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OUTLOOK
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Regulated utilities - US

2019 outlook shifts to negative due to weaker cash flows, continued high leverage

Our negative outlook indicates our expectations for the fundamental business conditions driving the US regulated utility industry over the next 12-18 months.

The outlook for the US regulated utility sector has changed to negative from stable, reflecting increased financial risk due to lower cash flow and holding company leverage at its highest level since 2008. These factors will reduce the ratio of funds from operations (FFO) to debt by up to 200 basis points over the next 12-18 months.

» **Cash flow will decline due to a lower contribution from deferred taxes.** The combination of the loss of bonus depreciation and a lower tax rate as a result of the Tax Cuts & Jobs Act (TCJA) means that utilities and their holding companies will lose some of the cash flow contribution from deferred taxes. Since 2010, deferred taxes have contributed around 14% of consolidated FFO, but we see this falling to around 8% through 2019. This will drive down the consolidated ratio of FFO to debt, for a peer group of 42 utility holding companies, from 17% toward 15% over the outlook period.

» **Regulatory and management responses may not improve financials until 2020.** Some state regulatory commissions have issued credit-supportive rate orders to offset reduced cash flow because of tax reform, and several holding companies are executing plans to strengthen their balance sheets. But it could take longer than 12-18 months before sector-wide financial metrics improve.

» **High leverage will persist due to growing capital spending and rising dividends.** For our peer group, consolidated debt to EBITDA of 5.1x in 2017 was at a 10-year high, and a consolidated debt to equity ratio of 1.5x was at its highest level since 2008. These leverage metrics will remain elevated given higher capital spending in 2018 and 2019, rising dividends and a continued heavy reliance on debt financing.

» **What could change our outlook** The outlook could return to stable if we expect the sector's financial profile to stabilize, even if that is at today's lower levels. A positive outlook could be considered if we expect a recovery in key cash flow metrics where consolidated cash flow starts to improve by roughly 15%-20% or the ratio of consolidated FFO to debt indicates a return to the 17%-19% range. Underpinning each of these scenarios is a supportive regulatory environment across most US jurisdictions.

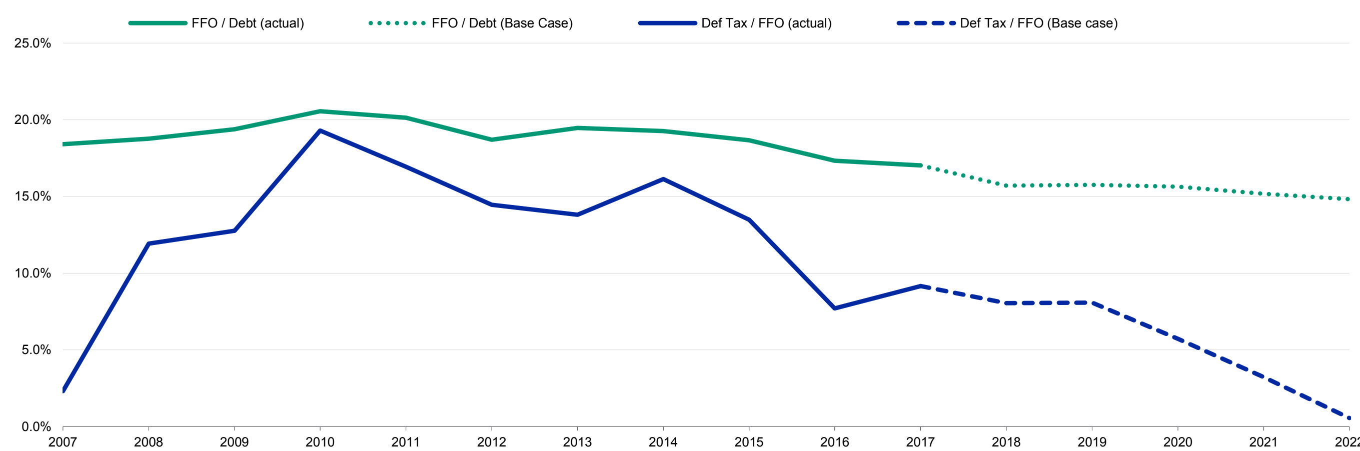
Cash flow will decline due to a lower contribution from deferred taxes

The combination of a lower tax rate and the loss of bonus depreciation as a result of the federal Tax Cuts & Jobs Act (TCJA) in December 2017 means that utilities and their holding companies will lose some of the cash flow contribution from deferred taxes on an ongoing basis, as shown in Exhibit 1.

For nearly a decade, bonus depreciation has created large timing differences between the book and tax amounts that utility holding companies report and pay as tax expense, and has resulted in a very low cash tax payment rate for the sector. Consequently, virtually all of the revenue that utilities have collected from customers to cover tax expense has been retained by the company as deferred tax liabilities, rather than paid to the Internal Revenue Service in any given year. These deferred taxes have boosted cash flow measures[1] significantly, accounting for roughly 14% of consolidated FFO, on average, since 2010.

Now, with the reduction in the corporate tax rate to 21% from 35%, utilities will collect less revenue from customers (since their federal tax expense is lower) and retain less cash via deferred taxes. As a result, the deferred-tax contribution to consolidated FFO will fall to around 8% through 2019, from an average of 14% since 2010, based on our financial forecast using a peer group of 42 regulated utility holding companies with 10 years of historical data (see Appendix A for a listing of holding company peers and Appendix D for a description of our key forecast assumptions). We also see the same trend for a peer group of 102 utility operating companies with 10 years of historical data. This decline will drive consolidated FFO to debt metrics down toward 15% from 17% and operating company FFO to debt to 20% from 24% over the next 12-18 months. See Appendix B for a list of the 102 operating companies.

Exhibit 1
Consolidated FFO to debt will decline as a result of lower deferred taxes



Key assumption: Cash tax rates of 0% in 2018 and 2019, 5% in 2020, 10% in 2021 and 15% in 2022
Source: Moody's Investors Service

Because outlooks represent our forward-looking view on business conditions that factor into our ratings, a negative (positive) outlook suggests that negative (positive) rating actions are more likely on average. However, the industry outlook does not represent a sum of upgrades, downgrades or ratings under review, or an average of the rating outlooks of issuers in the industry, but rather our assessment of the main direction of business fundamentals within the overall industry.

The loss of bonus depreciation means that most companies will start paying cash tax earlier than under the previous law. Under the TCJA, utilities can claim less in depreciation expense for tax purposes and will have higher taxable income. Notwithstanding the change in law, we still expect holding companies to pay little or no cash tax in 2018 and 2019 because most have significant accumulated net operating losses driven by past claims of bonus depreciation, production tax credits from renewable generation or other tax offsets.

Lowering the tax rate also means that utilities will have over-collected for tax expenses in the past because they charged for future tax expense assuming a 35% tax rate. As utilities refund the excess collection to customers, cash flow will be reduced, with the decline likely spread over 20 years or more.

Regulatory and management responses may not improve financials until 2020

Regulatory commissions and utility management teams are taking important first steps in addressing increased financial risk, but we believe that it will take longer than 12-18 months for the majority of the sector to show any material financial improvement from such efforts.

There are two principal approaches for a utility seeking to take mitigating action against rising financial risk. The first option is to pursue financial relief from regulators, which we see most companies doing across the industry in response to tax reform. The second is "self-help," where management teams alter financial policies to improve cash flow or their balance sheet. These efforts could include cutting operating or capital costs, issuing equity, reducing debt, selling non-core assets or slowing dividend growth. Such strategies were popular during the early 2000s period known as "back to basics," when many companies shed unregulated and international assets, reduced debt and focused on strengthening core regulatory relationships.

Regulation addressing tax reform

So far, we have seen credit positive developments in some states in response to tax reform, described in the box below. Most of these measures are positive because they provide incremental cash flow that will be used to replace some of the cash lost due to tax reform.

Some regulatory commissions have allowed early tax reform relief

In Florida, the Florida Public Service Commission allowed several of the state's utilities including Florida Power & Light Company (A1 stable), Duke Energy Florida, LLC (A3 stable) and Tampa Electric Company (A3 stable) to use the bulk of customer refunds resulting from tax reform changes to offset rate increases for power restoration costs associated with the utilities' response to Hurricane Irma. Duke Energy Florida was also permitted to use a portion of the savings to accelerate the depreciation of existing coal plants.

In April, the Georgia Public Service Commission (GPSC) approved a tax reform settlement agreement allowing Georgia Power Company (A3 negative) to increase its authorized retail equity ratio, currently around 51%, to the utility's actual equity capitalization percentage or 55% (whichever is lower) until its next rate case filing, scheduled to be filed 1 July 2019.

In May, the Alabama Public Service Commission approved two supportive rate proposal requests by Alabama Power Company (A1 negative), including 1) a plan designed to improve the company's balance sheet and credit quality over time by gradually increasing its equity ratio to 55% by 2025 and 2) allowing up to $30 million of excess deferred tax liability deferrals to offset under-recovered fuel costs.

In Indiana, Northern Indiana Public Service Company (Baa1 stable) has reached a gas rate settlement that, if approved by the Indiana Utility Regulatory Commission, would defer the cash outflows associated with unprotected deferred tax liabilities until 2020.

While we expect very supportive regulatory outcomes in states such as Florida, Georgia and Alabama—three of the most credit-supportive regulatory environments in the US—other states will likely have more moderate allowances for increased rates and cash flow recovery in regard to tax reform. So far, many state commissions have provided for the 21% tax rate to be implemented into rates in 2018, but have said they will address the return of excess deferred tax liabilities to customers at a later date—under a separate proceeding or at the time of a utility's next general rate case. This adds a degree of uncertainty to the ultimate timing of any cash flow impact on the sector.

Management efforts to address financial risk

Many companies are executing plans to strengthen their balance sheets in the face of increased financial risk, including incremental equity issuances beyond their pre-tax reform plans, selling assets or modest capex reductions. Some of these actions are defensive measures brought about by tax reform, while others are reactions to developments such as funding acquisitions, regulatory and political uncertainties, large capital programs or natural disasters. Other companies, although faced with negative credit trends, are making no material changes to financial policies.

Exhibit 2 shows a list of selected holding companies with a negative outlook or ratings under review for downgrade, as well as their planned responses to deal with heightened financial risks or other negative credit conditions.

Exhibit 2

Management teams are pursuing different avenues to relieve financial and credit risk

Holding companies with a negative outlook and under review for downgrade (RUR-D) as of 18 June 2018

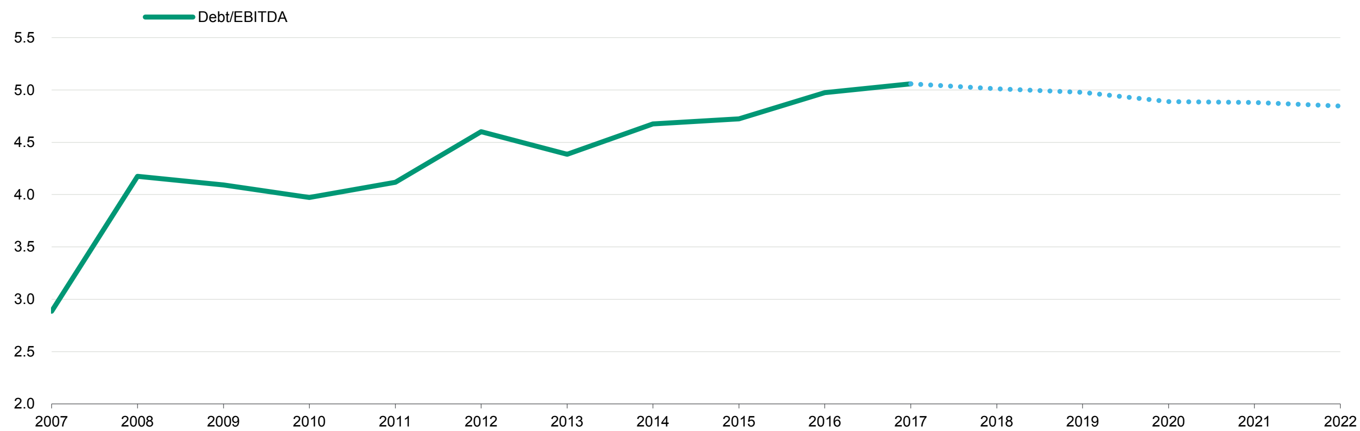
Company	Rating	Outlook	Pursuing Regulatory Relief for Tax Reform	Incremental Equity Issuance	Selling Assets	Incremental Capex Reduction	% of Annual Capex Reduced	Dividend Reduction
ALLETE, Inc.	A3	Negative	Yes	No	No	No	NA	No
Consolidated Edison, Inc.	A3	Negative	Yes	No	No	No	NA	No
Edison International	A3	Negative	Yes	No	No	No	NA	No
Integrys Holding, Inc.	A3	RUR-D	Yes	No	No	No	NA	No
OGE Energy Corp.	A3	Negative	Yes	No	No	No	NA	No
WEC energy Group, Inc.	A3	RUR-D	Yes	No	No	No	NA	No
WGL Holdings, Inc.	A3	Negative	Yes	No	No	No	NA	No
Alliant Energy Corporation	Baa1	Negative	Yes	No	No	No	NA	No
CenterPoint Energy, Inc.	Baa1	Negative	Yes	Yes	No	No	NA	No
Duke Energy Corporation	Baa1	Negative	Yes	Yes	No	Yes	2%	No
PG&E Corporation	Baa1	Negative	Yes	No	No	No	NA	Yes
Sempra Energy	Baa1	Negative	Yes	Yes	Yes	No	NA	No
Dominion Energy, Inc.	Baa2	Negative	Yes	Yes	Yes	Yes	11%	No
Entergy Corporation	Baa2	Negative	Yes	Yes	No	No	NA	No
Southern Company (The)	Baa2	Negative	Yes	Yes	Yes	No	NA	No
Cleco Corporate Holdings LLC	Baa3	RUR-D	Yes	No	No	No	NA	No
Emera Inc.	Baa3	Negative	Yes	Yes	No	No	NA	No
SCANA Corporation	Ba1	RUR-D	Yes	No	No	No	NA	No

Source: Company announcements and Moody's Investors Service

High leverage will persist because of significant capital spending and rising dividends

With roughly $600 billion of adjusted debt at year-end 2017, our peer group of 42 utility holding companies are exhibiting a 10-year high consolidated ratio of debt to EBITDA (5.1x in 2017) and the highest consolidated debt to equity ratio (1.5x in 2017) since 2008, the height of the financial crisis. As shown in Exhibit 3, these leverage ratios will remain elevated amid higher capital spending in 2018 and in 2019, rising dividends, and a continued heavy reliance on debt financing for negative free cash flow.

Exhibit 3
The ratio of debt to EBITDA for utility holding companies will likely remain at 10-year highs

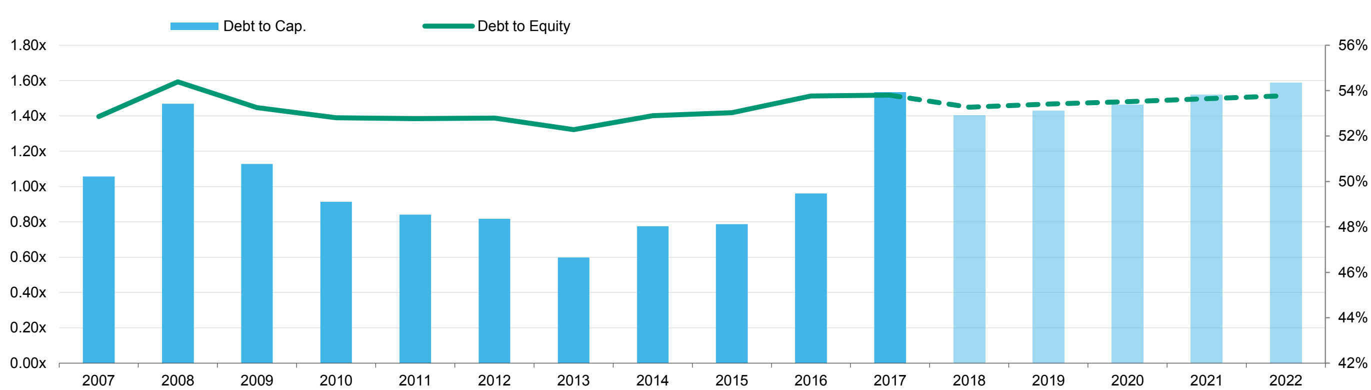


Source: Moody's Investors Service

Because of the lower tax rate, deferred tax liabilities were reduced, which negatively impacts our adjusted capitalization ratios. The deferred tax revaluation has increased the adjusted debt to capitalization ratio to 54% in 2017, from 49% in 2016, since it reduces the amount of total capitalization (debt + equity + deferred taxes) and reclassifies the excess deferred tax liabilities as a long-term regulatory liability owed to customers.

As Exhibit 4 shows, leverage is expected to remain high compared with historical levels, despite a significant amount of equity being issued in 2018. In 2018 we made a simplifying assumption that $20 billion of equity would be issued, offsetting a similar amount of debt that would otherwise have been used to fund negative free cash flow. That assumption acknowledges that several companies have announced equity issuances in 2018, including Duke Energy Corporation (Baa1 negative), Dominion Energy, Inc. (Baa2 negative) and Entergy Corporation (Baa2 negative). Without this equity, the ratio of debt to capitalization would have been 55% through 2022 and debt to equity would have been 1.5x, trending to 1.6x in 2022.

Exhibit 4
Despite equity issuance in 2018, leverage metrics will remain much higher than historical levels
Debt to Cap. (%) and Debt to Equity (x)



Source: Moody's Investors Service

Holding company leverage has been increasing in recent years due to factors such as highly levered mergers and acquisitions, investments in non-regulated activities including renewable energy portfolios and midstream ventures, and using holding company debt as a source for equity infusions into operating subsidiaries. We do not incorporate unregulated investment into our forecast scenarios, but we still see increasing debt levels because of high capital investments and rising dividends.

Capital spending is likely to increase

Utility companies continue to spend significant capital on their rate base through smart-grid investments, system resilience measures and carbon transition efforts, including renewable generation assets. This is likely to keep spending levels high for the next several years. A trend of higher capital spending could also ensue if companies see the revenue reduction from tax reform, and the consequent reduction in customer bills, as an opportunity to make additional capital investments that could be recovered in rates without increasing customer bills above their pre-tax reform levels.

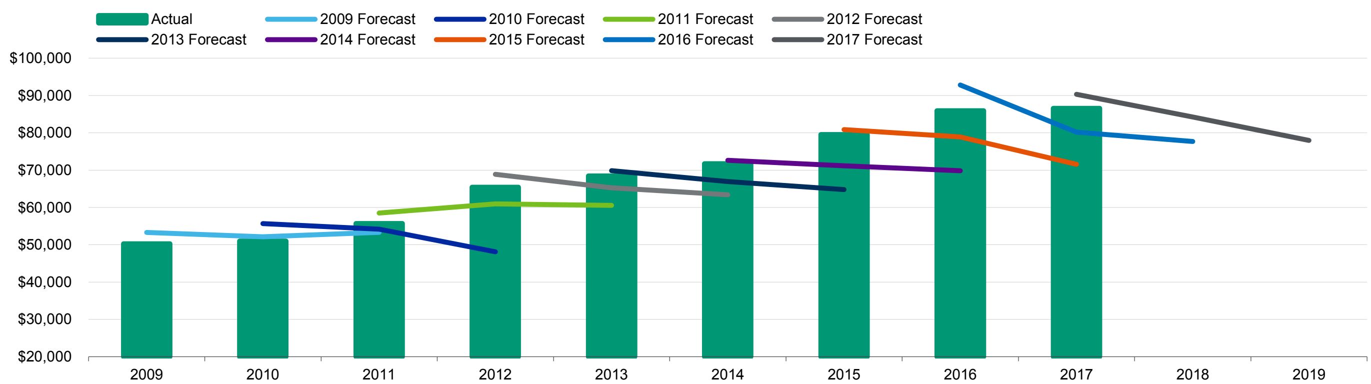
While many companies are estimating a steady decline in capital spending after 2018, our base-case projections assume that their capital spending will continue to increase, at about 5.0% each year, compared with a 2012-2017 compound annual growth rate (CAGR) of 5.7%.

As Exhibit 5 shows, while companies often project a downward trajectory in capital spending, the level of capital actually deployed frequently exceeds projections by a wide margin. In fact, for 25 holding companies that have reported 3-year capex projections since 2009 (see Appendix C for a list of companies), aggregate capital spending has always increased despite projections that usually predict a declining trend.

Exhibit 5

Utility capital spending is often projected to decline, but has actually grown annually since 2009

Annual 3-year capex projections for 25 regulated utility holding companies



Source: SPGMI

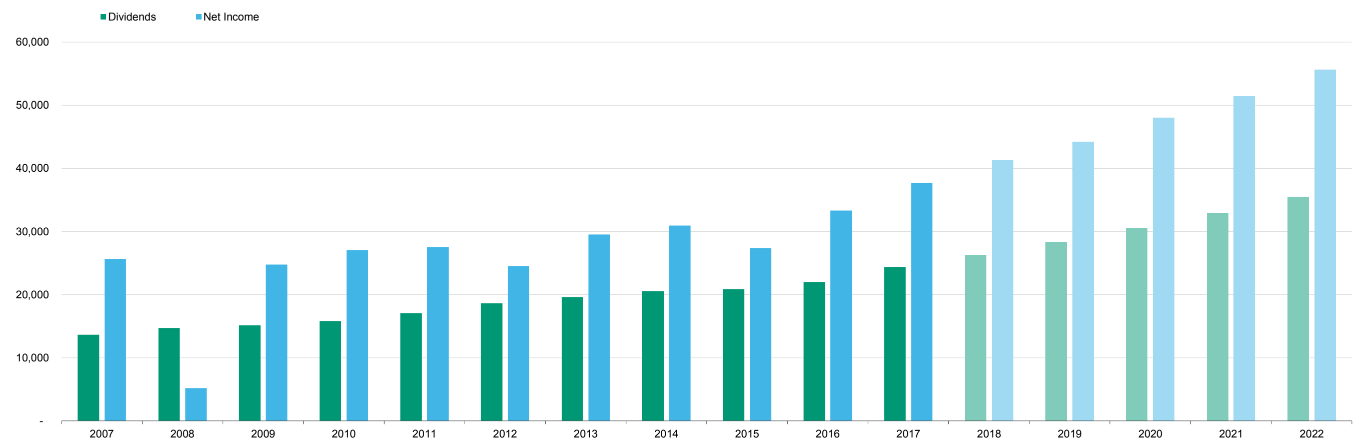
Dividends will continue to rise

As shown in Exhibit 6, we also expect that dividends will continue to increase, consistent with 2018 earnings call guidance indicating that payout policies are either unchanged or growing. In our base case forecast, we assume dividends increase at 8% year-over-year, which is the same growth rate as shown by net income.

Exhibit 6

The 10-year trend of increasing overall dividends is likely to continue through 2022

Actual dividends/net income (dark green/blue) and projected dividends/net income (light green/blue)



Source: Moody's Investors Service

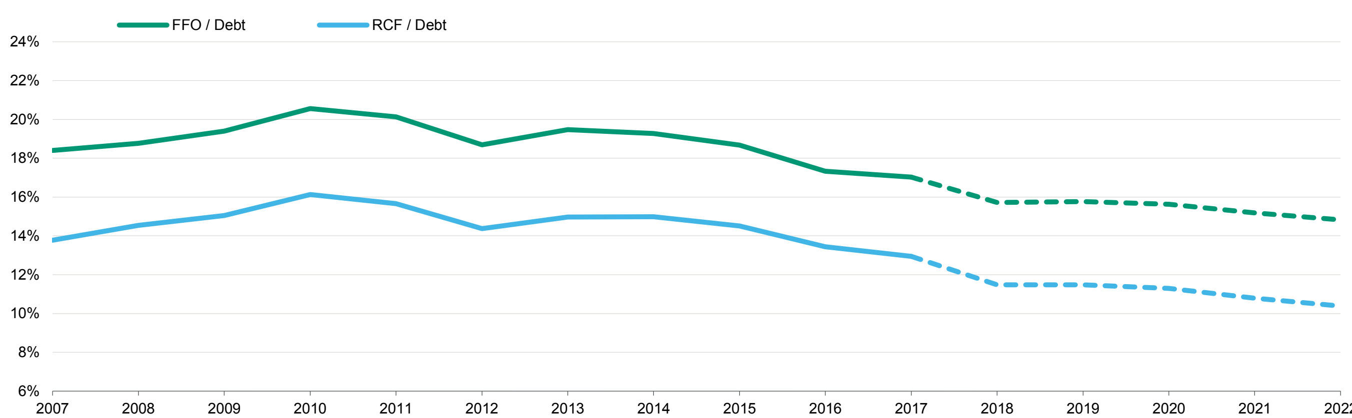
What could change our outlook

Stable outlook

The outlook could return to stable if we expect that the sector's financial profile will stabilize at today's lower levels, with consolidated FFO to debt metrics remaining steady. Exhibit 7 shows such stability could happen as early as 2019, with both FFO to debt and retained cash flow (RCF) to debt remaining between 15%-16% and 11%-12%, respectively, through year-end 2020.

Exhibit 7

A stable financial trend could emerge in 2019-2020 if cash flow growth keeps pace with debt



Key assumption: Cash tax rates of 0% in 2018 and 2019, 5% in 2020, 10% in 2021 and 15% in 2022

Source: Moody's Investors Service

We ran alternative scenarios to our base case forecast, including an upside case that assumes an improved financial performance by utilities and a downside case that assumes additional financial challenges.

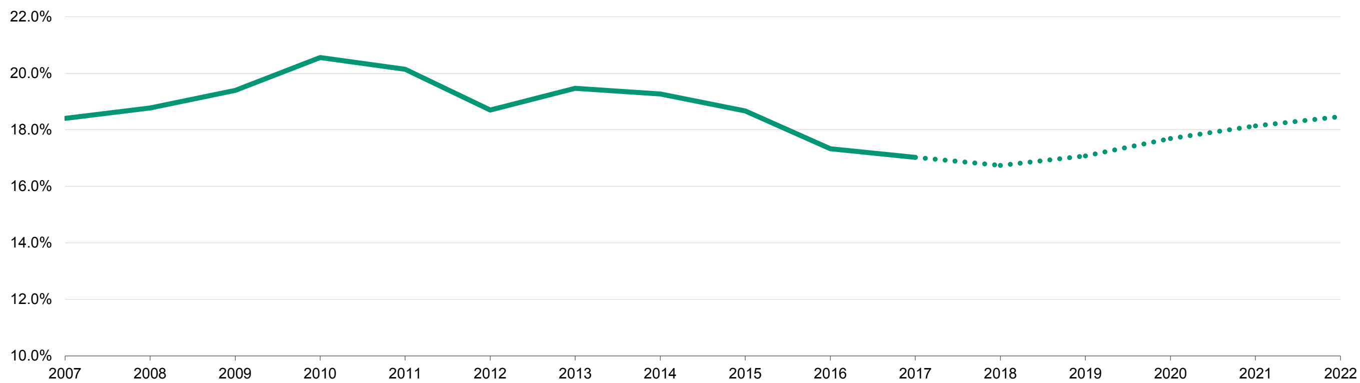
Positive outlook

A positive outlook would be possible if we expect a recovery in key cash flow metrics, such as consolidated FFO to debt returning to the 17%-19% range. This is the case in our upside projection scenario, which reflects a greater use of equity funding of negative free cash flow and very strong recovery provisions allowed by regulators. In Exhibit 8, we assumed a 5% annual decline in capital spending after 2019, simulating the downward trend in industry-reported projections.

Exhibit 8

The sector outlook could change to positive if FFO to debt rebounds as projected in our upside case

Actual historical FFO to debt (solid line) and as-projected in our upside case (dotted line)



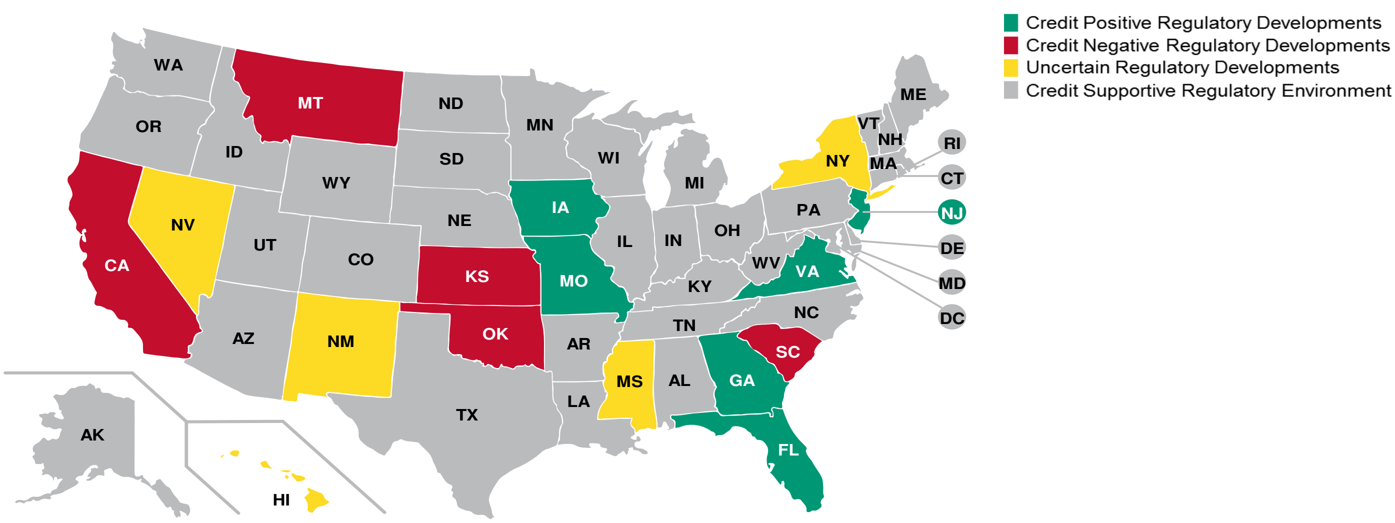
Source: Moody's Investors Service

Most state regulatory environments remain steadily supportive of credit

The underpinning of the sector outlook potentially returning to stable or changing to positive is a supportive regulatory environment. Exhibit 9 shows that, even today, most state jurisdictions remain predictably supportive of utility credit (grey), while some states have regulatory or legislative developments that could have positive (green), negative (red) or uncertain (yellow) impacts on utility credit.

Exhibit 9

Regulatory developments in most states continue to be stable and supportive of credit



Source: Moody's Investors Service

Appendix A - Holding company peer group

Exhibits 10 and 11 list the 42 regulated utility holding companies from which financial figures were derived by aggregating the annual data from 2007-2017 and applying key assumptions (see Appendix D) to drive our forecast scenarios. These companies were selected based on having ten years of historical data.

Exhibit 10

Companies 1-22 of 42 holding companies, sorted by highest to lowest consolidated CFO / Debt
$ in millions, as of the last twelve months available

Issuer	Rating and Outlook	CFO	Total Debt	CFO / Debt	Equity	Capex	Dividends
PG&E Corporation	Baa1 Negative	$ 5,908	$ 21,352	28%	$ 19,576	$ 5,900	$ 766
ALLETE, Inc.	A3 Negative	$ 465	$ 1,747	27%	$ 2,088	$ 275	$ 111
OGE Energy Corp.	A3 Negative	$ 851	$ 3,346	25%	$ 3,800	$ 728	$ 254
Edison International	A3 Negative	$ 3,749	$ 15,920	24%	$ 12,692	$ 4,072	$ 790
Vectren Utility Holdings, Inc.	A2 Stable	$ 419	$ 1,816	23%	$ 1,766	$ 569	$ 125
Ameren Corporation	Baa1 Stable	$ 2,040	$ 9,477	22%	$ 7,230	$ 2,264	$ 441
Pinnacle West Capital Corporation	A3 Stable	$ 1,205	$ 5,661	21%	$ 5,005	$ 1,439	$ 295
WEC Energy Group, Inc.	A3 Rating(s) Under Review	$ 2,292	$ 10,809	21%	$ 10,067	$ 2,080	$ 679
Public Service Enterprise Group Incorporated	Baa1 Stable	$ 3,053	$ 14,503	21%	$ 14,006	$ 4,049	$ 879
NextEra Energy, Inc.	Baa1 Stable	$ 6,437	$ 31,715	20%	$ 33,116	$ 9,035	$ 2,040
IDACORP, Inc.	Baa1 Stable	$ 440	$ 2,178	20%	$ 2,267	$ 281	$ 113
Exelon Corporation	Baa2 Stable	$ 8,073	$ 40,215	20%	$ 30,241	$ 7,612	$ 1,274
WGL Holdings, Inc.	A3 Negative	$ 505	$ 2,683	19%	$ 1,733	$ 466	$ 105
CMS Energy Corporation	Baa1 Stable	$ 1,782	$ 9,930	18%	$ 4,535	$ 1,739	$ 382
CenterPoint Energy, Inc.	Baa1 Negative	$ 1,635	$ 9,253	18%	$ 4,857	$ 1,485	$ 466
Evergy, Inc.	Baa2 Stable	$ 879	$ 4,980	18%	$ 4,920	$ 595	$ 257
DTE Energy Company	Baa1 Stable	$ 2,414	$ 13,894	17%	$ 10,064	$ 2,266	$ 659
American Electric Power Company, Inc.	Baa1 Stable	$ 4,413	$ 25,446	17%	$ 18,391	$ 6,505	$ 1,207
Consolidated Edison, Inc.	A3 Negative	$ 3,261	$ 18,992	17%	$ 15,514	$ 3,701	$ 814
Pepco Holdings, LLC	Baa2 Stable	$ 1,068	$ 6,267	17%	$ 9,488	$ 1,367	$ 313
PNM Resources, Inc.	Baa3 Positive	$ 493	$ 3,048	16%	$ 1,689	$ 524	$ 80
Puget Energy, Inc.	Baa3 Stable	$ 974	$ 6,066	16%	$ 3,649	$ 1,087	$ 153

Source: Moody's Investors Service

Appendix A (continued) - Holding company peer group

Exhibit 11

Companies 23-42 of 42 holding companies, sorted by highest to lowest consolidated CFO / Debt

$ in millions, as of the last twelve months available

Issuer	Rating and Outlook	CFO	Total Debt	CFO / Debt	Equity	Capex	Dividends
Hawaiian Electric Industries, Inc.	WR Stable	$ 418	$ 2,614	16%	$ 2,117	$ 546	$ 137
Berkshire Hathaway Energy Company	A3 Stable	$ 6,287	$ 42,392	15%	$ 28,667	$ 4,886	$ -
TECO Energy, Inc.	Baa2 Stable	$ 624	$ 4,276	15%	$ 2,879	$ 709	$ -
Black Hills Corporation	Baa2 Stable	$ 483	$ 3,331	15%	$ 1,871	$ 338	$ 101
Alliant Energy Corporation	Baa1 Negative	$ 873	$ 6,036	14%	$ 4,217	$ 1,520	$ 284
Entergy Corporation	Baa2 Negative	$ 2,909	$ 20,475	14%	$ 7,806	$ 3,940	$ 634
Spire Inc.	Baa2 Stable	$ 400	$ 2,872	14%	$ 2,138	$ 474	$ 102
Southern Company (The)	Baa2 Negative	$ 7,220	$ 52,269	14%	$ 26,339	$ 9,251	$ 2,505
SCANA Corporation	Ba1 Rating(s) Under Review	$ 956	$ 7,189	13%	$ 5,305	$ 1,114	$ 349
PPL Corporation	Baa2 Stable	$ 2,990	$ 22,682	13%	$ 11,409	$ 3,287	$ 1,098
Sempra Energy	Baa1 Negative	$ 3,627	$ 28,450	13%	$ 15,532	$ 3,994	$ 904
Duke Energy Corporation	Baa1 Negative	$ 6,849	$ 55,677	12%	$ 41,554	$ 8,043	$ 2,455
Eversource Energy	Baa1 Stable	$ 1,906	$ 15,542	12%	$ 11,219	$ 2,440	$ 615
Duquesne Light Holdings, Inc.	Baa3 Stable	$ 318	$ 2,596	12%	$ 1,078	$ 300	$ 103
Dominion Energy, Inc.	Baa2 Negative	$ 4,329	$ 38,692	11%	$ 18,857	$ 5,436	$ 2,050
NiSource Inc.	Baa2 Stable	$ 1,008	$ 9,429	11%	$ 4,435	$ 1,791	$ 238
FirstEnergy Corp.	Baa3 Stable	$ 2,247	$ 22,839	10%	$ 8,470	$ 3,002	$ 672
Cleco Corporate Holdings LLC	Baa3 Rating(s) Under Review	$ 287	$ 2,929	10%	$ 2,070	$ 252	$ 75
DPL Inc.	Ba2 Positive	$ 157	$ 1,692	9%	$ (536)	$ 107	$ -
IPALCO Enterprises, Inc.	Baa3 Stable	$ 253	$ 2,747	9%	$ 564	$ 179	$ 107

Source: Moody's Investors Service

Appendix B - Operating company peer group

Exhibits 12-15 list 102 operating companies that were analyzed as part of our financial comparisons. These companies were selected based on having ten years of historical data. Our base case scenario shows the aggregate cash flow to debt ratios of these companies dropping by 400 basis points over the next 12-18 months.

Exhibit 12

Companies 1-30 of 102 operating companies, sorted by highest to lowest CFO / Debt
$ in millions, as of the last twelve months available

Issuer	Rating and Outlook	CFO	Total Debt	CFO / Debt	Capex	Dividends
Metropolitan Edison Company	A3 Stable	$ 458	$ 1,060	43%	$ 152	$ 80
Atmos Energy Corporation	A2 Stable	$ 1,095	$ 3,371	32%	$ 1,300	$ 203
Southern California Gas Company	A1 Stable	$ 1,299	$ 4,111	32%	$ 1,433	$ 1
Baltimore Gas and Electric Company	A3 Stable	$ 945	$ 3,029	31%	$ 921	$ 199
Pennsylvania Power Company	Baa1 Stable	$ 64	$ 217	30%	$ 51	$ 20
Gulf Power Company	A2 Stable	$ 420	$ 1,420	30%	$ 235	$ 175
Tampa Electric Company	A3 Stable	$ 744	$ 2,530	29%	$ 660	$ 324
Duquesne Light Company	A3 Stable	$ 387	$ 1,321	29%	$ 282	$ 90
Madison Gas and Electric Company	A1 Stable	$ 136	$ 473	29%	$ 131	$ 32
Spire Alabama Inc.	A2 Stable	$ 136	$ 476	29%	$ 121	$ 32
Wisconsin Public Service Corporation	A2 Stable	$ 414	$ 1,465	28%	$ 363	$ 120
Kentucky Utilities Co.	A3 Stable	$ 690	$ 2,460	28%	$ 496	$ 235
Pacific Gas & Electric Company	A3 Negative	$ 5,860	$ 21,051	28%	$ 5,931	$ 542
Florida Power & Light Company	A1 Stable	$ 3,764	$ 13,562	28%	$ 4,728	$ 1,050
Consumers Energy Company	(P)A2 Stable	$ 1,865	$ 6,734	28%	$ 1,702	$ 494
Indiana Gas Company, Inc.	A2 Stable	$ 159	$ 574	28%	$ 209	$ -
Tucson Electric Power Company	A3 Stable	$ 435	$ 1,596	27%	$ 401	$ 70
Southern California Edison Company	A2 Negative	$ 3,777	$ 13,937	27%	$ 3,981	$ 657
Puget Sound Energy, Inc.	Baa1 Stable	$ 1,120	$ 4,136	27%	$ 1,036	$ 262
Northern States Power Company (Minnesota)	A2 Stable	$ 1,425	$ 5,296	27%	$ 920	$ 516
New Jersey Natural Gas Company	Aa2 Negative	$ 205	$ 764	27%	$ 185	$ 68
Louisville Gas & Electric Company	A3 Stable	$ 529	$ 2,021	26%	$ 527	$ 139
PPL Electric Utilities Corporation	A3 Stable	$ 937	$ 3,583	26%	$ 1,224	$ 332
Entergy New Orleans, Inc.	Ba1 Stable	$ 139	$ 533	26%	$ 130	$ 69
Ohio Power Company	A2 Stable	$ 655	$ 2,539	26%	$ 634	$ 178
MidAmerican Energy Company	A1 Stable	$ 1,391	$ 5,529	25%	$ 1,887	$ -
San Diego Gas & Electric Company	A1 Negative	$ 1,566	$ 6,246	25%	$ 1,613	$ 275
Oklahoma Gas & Electric Company	A1 Negative	$ 783	$ 3,121	25%	$ 727	$ 105
Southwestern Public Service Company	Baa1 Negative	$ 495	$ 1,988	25%	$ 555	$ 105
Central Hudson Gas & Electric Corporation	A2 Stable	$ 156	$ 636	24%	$ 171	$ 9

Source: Moody's Investors Service

Exhibit 13

Companies 31-60 of 102 operating companies, sorted by highest to lowest CFO / Debt

$ in millions, as of the last twelve months available

Issuer	Rating and Outlook	CFO	Total Debt	CFO / Debt	Capex	Dividends
Northern Illinois Gas Company	A2 Stable	$ 284	$ 1,205	24%	$ 601	$ 70
Questar Gas Company	A2 Negative	$ 192	$ 819	23%	$ 231	$ -
Arizona Public Service Company	A2 Stable	$ 1,229	$ 5,280	23%	$ 1,410	$ 324
Black Hills Power, Inc.	A3 Stable	$ 81	$ 351	23%	$ 75	$ -
Public Service Company of Colorado	A3 Stable	$ 1,166	$ 5,075	23%	$ 1,593	$ 336
Alabama Power Company	A1 Negative	$ 1,883	$ 8,204	23%	$ 2,192	$ 734
Duke Energy Carolinas, LLC	A1 Stable	$ 2,510	$ 10,995	23%	$ 2,575	$ 700
Sierra Pacific Power Company	Baa1 Stable	$ 272	$ 1,194	23%	$ 193	$ 43
Connecticut Natural Gas Corporation	A3 Stable	$ 55	$ 245	23%	$ 64	$ 7
Avista Corp.	Baa1 Negative	$ 447	$ 1,993	22%	$ 407	$ 94
UGI Utilities, Inc.	A2 Stable	$ 256	$ 1,144	22%	$ 328	$ 63
Piedmont Natural Gas Company, Inc.	A2 Negative	$ 500	$ 2,254	22%	$ 559	$ -
Union Electric Company	Baa1 Stable	$ 1,008	$ 4,554	22%	$ 883	$ 355
Rochester Gas & Electric Corporation	A3 Stable	$ 237	$ 1,077	22%	$ 279	$ -
Orange and Rockland Utilities, Inc.	A3 Negative	$ 224	$ 1,019	22%	$ 198	$ 45
Nevada Power Company	Baa1 Stable	$ 694	$ 3,178	22%	$ 283	$ 473
DTE Electric Company	A2 Stable	$ 1,639	$ 7,513	22%	$ 1,560	$ 439
Portland General Electric Company	A3 Stable	$ 603	$ 2,766	22%	$ 520	$ 118
Wisconsin Power and Light Company	A2 Negative	$ 456	$ 2,098	22%	$ 607	$ 129
Duke Energy Indiana, LLC.	A2 Stable	$ 926	$ 4,279	22%	$ 902	$ 300
PacifiCorp	A3 Stable	$ 1,586	$ 7,337	22%	$ 839	$ 750
PECO Energy Company	A2 Stable	$ 680	$ 3,192	21%	$ 756	$ 507
Duke Energy Kentucky, Inc.	Baa1 Stable	$ 103	$ 487	21%	$ 222	$ -
Mississippi Power Company	Ba1 Positive	$ 453	$ 2,153	21%	$ 249	$ (1)
Northern States Power Company (Wisconsin)	A2 Stable	$ 172	$ 825	21%	$ 220	$ 69
Westar Energy, Inc.	Baa1 Stable	$ 957	$ 4,602	21%	$ 778	$ 228
Otter Tail Power Company	A3 Stable	$ 125	$ 603	21%	$ 121	$ 40
Public Service Company of New Hampshire	A3 Stable	$ 287	$ 1,393	21%	$ 313	$ 155
Public Service Electric and Gas Company	A2 Stable	$ 1,829	$ 8,914	21%	$ 2,848	$ -
United Illuminating Company	Baa1 Stable	$ 234	$ 1,154	20%	$ 167	$ 125

Source: Moody's Investors Service

Appendix B (continued) - Operating company peer group

Exhibit 14

Companies 61-90 of 102 operating companies, sorted by highest to lowest CFO / Debt

$ in millions, as of the last twelve months available

Issuer	Rating and Outlook	CFO	Total Debt	CFO / Debt	Capex	Dividends
Spire Missouri Inc.	A1 Stable	$ 267	$ 1,329	20%	$ 294	$ 14
NSTAR Electric Company	A2 Stable	$ 696	$ 3,489	20%	$ 757	$ 378
Delmarva Power & Light Company	Baa1 Stable	$ 324	$ 1,624	20%	$ 421	$ 118
Cleco Power LLC	A3 Stable	$ 305	$ 1,574	19%	$ 242	$ 128
CenterPoint Energy Houston Electric, LLC	A3 Stable	$ 985	$ 5,102	19%	$ 895	$ 180
Dayton Power & Light Company	Baa3 Positive	$ 134	$ 697	19%	$ 91	$ (96)
Virginia Electric and Power Company	A2 Stable	$ 2,562	$ 13,409	19%	$ 2,607	$ 908
Public Service Company of New Mexico	Baa2 Positive	$ 365	$ 1,937	19%	$ 324	$ 61
Washington Gas Light Company	A1 Negative	$ 279	$ 1,487	19%	$ 349	$ 87
Kansas City Power & Light Company	Baa1 Stable	$ 674	$ 3,592	19%	$ 463	$ 215
Oncor Electric Delivery Company LLC	A2 Stable	$ 1,541	$ 8,234	19%	$ 1,678	$ 151
El Paso Electric Company	Baa1 Negative	$ 284	$ 1,525	19%	$ 242	$ 54
Southern Indiana Gas & Electric Company	A2 Stable	$ 157	$ 849	19%	$ 154	$ 55
Appalachian Power Company	Baa1 Stable	$ 828	$ 4,486	18%	$ 828	$ 130
Georgia Power Company	A3 Negative	$ 2,180	$ 11,808	18%	$ 2,942	$ 1,302
Potomac Electric Power Company	Baa1 Stable	$ 502	$ 2,717	18%	$ 614	$ 128
Duke Energy Progress, LLC	A2 Stable	$ 1,489	$ 8,329	18%	$ 1,701	$ 124
Texas-New Mexico Power Company	A3 Stable	$ 93	$ 524	18%	$ 162	$ 36
Public Service Company of Oklahoma	A3 Negative	$ 286	$ 1,606	18%	$ 248	$ 65
Connecticut Light and Power Company	Baa1 Rating(s) Under Review	$ 703	$ 3,977	18%	$ 855	$ 268
Public Service Co. of North Carolina, Inc.	A3 Rating(s) Under Review	$ 131	$ 740	18%	$ 289	$ 41
Consolidated Edison Company of New York, Inc.	A2 Negative	$ 2,743	$ 15,877	17%	$ 3,190	$ 808
Hawaiian Electric Company, Inc.	Baa2 Stable	$ 340	$ 2,007	17%	$ 475	$ 94
DTE Gas Company	A2 Negative	$ 286	$ 1,692	17%	$ 434	$ 106
CenterPoint Energy Resources Corp.	Baa2 Stable	$ 492	$ 2,918	17%	$ 537	$ 579
Entergy Arkansas, Inc.	Baa1 Stable	$ 637	$ 3,780	17%	$ 798	$ 16
Northwest Natural Gas Company	A3 Negative	$ 183	$ 1,093	17%	$ 235	$ 53
Duke Energy Ohio, Inc.	Baa1 Positive	$ 418	$ 2,502	17%	$ 734	$ 25
Atlantic City Electric Company	Baa2 Positive	$ 219	$ 1,338	16%	$ 299	$ 67
Southwestern Electric Power Company	Baa2 Stable	$ 475	$ 2,923	16%	$ 472	$ 116

Source: Moody's Investors Service

Appendix B (continued) - Operating company peer group

Exhibit 15

Companies 91-102 of 102 operating companies, sorted by highest to lowest CFO / Debt

$ in millions, as of the last twelve months available

Issuer	Rating and Outlook	CFO	Total Debt	CFO / Debt	Capex	Dividends
Idaho Power Company	A3 Stable	$ 386	$ 2,418	16%	$ 274	$ 115
Entergy Mississippi, Inc.	Baa1 Stable	$ 239	$ 1,513	16%	$ 412	$ 26
Entergy Texas, Inc.	Baa3 Stable	$ 257	$ 1,627	16%	$ 369	$ -
NorthWestern Corporation	Baa2 Stable	$ 339	$ 2,166	16%	$ 277	$ 103
Wisconsin Electric Power Company	A2 Stable	$ 861	$ 5,665	15%	$ 685	$ 241
Commonwealth Edison Company	A3 Stable	$ 1,436	$ 9,489	15%	$ 2,163	$ 434
Berkshire Gas Company	A3 Positive	$ 10	$ 68	14%	$ 17	$ -
Duke Energy Florida, LLC.	A3 Stable	$ 1,072	$ 7,577	14%	$ 1,256	$ -
South Carolina Electric & Gas Company	Baa3 Rating(s) Under Review	$ 754	$ 5,504	14%	$ 813	$ 322
Kentucky Power Company	Baa2 Negative	$ 129	$ 946	14%	$ 110	$ 26
Interstate Power and Light Company	Baa1 Negative	$ 338	$ 2,834	12%	$ 756	$ 154
South Jersey Gas Company	A2 Negative	$ 99	$ 994	10%	$ 246	$ 20

Source: Moody's Investors Service

Appendix C - Holding company capital spending peer group

The 25 holding companies incorporated into Exhibit 5 were selected based upon having 3-year publicly disclosed capital spending projections since in every year since 2009 and being a part of our larger 42 holding company peer group. Those companies are listed in Exhibit 16 below, sorted by rating category.

Exhibit 16

Capital spending for 25 holding companies has increased, in aggregate, year-over-year since 2016
($ millions)

		Capital Expenditures		
		2016	2017	LTM Mar 18
Consolidated Edison, Inc.	A3 Negative	$ 3,898	$ 3,703	$ 3,701
Edison International	A3 Negative	$ 3,790	$ 3,879	$ 4,072
OGE Energy Corporation	A3 Negative	$ 660	$ 810	$ 728
Pinnacle West Capital Corporation	A3 Stable	$ 1,289	$ 1,424	$ 1,439
Xcel Energy, Inc.	A3 Stable	$ 3,225	$ 3,238	$ 3,363
Alliant Energy Corporation	Baa1 Negative	$ 1,182	$ 1,456	$ 1,520
Ameren Corporation	Baa1 Stable	$ 2,164	$ 2,204	$ 2,264
American Electric Power Company, Inc.	Baa1 Stable	$ 5,039	$ 5,945	$ 6,505
CenterPoint Energy, Inc.	Baa1 Negative	$ 1,423	$ 1,435	$ 1,485
CMS Energy Corporation	Baa1 Stable	$ 1,689	$ 1,682	$ 1,739
DTE Energy Company	Baa1 Stable	$ 2,082	$ 2,294	$ 2,266
PG&E Corporation	Baa1 Negative	$ 5,662	$ 5,646	$ 5,900
Duke Energy Corporation	Baa1 Negative	$ 8,089	$ 8,116	$ 8,043
Public Service Enterprise Group Inc.	Baa1 Stable	$ 4,098	$ 4,058	$ 4,049
Sempra Energy	Baa1 Negative	$ 4,153	$ 3,951	$ 3,994
Dominion Energy, Inc.	Baa2 Negative	$ 6,054	$ 5,768	$ 5,436
Entergy Corporation	Baa2 Negative	$ 4,005	$ 3,900	$ 3,940
Exelon Corporation	Baa2 Stable	$ 8,672	$ 7,741	$ 7,612
Evergy, Inc.	Baa2 Stable	$ 626	$ 591	$ 595
NiSource Inc.	Baa2 Stable	$ 1,517	$ 1,733	$ 1,791
PPL Corporation	Baa2 Stable	$ 2,999	$ 3,210	$ 3,287
Southern Company (The)	Baa2 Negative	$ 7,537	$ 8,940	$ 9,251
FirstEnergy Corporation	Baa3 Stable	$ 3,253	$ 3,117	$ 3,002
PNM Resources, Inc.	Baa3 Positive	$ 622	$ 521	$ 524
SCANA Corporation	Ba1 Rating(s) Under Review	$ 1,566	$ 1,229	$ 1,114
Group Total		**$ 85,291**	**$ 86,592**	**$ 87,620**

Source: Company 10K filings, Moody's standard adjustments

Appendix D - 2018-2022 forecast assumptions

Key Base Case assumptions

- Projected numbers are based on the consolidated financials of a fully regulated utility holding company
- "Forward test year" (e.g., 2019 net income is derived from 2018 rate base plus 2019 capex less 2019 depreciation less 2019 deferred tax liability (DTL), adjusted for normalization of excess DTLs returned to customers)
- 50% equity layer used for rate making purposes, as opposed to the holding company capital structure that is roughly 60/40 debt/equity
- Cash tax rates: 2018- 0%, 2019- 0%, 2020- 5%, 2021- 10%, 2022- 15%
- Additional cash inflow from operations that exactly offsets the cash outflow due to normalized excess deferred tax liabilities returned to customers
- Capex - 5 year projected CAGR is 5.0% versus the 5 year historical CAGR of 5.7%
- Dividend growth is set to match Net Income growth, which is roughly 8% year-over-year
- $20 billion of equity issuance in 2018 to reflect holdco efforts to strengthen their balance sheets
- Funding percentage of negative free cash flow is 88/12 debt/equity; set to keep debt and equity CAGR equivalent at about 6%

Key differences in Upside Case assumptions

- 53% equity layer in rates
- Cash tax rates: 2018- 0%, 2019- 0%, 2020- 3%, 2021- 5%, 2022- 10%
- Regulators approve a cash inflow that is twice the size of the cash outflow due to normalized excess deferred tax liabilities returned to customers
- 2019 Capex is flat to 2018 and declines 5% year-over-year thereafter
- Funding percentage of negative free cash flow is 60/40 debt/equity (debt CAGR of 2%, equity CAGR of 7%)

Key differences in Downside Case assumptions

- 4% inflation on O&M, Taxes and Other OpEx
- Regulators approve a cash inflow that is half the size of the cash outflow due to normalized excess deferred tax liabilities returned to customers
- 7% Capex growth year-over-year
- Funding of negative free cash flow is 100% debt (debt CAGR of 7.8% vs. equity CAGR of 5.0%)

Moody's related publications

Sector In-Depth:

» Offshore Wind is Ready for Prime Time 29 March 2018

» Tax Reform is Credit Negative for Regulated Utilities Sector, but Impact Varies by Company 24 January 2018

» Cross-Sector – US: FAQ on the Credit Impact of New Tax Law 24 January 2018

» Cross-Sector – US: Corporate Tax Cut is Credit Positive, While Effects of Other Provisions Vary by Sector 21 December 2017

» Regulated Electric & Gas Utilities – US: Insulating Utilities from Parent Contagion Risk is Increasingly a Focus of Regulators 18 September 2017

» Renewable Energy - Global: Falling Cost of Renewables Reduces Risks to Paris Agreement Compliance 6 September 2017

» Renewable Energy – Global: Renewables Sector Risks Shift as Competition Reduces Reliance on Government Subsidy 6 September 2017

Rating Methodologies:

» Regulated Electric and Gas Utilities 23 June 2017

» Unregulated Utilities and Unregulated Power Companies 17 May 2017

» Regulated Electric and Gas Networks 16 March 2017

» U.S. Electric Generation & Transmission 15 April 2013

» Natural Gas Pipelines 6 November 2012

Endnotes

1 Our cash flow analysis consists of three primary measures, including: cash flow from operations (CFO), funds from operations (FFO) and CFO before changes in working capital. For purposes of this report we reference FFO due to our forecast scenarios' focus on Net Income, Depreciation and Deferred Taxes (including regulatory liabilities associated with deferred taxes).

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