a 3% dividend yield with dividend growth potential, all generated by investment programs that have fairly high predictability, relatively low execution risk and support from state regulators. S&P 500 earnings by contrast are more cyclical and far more subject to the whims of the economic cycle.

It's hard to predict with any certainty the long-run impact of electric vehicle adoption, energy efficiency measures, energy storage innovation, smart-grid transformation, rising

demand for renewable power, along with the public's need for reliable power around the clock. But it's likely that the industry will maintain a key role in transforming and modernizing the nation's power network into a true 21st century grid. And much of the nation's aging baseload generation infrastructure will require replacement in the decades ahead, which could extend the visible horizon for utility capex and rate base growth.

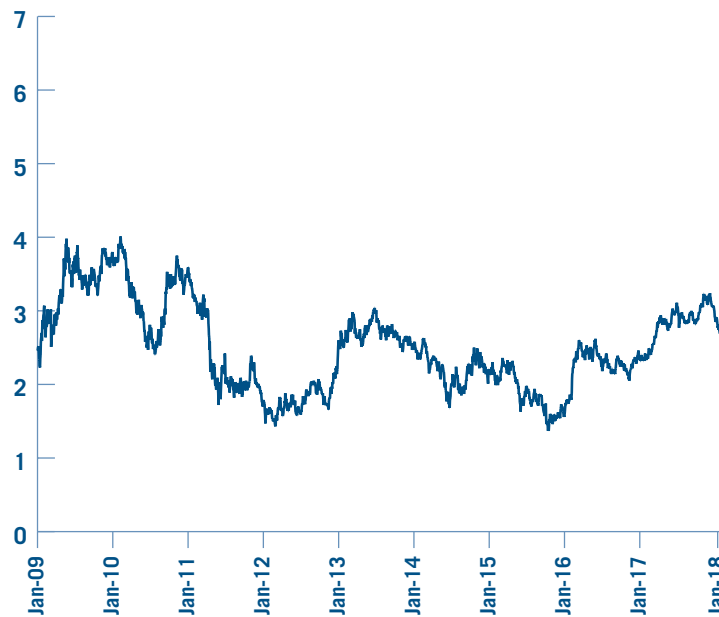
Rising Interest Rates Seen as Main Risk

Utility stock moves are caused more by shifts in macroeconomic data and fast-changing investor sentiment than changes in fundamental outlooks — except when company-specific events impact individual utilities.

Merger and acquisition (M&A) activity is one company-specific theme. Industry consolidation has been a structural trend for many years; the universe of U.S. investor-owned electric utilities tracked by EEI has fallen to 42 at year-end 2018 from 83 at the start of 2000. Dominion announced in early January 2018 that it would seek to buy neighboring utility SCANA. In April 2018, CenterPoint Energy announced a bid for Vectren — a deal the companies said was motivated by synergistic growth opportunities in natural gas distribution. Both utilities were among the top-ten performers in the EEI Index in 2018. Several other smaller utilities in the Regulated category also made the top-ten list; these may have received some price support from speculation over potential M&A activity.

10-Year Treasury Yield 1/1/09 through 12/31/18

(Percent)



Source: U.S. Federal Reserve.

Market Capitalization at December 31, 2018 (in \$MM)

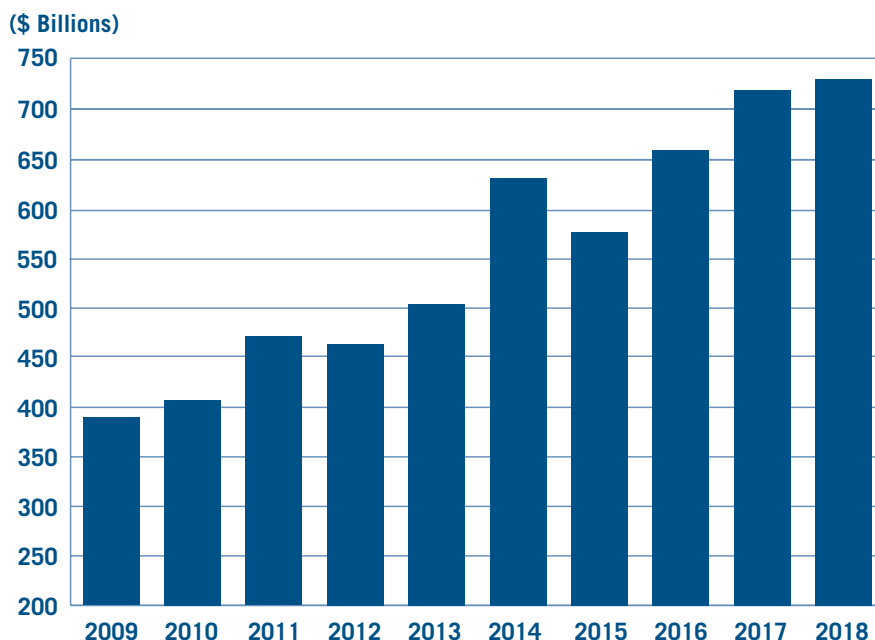
U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Company Name	Ticker	Market Cap.	% of Total	Company Name	Ticker	Market Cap.	% of Total
NextEra Energy, Inc.	NEE	82,234	11.24%	PG&E Corporation	PCG	12,279	1.68%
Duke Energy Corporation	DUK	61,532	8.41%	CenterPoint Energy, Inc.	CNP	12,183	1.67%
Dominion Energy, Inc.	D	46,728	6.39%	Alliant Energy Corporation	LNT	9,937	1.36%
Southern Company	SO	44,930	6.14%	Pinnacle West Capital Corporation	PNW	9,555	1.31%
Exelon Corporation	EXC	43,657	5.97%	NiSource Inc.	NI	9,225	1.26%
American Electric Power Company, Inc.	AEP	36,846	5.04%	OGE Energy Corp.	OGE	7,826	1.07%
Sempra Energy	SRE	29,638	4.05%	SCANA Corporation	SCG	6,833	0.93%
Public Service Enterprise Group Inc.	PEG	26,233	3.59%	Vectren Corporation	VVC	5,982	0.82%
Xcel Energy Inc.	XEL	25,128	3.44%	IDACORP, Inc.	IDA	4,693	0.64%
Consolidated Edison, Inc.	ED	23,787	3.25%	MDU Resources Group, Inc.	MDU	4,673	0.64%
WEC Energy Group, Inc.	WEC	21,852	2.99%	Portland General Electric Company	POR	4,092	0.56%
Eversource Energy	ES	20,641	2.82%	Hawaiian Electric Industries, Inc.	HE	3,987	0.55%
DTE Energy Company	DTE	20,075	2.75%	ALLETE, Inc.	ALE	3,918	0.54%
PPL Corporation	PPL	19,937	2.73%	Black Hills Corporation	BKH	3,350	0.46%
FirstEnergy Corp.	FE	18,888	2.58%	PNM Resources, Inc.	PNM	3,282	0.45%
Edison International	EIX	18,507	2.53%	NorthWestern Corporation	NWE	2,991	0.41%
Ameren Corporation	AEE	15,923	2.18%	Avista Corporation	AVA	2,790	0.38%
Entergy Corporation	ETR	15,579	2.13%	MGE Energy, Inc.	MGEE	2,079	0.28%
AVANGRID, Inc.	AGR	15,502	2.12%	El Paso Electric Company	EE	2,032	0.28%
Eergy, Inc.	EVRG	15,248	2.09%	Otter Tail Corporation	OTTR	1,967	0.27%
CMS Energy Corporation	CMS	14,026	1.92%	Unitil Corporation	UTL	751	0.10%

Total Industry 731,313 100%

Source: EEI Finance Department and S&P Global Market Intelligence.

EEI Index Market Capitalization 2009–2018

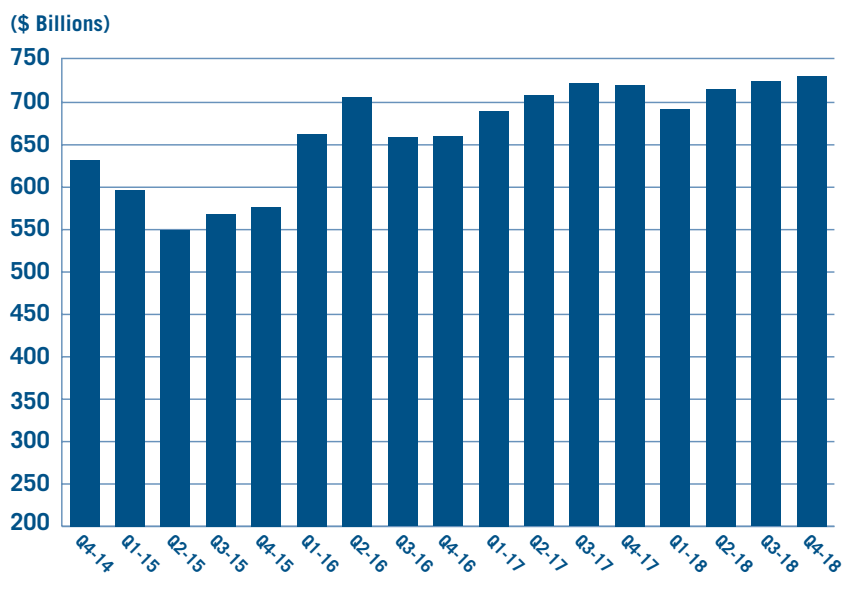


Note: Results are as of December 31 of each year.

Source: EEI Finance Department and S&P Global Market Intelligence.

A sharp rise in interest rates is widely seen as the biggest macro threat facing utility investors. Although it's hard to see just what would cause it, CPI inflation excluding volatile food and energy costs (a widely watched inflation benchmark) held near 2% throughout 2018, even as the economy roared. As Q4's sentiment shift showed, the main risk to the very-long-lived economic expansion seems to be weakness rather than more red-hot growth. Interest rates would likely fall if economic data turns weak, as they did in Q4. Analysts note the impact of rising rates would be on stock prices rather than earnings. Higher rates can translate into higher allowed ROEs and improved pension funding. Many companies have embedded low-cost debt from years of low rates, and interest rates still remain very low by historical standards.

EEI Index Market Capitalization December 31, 2014–December 31, 2018



Source: EEI Finance Department and S&P Global Market Intelligence.

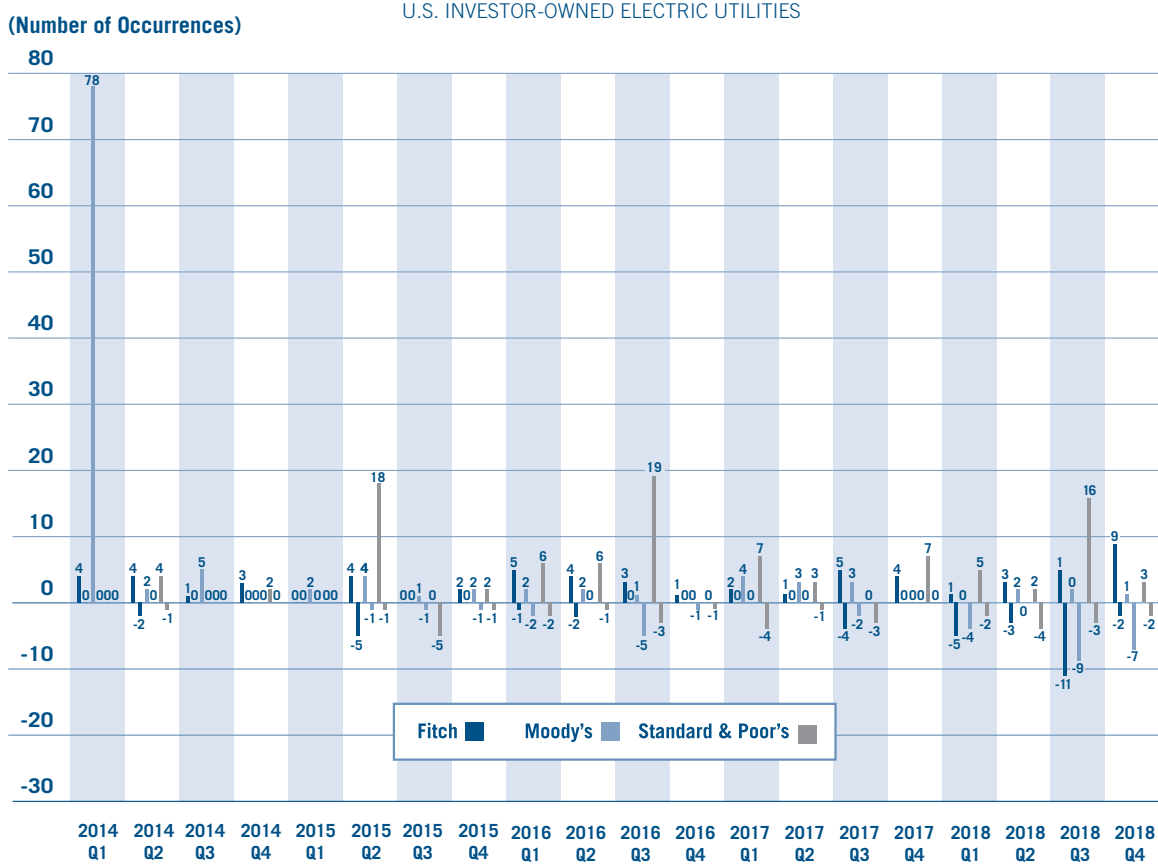
Credit Ratings

The industry’s average credit rating in 2018 was BBB+, remaining for a fifth straight year above the BBB average for the period since 2004. Ratings activity, at 95 changes, was above the 68-change annual average for the previous ten years. Upgrades were 45.3% of total actions in 2018, the first year since 2012 that downgrades outnumbered upgrades. The previous five years produced the five highest upgrade percentages in

our historical data. Over the past 17 years, upgrades outnumbered downgrades in nine years with an annual average upgrade percentage of 54.2% for the period. EEI captures upgrades and downgrades at the subsidiary level; multiple actions within a parent holding company are included in the upgrade/downgrade totals. However, the industry’s average credit rating and outlook are based on the unweighted averages of all Standard & Poor’s (S&P) parent company ratings and outlooks.

While the industry’s average credit rating at the parent company level was unchanged at BBB+, the underlying data show a modest strengthening in credit quality. At the parent level, six different companies received upgrades and only two received downgrades. One additional company was downgraded and later upgraded during 2018. On December 31, 2018, 70.2% of ratings outlooks were “stable” and 6.4% were “positive” or “watch-positive”. Only 23.4% were “negative” or “watch-negative”.

Credit Rating Agency Upgrades and Downgrades 2014 Q1–2018 Q4



Note: Data presents the number of occurrences and includes each event, even if multiple actions occurred for a single company.

Source: Fitch Ratings, Moody's, and Standard & Poor's.

Credit Rating Agency Upgrades and Downgrades 2014 Q1–2018 Q4

	2014		2015		2016		2017		2018	
	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades
Fitch										
Q1	4	0	0	0	5	(1)	2	0	1	(5)
Q2	4	(2)	4	(5)	4	(2)	1	0	3	(3)
Q3	1	0	0	0	3	0	5	(4)	1	(11)
Q4	3	0	2	0	1	0	4	0	9	(2)
Total	12	(2)	6	(5)	13	(3)	12	(4)	14	(21)
Moody's										
Q1	78	0	2	0	2	(2)	4	0	0	(4)
Q2	2	0	4	(1)	2	0	3	0	2	0
Q3	5	0	1	(1)	1	(5)	3	(2)	0	(9)
Q4	0	0	2	(1)	0	(1)	0	0	1	(7)
Total	85	0	9	(3)	5	(8)	10	(2)	3	(20)
S&P										
Q1	0	0	0	0	6	(2)	7	(4)	5	(2)
Q2	4	(1)	18	(1)	6	(1)	3	(1)	2	(4)
Q3	0	0	0	(5)	19	(3)	0	(3)	16	(3)
Q4	2	0	2	(1)	0	(1)	7	0	3	(2)
Total	6	(1)	20	(7)	31	(7)	17	(8)	26	(11)

Note: Chart depicts the number of occurrences and includes each event, even if multiple downgrades occurred for a single company.

Source: Fitch Ratings, Moody's, and Standard & Poor's.

Continued Credit Strengthening at Parent Level

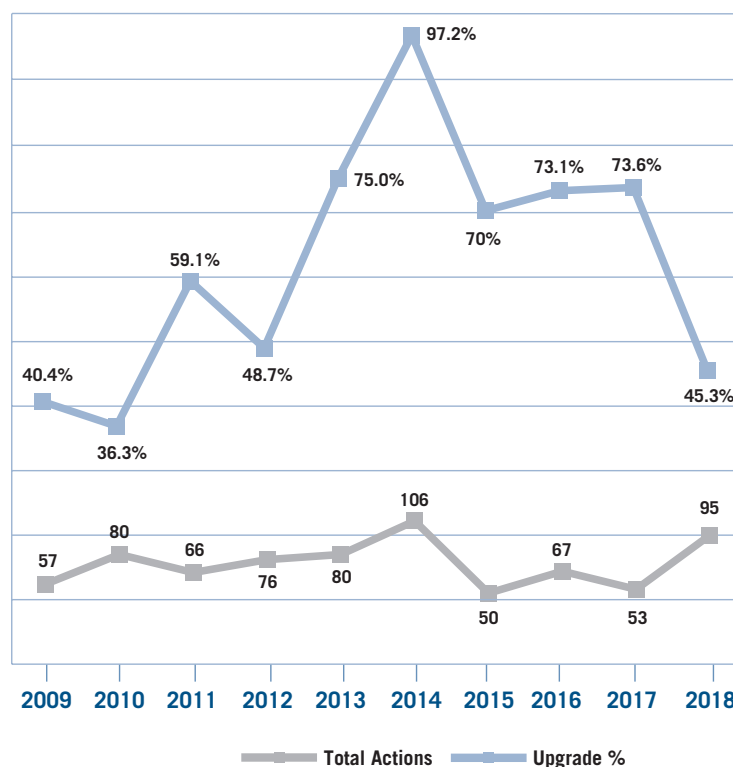
Total ratings actions at the parent company level in 2018 included seven upgrades and five downgrades, inclusive of both an upgrade and downgrade for one company and three downgrades for another. Our universe of 47 U.S. parent company electric utilities at December 31, 2018 included five that are either a subsidiary of an independent power producer, a subsidiary of a foreign-owned company, or that have been acquired by an investment firm.

PG&E Corp.

On February 22, S&P downgraded its issuer credit rating for PG&E Corp. and its Pacific Gas and Electric subsidiary to BBB+ from A- due to the risk posed by financial claims resulting from wildfires in 2017 in the utility's Northern California service territory. On June 13, S&P further downgraded

Direction of Rating Actions

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: Fitch Ratings, Moody's, and Standard & Poor's.

the issuer credit ratings of PG&E Corp. and subsidiary Pacific Gas and Electric to BBB from BBB+, based on initial results of the wildfire investigation in California. On November 15, S&P lowered the two companies' issuer credit ratings to BBB-, again citing wildfire-related risks.

IPALCO

On March 16, S&P raised its issuer credit rating for IPALCO Enterprises, Inc. to BBB from BBB-. The upgrade was based on the expectation that parent company AES Corp. would accelerate debt reduction using proceeds from asset sales, primarily the sale of its 51% equity interest in its Philippines subsidiary to SMC Global Power Holdings Corp. for \$1.05 billion. S&P noted the positive impact this would have on AES' adjusted funds from operations to debt ratio.

DPL Inc.

On March 30, S&P upgraded the issuer credit ratings on DPL Inc. and its subsidiary Dayton Power and Light (DP&L) to BBB- from BB, a two-notch increase, following the sale of six generation facilities. On March 28, DPL announced the completion of the sale of its remaining merchant generation facilities, totaling about 973 MW, to Kimura Power LLC for nearly \$240 million in cash. According to S&P, the deal essentially transforms DPL into a low-risk transmission and distribution utility, warranting a revision of the company's business risk profile to excellent from satisfactory. DPL said it will use proceeds from the sale to repay term loans and other debt and fund infrastructure investments.

OGE Energy

On June 18, S&P lowered its issuer credit ratings on OGE Energy Corp. and subsidiary Oklahoma Gas and Electric Co. to BBB+ from A- following a settlement in OG&E's general rate case. The settlement provides for a rate decrease of \$64 million, the inclusion of the Mustang Energy Center in rate base, and a regulatory asset mechanism to recover future costs related to the Sooner power plant scrubber project. S&P commented that the downgrade reflects its expectation that OGE's consolidated funds from operations to debt ratio (FFO to debt) will remain below 23% over the next few years. Specifically, S&P expects FFO to debt to range from 20% to 23%, consistent with a higher financial risk profile.

Portland General Electric

On July 18, S&P upgraded its corporate credit rating for Portland General Electric to BBB+ from BBB after the utility reached a settlement to resolve all claims relating to its Carty gas-fired plant. The company had declared plant contractors, who were affiliates of Spanish firm Abengoa SA, in default and terminated their construction agreement in December 2015. Portland General hired another contractor to finish the power plant but incurred additional costs in the process. S&P said the company's ability to settle this complex issue at close to full recovery supports its assessment of an improved business risk profile and demonstrates the company's ability to effectively execute on its strategic initiatives.

Evergy

On July 19, newly formed Evergy, Inc. was assigned an A- issuer credit rating and a stable outlook by S&P. Evergy, headquartered in Kansas City, MO, was created through the merger of Westar, Inc. and Great Plains Energy, Inc., with issuer credit ratings on Evergy's utility subsidiaries remaining at A- at the time of this rating.

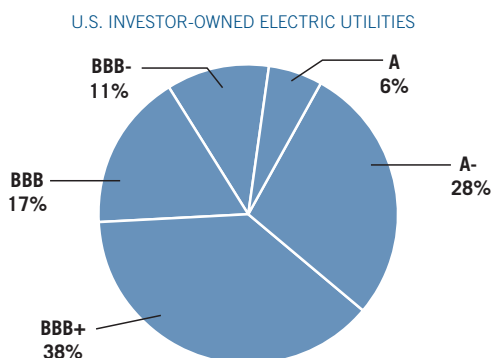
Black Hills Corp

On August 9, S&P upgraded Black Hills Corp. and subsidiary Black Hills Power Inc. to BBB+ from BBB, citing the company's successful divestiture plan. In November 2017, Black Hills announced plans to exit the oil and gas industry by the end of 2018. At the time of the August upgrade, Black Hills had almost completely divested its oil and gas exploration and production assets and expected to sell the remaining assets by the end of the third quarter of 2018. S&P said the scale of utility operations the company had achieved to date along with the sale of its more risky E&P segment would make Black Hills' cash flows and operations more predictable. S&P noted that Black Hills would benefit from recovery of invested capital via regulatory riders and base rate cases while continuing to manage its capital structure prudently, supporting its operating cash flow and other financial measures.

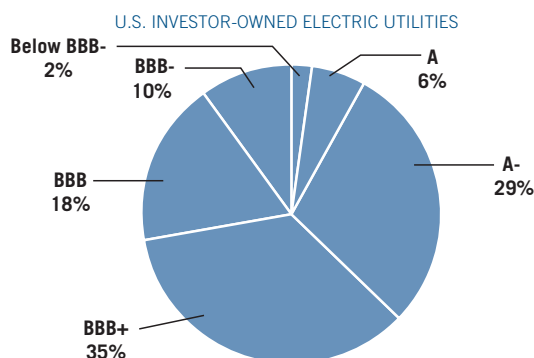
SCANA

On August 9, S&P downgraded SCANA Corp. and its subsidiaries to BBB- from BBB after a federal judge denied South Carolina Electric & Gas Co.'s (SCE&G) attempt to halt

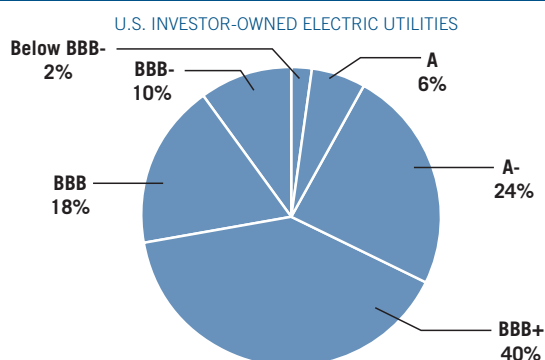
Bond Ratings December 31, 2018 as rated by Standard & Poor's



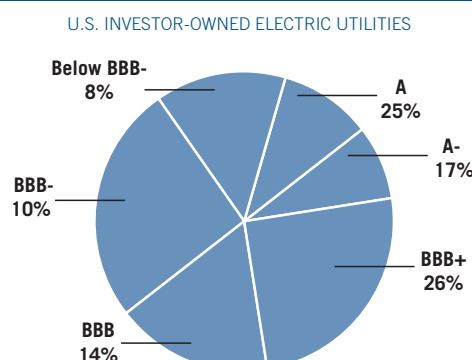
Bond Ratings December 31, 2017 as rated by Standard & Poor's



Bond Ratings December 31, 2016 as rated by Standard & Poor's



Bond Ratings December 31, 2001 as rated by Standard & Poor's



Note: Rating applies to utility holding company entity.

Source: Standard & Poor's, S&P Global Market Intelligence, EEI Finance Department, and company annual reports

a temporary rate reduction tied to recovery of costs associated with the abandoned V.C. Summer nuclear plant construction project. S&P lowered its ratings, including the issuer credit ratings, on SCANA and subsidiaries SCE&G and Public Service Co. of North Carolina Inc. to BBB- from BBB. The downgrade reflected S&P's expectation of reduced consolidated credit metrics over the next two years, even after incorporating the company's announced cut to its dividend payments. S&P added that its CreditWatch with negative

implications on SCANA and its subsidiaries reflects ongoing uncertainty regarding recovery of V.C. Summer-related costs. S&P said it could lower ratings again if credit metrics weaken beyond those in its base-case scenario, which assumes the temporary rate cut is made permanent.

On December 27, S&P upgraded SCANA to BBB+ from BBB due to the anticipated close of the company's all-stock merger with Dominion Energy Inc. S&P also upgraded SCANA SCE&G subsidiary to BBB+ from BBB-. S&P said

that the upgrades reflect the higher-rated Dominion's pending acquisition of SCANA. The Public Service Commission of South Carolina had voted on December 14 to unanimously approve Dominion's acquisition of SCANA. The merger was completed on January 2, 2019.

FirstEnergy

On August 30, S&P upgraded the issuer credit rating for FirstEnergy Corp. and its subsidiaries to BBB from BBB- after First Energy filed a settlement agreement in the

Rating Agency Activity

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Total Ratings Changes	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fitch	14	24	25	26	23	14	11	16	16	35
Moody's	23	20	11	20	17	85	12	13	12	23
Standard & Poor's	20	36	30	30	40	7	27	38	25	37
Total	57	80	66	76	80	106	50	67	53	95

Source: Fitch Ratings, Moody's, Standard & Poor's, S&P Global Market Intelligence, and EEI Finance Department.

S&P Utility Credit Ratings Distribution by Company Category

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	2014		2015		2016		2017		2018	
	#	%	#	%	#	%	#	%	#	%
Regulated										
A or higher	1	3%	1	3%	2	6%	2	6%	1	3%
A-	8	21%	8	22%	10	28%	12	34%	11	32%
BBB+	12	32%	12	33%	13	36%	10	29%	11	32%
BBB	14	37%	12	33%	8	22%	7	20%	7	21%
BBB-	1	3%	1	3%	3	8%	4	11%	4	12%
Below BBB-	2	5%	2	6%	0	0%	0	0%	0	0%
Total	38	100%	36	100%	36	100%	35	100%	34	100%
Mostly Regulated										
A or higher	1	8%	1	8%	1	8%	1	7%	2	15%
A-	4	31%	5	38%	2	17%	2	14%	2	15%
BBB+	4	31%	5	38%	7	58%	7	50%	7	54%
BBB	2	15%	1	8%	0	0%	2	14%	1	8%
BBB-	2	15%	1	8%	1	8%	1	7%	1	8%
Below BBB-0	0	0%	0	0%	1	8%	1	7%	0	0%
Total	13	100%	13	100%	12	100%	14	100%	13	100%
Diversified										
A or higher	0	0%	0	0%	0	0%				
A-	0	0%	0	0%	0	0%				
BBB+	1	50%	1	50%	0	0%				
BBB	0	0%	0	0%	1	50%				
BBB-	1	50%	1	50%	1	50%				
Below BBB-	0	0%	0	0%	0	0%				
Total	2	100%	2	100%	2	100%				

Note: Totals may not equal 100.0% due to rounding.

Refer to page v for category descriptions.

Source: Standard & Poor's, S&P Global Market Intelligence, and EEI Finance Department.

Chapter 11 bankruptcy proceedings of FirstEnergy Solutions Corp. The ratings agency said the settlement agreement was in line with its base case expectations. S&P also noted FirstEnergy's stable outlook, which reflected an expectation that the bankruptcy court would approve the settlement and that FirstEnergy would focus on growing its regulated businesses.

Increased Actions by Fitch and Moody's

Fitch and Moody's each increased the number of ratings actions in 2018 after three years of relatively low activity. Fitch issued 14 upgrades and 21 downgrades compared to 12 and four, respectively, in 2017. The 35 total actions in 2018 compared to 16 in both 2017 and 2016, 11 in 2015 and 14 in 2014. Two prominent developments contributed to the increased downgrade activity in 2018: 1) the regulatory uncertainty surrounding wildfire-related cost recovery in California and 2) execution risk associated with the construction of Southern Company's Vogtle 3 and 4 nuclear units. Successful mergers were cited in three of Fitch's 2018 upgrades.

Moody's issued three upgrades and 20 downgrades in 2018 compared to ten upgrades and two downgrades in 2017, five upgrades and 8 downgrades in 2016, and nine upgrades and three downgrades in 2015.

Ratings by Company Category

The table *S&P Utility Credit Rating Distribution by Company Category* presents the distribution of credit ratings over time by company category (Regulated, Mostly

Regulated and Diversified) for the investor-owned electric utilities. The Diversified category was eliminated in 2017 due to its dwindling number of companies. Ratings are based on S&P's long-term issuer

ratings at the holding company level, with only one rating assigned per company. At December 31, 2018, the average rating for both the Regulated and Mostly Regulated categories was BBB+.

Long-Term Credit Rating Scales

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Moody's	Standard & Poor's	Fitch
	Aaa	AAA	AAA
Investment Grade	Aa1	AA+	AA+
	Aa2	AA	AA
	Aa3	AA-	AA-
	A1	A+	A+
	A2	A	A
	A3	A-	A-
	Baa1	BBB+	BBB+
	Baa2	BBB	BBB
	Baa3	BBB-	BBB-

	Moody's	Standard & Poor's	Fitch
Speculative Grade	Ba1	BB+	BB+
	Ba2	BB	BB
	Ba3	BB-	BB-
	B1	B+	B+
	B2	B	B
	B3	B-	B-
	Caa1	CCC+	CCC+
	Caa2	CCC	CCC
	Caa3	CCC-	CCC-
	Ca	CC	CC
	C	C	C

	Moody's	Standard & Poor's	Fitch
Default	C	D	D

Source: Fitch Ratings, Moody's, and Standard & Poor's.

Finance and Accounting Division

The Business Services and Finance Division is part of EEI's Business Operations Group. This division provides the leadership and management for advocating industry policies, technical research, and enhancing the capabilities of individual members through education and information sharing. The division's leadership is used in areas that affect the financial health of the investor-owned electric utility industry, such as finance, accounting, taxation, internal auditing, investor relations, risk management, budgeting and financial forecasting. If you need research information about these issue areas, please contact an EEI Business Services and Finance Division staff member (listed in this section). Under the direction of both the Finance and the Accounting Executive Advisory Committees, the division provides staff representatives to work with issue area committees. These committees give member company personnel a forum for information exchange and training and an opportunity to comment on legislative and regulatory proposals.

Publications

Quarterly Financial Updates

A series of financial reports on the investor-owned segment of the electric utility industry. Quarterly reports include stock performance, dividends, credit ratings, and rate case summary, as well as the industry's consolidated financial statements.

Financial Review

An annual report that provides a review of the financial performance of the investor-owned electric utility industry. The report also includes an analysis of construction and fuel use by electric utilities.

EEI Index

Quarterly stock performance of the U.S. investor-owned electric utilities. The index, which measures total return and provides company rankings for one- and five-year periods, is widely used in company proxy statements and for overall industry benchmarking.

Executive Accounting News Flash

Published quarterly and distributed to members of accounting committees, this update provides current information about the impact on our companies of evolving accounting and financial reporting issues.

The News Flash is prepared jointly with AGA by the Utility Industry Accounting Fellow in coordination with our accounting staff in order to keep members informed on proposed and newly effective requirements from key accounting standard-setters.

Introduction to Depreciation for Utilities and Other Industries

Updated in 2013, the latest edition of this book serves as a primer on the concepts of depreciation accounting including fundamental principles, life analysis techniques, salvage and cost of removal analysis methods and depreciation rate calculation formulas and examples. The 2013 edition features updated chapters on Tax Depreciation, Accounting for Asset Retirement Obligations (AROs) and includes a new chapter on Depreciation in an IFRS Environment.

Industry directories published by the Business Services and Finance Division:

- Electric Utility Investor Relations Executives Directory
- Accounting and Internal Audit Directory

For more information, please visit the EEI website at: www.eei.org.

Conference Highlights

Financial Conference

This three-day conference is the premier annual fall gathering of utilities and the financial community; it is attended by more than 1,000 senior executives, including utility CEOs, CFOs, treasurers, investor relations executives, and Wall Street investment analysts, portfolio managers, commercial and investment bankers and the rating agencies. The General Sessions cover topics of strategic interest to the industry and financial community. Contact Devin James for more information.

Chief Financial Officers' Forum

This forum is held once a year in the fall in conjunction with the EEI Financial Conference. The forum provides an opportunity for chief financial officers to identify and discuss critical issues and challenges impacting the financial health of the electric utility industry. The forum is opened to member company chief financial officers only. Contact Devin James for more information.

Finance Committee Meeting

This day and a half meeting is held in the spring or summer. The meeting covers current and emerging industry issues critical to the electric power industry. It also provides an opportunity for utility financial officers to identify best practices and share management skills that contribute to financial performance. Contact Devin James for more information.

Investor Relations Meeting

This one-day meeting is held in the spring. Executives gain insight on

current and evolving industry issues, analysts' perspectives on the industry and have an opportunity to identify and share IR best practice concepts within and outside the electric utility industry. Contact Devin James for more information.

Treasury Group Meeting

Half day meetings are held in the spring and the fall annually. Discussion is focused on pension funding, capital markets and economic and regulatory impacts on debt and equity issuances. Members are provided an opportunity to share and identify best practices beneficial to the well-being of the industry. Contact Devin James for more information.

Accounting Leadership Conference

This annual meeting, held jointly with the Chief Audit Executives and their counterparts from AGA, covers current accounting, finance, business, and management issues for the Chief Accounting Officers and key accounting leadership of EEI member companies. Contact Randall Hartman for more information.

Chief Audit Executives Conference

This annual conference provides a forum for EEI and AGA Chief Audit Executives to discuss issues and challenges and exchange ideas on utility-specific internal auditing topics. The conference is open to members of the Internal Auditing Committee and other employees of EEI/ AGA member companies designated by the CAE. Contact Dave Dougher for more information.

EEI Accounting Standards Committee

Provides a forum for technical accounting, accounting research, financial reporting, and other interested member-company accounting leaders and staff, to update their knowledge on emerging accounting standards, implementation issues associated with newly issued standards, and other technical and business issues. This Committee meets in conjunction with the Spring Accounting Conference. Contact Randall Hartman for more information.

Spring and Fall Accounting Conferences

Hosted by the EEI Corporate Accounting Committee, the Property Accounting & Valuation Committee, the Accounting Standards Committee, and the Budgeting & Financial Forecast Committee, and the AGA Accounting Services Committee, the conference provides a forum for members to discuss current issues and challenges and exchange ideas in the electric and natural gas utility industries. The spring meeting is intended for all Accounting Committees, while the fall meeting is designed for the Corporate Accounting Committee and the Property Accounting & Valuation Committee. The meetings are open to members of the Committees and other employees of EEI/AGA member companies. Contact Dave Dougher for more information.

Tax School

Provides tax professionals a forum to discuss developing tax issues impacting our member companies. This two and half day training is held every other year. Contact Mark Agnew for more information.

Accounting Courses

Introduction to Public Utility Accounting

This 4-day program, offered jointly with AGA, concentrates on the fundamentals of public utility accounting. It focuses on providing basic knowledge and a forum for understanding the elements of the utility business. It is intended primarily for recently hired electric and gas utility staff in the areas of accounting, auditing, and finance. Contact Randall Hartman or Dave Dougher for more information.

Advanced Public Utility Accounting

This intensive, 4-day course, jointly sponsored with AGA, focuses on complex and specific advanced accounting and industry topics. It addresses current accounting issues including those related to deregulation and competition, as they affect regulated companies in the changing and increasingly competitive environment of the electric and gas utility industries. Contact Randall Hartman or Dave Dougher for more information.

Property Accounting & Depreciation Training Seminar

This is a 1½-day seminar offered jointly with AGA that provides an introduction to property accounting and depreciation in the electric and natural gas utility industries. Contact Dave Dougher for more information.

Utility Internal Auditor's Training

Provides utility staff auditors, managers, and directors with the fundamentals of public utility auditing and specific utility audit/accounting issues including advanced internal auditing topics and is presented jointly by EEI and AGA – convenes for two and one-half days. Contact Randall Hartman or Dave Dougher for more information.

Additional Training Opportunities

Provides additional training opportunities as appropriate, such as Accounting for Energy Derivatives and FERC Accounting. Contact Randall Hartman or Dave Dougher for more information.

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Edison Electric Institute Schedule of Upcoming Meetings

To assist in planning your schedule, here are finance-related meetings that may be of interest to you. For further details, please contact Devin James at (202) 508-5057, Randall Hartman (202) 508-5494, or Dave Dougher (202) 508-5570.

June 4, 2019**Treasury Group Meeting**

(Closed meeting, admittance by invitation only)

Millennium Hilton
New York, New York

June 12–13, 2019**Chief Financial Officers Meeting**

(Closed meeting, admittance by invitation only)

Philadelphia Marriott Downtown
Philadelphia, Pennsylvania

June 18–19, 2019**Investor Relations Meeting**

Eversource Energy
Westwood, Massachusetts

June 23–26, 2019**Accounting Leadership Conference
Newport Marriott**

Newport, Rhode Island

Chief Audit Executives Conference

(closed meeting, admittance by invitation only)

Newport Marriott
Newport, Rhode Island

August 19–21, 2019**Introduction/Advanced Public Utility Accounting and Internal Auditor's Training Courses**

Hilton Cleveland Downtown
Cleveland, Ohio

November 10–12, 2019**EEI Financial Conference
Orlando World Center Marriott**

Orlando, Florida

EEI Treasury Group Meeting

(Closed meeting, admittance by invitation only)

Orlando World Center Marriott
Orlando, Florida

Chief Financial Officers Forum

(Closed meeting, admittance by invitation only)

Orlando World Center Marriott
Orlando, Florida

November 17–20, 2019**Fall Accounting Conference and Property Accounting & Depreciation Training
Westin La Paloma Resort**

Tucson, Arizona

December 5, 2019**Investor Relations Planning Group Meeting**

(Closed meeting, admittance by invitation only)

Omni Berkshire Place
New York, New York

December 6, 2019**Wall Street Advisory Group Meeting**

(Closed meeting, admittance by invitation only)

Omni Berkshire Place
New York, New York

Earnings Twelve Months Ending December 31

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	2018	2017r
Earnings Excluding Non-Recurring and Extraordinary Items	47,811	48,905
Non-Recurring Items (pre-tax)		
Gain on Sale of Assets	5,278	1,012
Other Non-Recurring Revenues	138	493
Asset Write-downs	(4,077)	(4,166)
Other Non-Recurring Expenses	(17,872)	(5,630)
Total Non-Recurring Items	(16,533)	(8,290)
Extraordinary Items (net of taxes)		
Discontinued Operations	414	(1,554)
Change in Accounting Principles	—	—
Early Retirement of Debt	—	—
Other Extraordinary Items	—	—
Total Extraordinary Items	414	(1,554)
Net Income	31,693	39,061
Total Non-Recurring and Extraordinary Items	(16,119)	(9,844)

r = revised Note: Totals may reflect rounding.

Source: S&P Global Market Intelligence and EEI Finance Department.

U.S. Investor-Owned Electric Utilities

(At 12/31/2018)

ALLETE, Inc.
 Alliant Energy Corporation
 Ameren Corporation
 American Electric Power Company, Inc.
 AVANGRID, Inc.
 Avista Corporation
Berkshire Hathaway Energy *
 Black Hills Corporation
 CenterPoint Energy, Inc.
Cleco Corporation *
 CMS Energy Corporation
 Consolidated Edison, Inc.
 Dominion Energy, Inc.
DPL Inc. *
 DTE Energy Company
 Duke Energy Corporation
 Edison International
 El Paso Electric Company
 Energy Corporation
 Evergy, Inc.
 Eversource Energy
 Exelon Corporation
 FirstEnergy Corp.
 Hawaiian Electric Industries, Inc.
 IDACORP, Inc.
IPALCO Enterprises, Inc. *
 MDU Resources Group, Inc.
 MGE Energy, Inc.
 NextEra Energy, Inc.
 NiSource Inc.
 NorthWestern Corporation
 OGE Energy Corp.
 Otter Tail Corporation
 PG&E Corporation
 Pinnacle West Capital Corporation
 PNM Resources, Inc.
 Portland General Electric Company
 PPL Corporation
 Public Service Enterprise Group Incorporated
Puget Energy, Inc. *
 SCANA Corporation
 Sempra Energy
 Southern Company
 Unitil Corporation
 Vectren Corporation
 WEC Energy Group, Inc.
 Xcel Energy Inc.

Note: Includes the 42 publicly traded electric utility holding companies plus an additional five electric utilities (shown in italics) that are not listed on U.S. stock exchanges for one of the following reasons—they are subsidiaries of an independent power producer; they are subsidiaries of foreign-owned companies; or they were acquired by other investment firms.

Vectren Corporation was acquired by CenterPoint Energy on February 1, 2019. Both are included in the 47 U.S. Investor-Owned Electric Utilities at year-end 2018 and in this year's Financial Review data where Vectren's information is available (e.g., Dividends, Stock Performance, Credit Ratings). However, Vectren did not file an SEC Form 10-K for 2018, so it is excluded from 2018's Consolidated Financial Statements and *Business Segmentation* section.

The **Edison Electric Institute** (EEI) is the association that represents all U.S. investor-owned electric companies. Our U.S. members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. EEI also has dozens of international electric companies as International Members, and hundreds of industry suppliers and related organizations as Associate Members.

Safe, reliable, affordable, and increasingly clean energy enhances the lives of all Americans and powers the economy. As a whole, the electric power industry supports more than 7 million jobs in communities across the United States and contributes 5 percent to the nation's GDP.

Organized in 1933, EEI provides public policy leadership, strategic business intelligence, and essential conferences and forums.

For more information, visit our Web site at www.eei.org.



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