INFRASTRUCTURE AND PROJECT FINANCE

## MOODY'S INVESTORS SERVICE

## **OUTLOOK**

10 November 2022



#### TABLE OF CONTENTS

Summary	1
High natural gas prices, inflation and interest rates increase social risk for utilities	2
Financial metrics are under pressure with little cushion entering 2023	4
Capital spending and dividends will be sustained at steady clip, weighing on financial performance	5
Appendix A	6
Appendix B	7
Moody's related publications	14

#### Contacts

Edna R Marinelarena +1.212.553.1383 AVP-Analyst edna.marinelarena@moodys.com

Cole Egan 212.553.0300
Associate Analyst
cole.egan@moodys.com

Ryan Wobbrock +1.212.553.7104 VP-Sr Credit Officer ryan.wobbrock@moodys.com

Jairo Chung +1.212.553.5123 VP-Sr Credit Officer jairo.chung@moodys.com

Michael G. Haggarty +1.212.553.7172

Associate Managing Director
michael.haggarty@moodys.com

» Contacts continued on last page

#### CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Regulated Electric and Gas Utilities – US

# 2023 outlook negative due to higher natural gas prices, inflation and rising interest rates

#### Summary

- We have revised our outlook on the US regulated utilities sector to negative from stable. We changed the outlook because of increasingly challenging business and financial conditions stemming from higher natural gas prices, inflation and rising interest rates. These developments raise residential customer affordability issues, increasing the level of uncertainty with regard to the timely recovery of costs for fuel and purchased power, as well as for rate cases more broadly.
- » Natural gas prices, inflation and interest rates drive social risk. High natural gas prices and inflation may persist into 2023, which could hurt cash flow recovery should regulators seek to limit the impact on customer bills by delaying recovery or approving lower rate increases. We still think most state regulators will remain supportive, but utilities and commissions will face heightened public scrutiny amid affordability concerns.
- » Financial metrics already under pressure with little cushion entering 2023. The sector's aggregate funds from operations (FFO)-to-debt ratio has remained between 14% and 15% since 2019, and we estimate the ratio will be closer to 14% in 2023 with a high potential of temporarily falling below this level depending on how much and how widespread cost recovery is delayed.
- » Capital spending and dividends will be sustained at a steady clip, weighing on financial performance. These adverse business conditions come at a time when we expect the sector to maintain elevated capital spending focused on reducing carbon emissions to make progress toward net zero goals and overall system reliability, while maintaining their dividend payouts.
- » What could change our outlook: The outlook could return to stable if the sector's regulatory support remains intact, natural gas prices settle at a level where most utilities are able to fully recover fuel and purchased power costs without a delay beyond 12 months, overall inflation moderates, interest rates stabilize and/or the sector's aggregate (FFO)-to-debt ratio remains between 14% to 15%. We could change our outlook to positive if utility regulation turns broadly more credit supportive resulting in timelier cash flow recovery or we expect the sector's aggregate (FFO)-to-debt ratio to rise above 17% on a sustained basis.

#### **Outlook definition**

The negative outlook reflects our view of credit fundamentals in the US regulated electric and gas utilities sector over the next 12 months. Sector outlooks are distinct from rating outlooks, which, in additional to sector dynamics, also reflects issuers' specific characteristics and actions. A sector outlook does not represent a sum of upgrades, downgrades or ratings under review or an average of rating outlooks.

#### High natural gas prices, inflation and interest rates increase social risk for utilities

We changed our outlook on the US regulated electric and gas utilities sector because of increasingly challenging business and financial conditions stemming from higher natural gas prices, inflation and interest rates. These considerations raise residential customer affordability issues, increasing the level of uncertainty with regard to the timely recovery of costs for fuel and purchased power, as well as for rate cases more broadly.

Exhibit 1
Global credit themes affecting US regulated electric and gas utilities in 2023



#### Higher rates, slower growth

- » Elevated inflation and higher interest rates will cut into economic growth.
- » Higher natural gas prices may persist into 2023 which could hurt cash flow recovery over the next 12 months.
- » Rising interest rates increases the cost of borrowing and presents a further challenge for a sector that is highly reliant on debt financing.



#### Geopolitical realignments

- » Natural gas prices are key component of most utility customer bills, and sustained higher natural gas prices make it more difficult for utilities to maintain low customer rates.
- Higher natural gas prices are being driven by restrained investment in production and rising uncertainty of future supply, as well as a high geopolitical risk premium.



#### Social challenge

- » Higher inflation elevates social risk as regulators are focused on customer affordabilty.
- » Current and future regulatory proceedings will receive increased scrutiny because of the sensitivity to residential customer bills that are in some cases already higher due to recently increased base



#### Climate exposure & mitigation

- » High capital investment will continue as utilities focus on reducing carbon emissions to make progress toward net zero goals and for overall system reliability.
- » The Inflation Reduction Act (IRA) will support investments to reduce the cost of develping clean energy-related projects and to facilitate the carbon transition.
- » Although the IRA is credit positive, it does not fully mitigate the increased cost pressures associated with carbon reduction in the sector.

Source: Moody's Investors Service

High natural gas prices and inflation may persist into 2023, which could hurt cash flow recovery, especially if regulators seek to reduce the impact on customer bills and delay or otherwise limit full cost recovery of other operating expenses during general rate case proceedings. Under normal business and operating conditions, utilities are able to pass through purchased power and fuel costs to customers. While recovery periods vary, utilities typically recover commodity costs within 12 months through a filing outside of a general rate case.

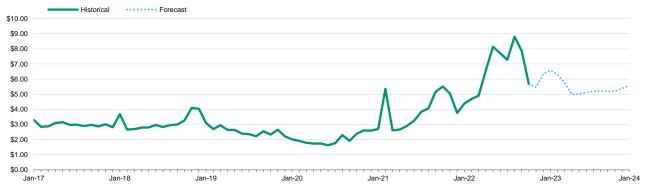
Although regulatory cost recovery mechanisms remain unchanged, utilities have substantial purchased power and fuel costs to recoup in addition to rate base growth investments. These costs have the potential to lead to substantial rate hikes, increasing the risk that regulators will defer some cost recovery to later dates. The regulatory environment could turn less supportive, resulting in insufficient rate increases, a delay in the recovery of purchased power and fuel costs or costs being spread out over a longer period of time, which increases the time between expense and eventual recovery leading to a decline in near-term credit metrics. Utilities that operate in service territories with poor demographics or weak local economies are at higher risk because high inflation could limit the willingness of regulators to allow utilities to pass through their costs to customer all at once.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Affordability is an important credit analysis consideration in the demographic and societal trend category of our <u>social risk classification</u> <u>for private-sector issuers</u>. High natural gas prices, high inflation and rising interest rates have increased social risks, creating an adverse business environment for utilities that will persist into 2023. We expect utilities to work with regulators to structure rate plans that benefit both the utility and their customer base similar to <u>Virginia Electric and Power Company</u> (A2 stable) and <u>Duke Energy Carolinas</u>, <u>LLC</u> (A2 stable), which both agreed to recover their purchase power costs over a two- or three-year period. That said, the rise in social risks and affordability concerns could lead to degradation in regulatory support and adverse rate case outcomes.

Higher demand and low inventories have driven up natural gas prices, a key driver of most monthly residential electric and gas bills. While the average monthly spot price at Henry Hub mostly ranged between \$3.00 and \$5.00 per million British thermal units (MMBtu) through most of 2021, prices began to surge in early 2022 peaking at \$8.81 MMBtu in August, a level not seen since 2008. Natural gas prices may sustain at higher levels through 2023 because of restrained investment in production and rising uncertainty about the expansion of future supplies, plus a high geopolitical risk premium (see <a href="Energy - Global Outlook - Widespread slowdown in demand and rising costs curtails earnings growth">Energy - Global Outlook - Widespread slowdown in demand and rising costs curtails earnings growth</a>). As shown in Exhibit 2, the forward Henry Hub natural gas price curve is expected to remain above \$5.00 MMBtu in 2023. We expect natural gas prices to be much higher than our medium-term Henry Hub natural gas price range of \$2.50-\$3.50/MMBtu in 2023 (see <a href="Europe's supply insecurity leads natural gas prices higher as US production costs rise">Europe's supply insecurity leads natural gas prices higher as US production costs rise</a>). High natural gas prices make it difficult for utilities to maintain low customer rates, particularly considering the rate increases they need to support large capital expenditure programs and measures to curb carbon emissions.

Exhibit 2
Persistently high natural gas prices are a key component of rising customer bills
Average monthly Henry Hub natural gas spot price per million British thermal units (MMBtu)



Forecast prices as of 8 November 2022 Source: US Energy Information Administration

#### Rising interest rates will increase financing costs

The US consumer price index (CPI) continues to rise despite the Federal Reserve's moves to tighten monetary policy. According to the October 2022 CPI, consumer prices increased 0.4% from September and 7.7% from the year-earlier period. In addition to dampening consumer sentiment, the continued rise in inflation makes it more likely that the Fed will continue raising interest rates, increasing the cost of borrowing for the capital- and debt-intensive utility sector (see <u>US economy is slowing, but not so fast that Fed will jettison policy tightening</u>).

For many years, regulated utilities enjoyed a long period of low natural gas prices and interest rates, enabling them to grow rate base substantially while keeping customer rates low. Because regulators are sensitive to electric and gas service affordability, particularly for residential customers, low gas prices and interest rates have facilitated a trend of constructive rate making and credit supportive regulatory outcomes.

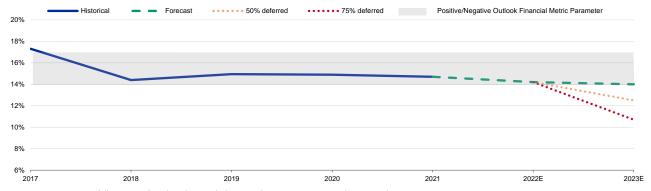
We would consider returning our outlook to stable if the sector's regulatory support remains intact, and business conditions improve such that natural gas prices settle at a level where utilities are able to fully recover purchased power and fuel costs without delay beyond 12 months, overall inflation moderates, interest rates stabilize and/or the sector's aggregate (FFO)-to-debt ratio remains

between 14% to 15%. We could change our outlook to positive if utility regulation turns broadly more credit supportive resulting in timelier cash flow recovery or we expect the sector's aggregate (FFO)-to-debt ratio rising above 17% on a sustained basis.

## Financial metrics are under pressure with little cushion entering 2023

The sector's aggregate (FFO)-to-debt ratio settled between 14% and 15%, as seen in Exhibit 3, after declining from the high teens following the impact of Tax Reform in 2017 and increased debt issuance to support high capital expenditures. We estimate that the ratio will be closer to 14% in 2023 and that it is likely to temporarily fall below this level depending on how widespread the delay becomes for purchase power, fuel or other operating expenses. Although we typically look through business cycles that result in weaker financial metrics, our analysis of individual utilities will focus on their ability to maintain strong regulatory support for overall cost recovery and how quickly financial metrics will improve.

Exhibit 3
Widespread cost recovery delays could temporarily weaken financial metrics
Historical and forecast aggregate ratio of (FFO)-to-debt for rated US investor owned utility sector



Forecast scenario assumes full recovery of purchased power, fuel costs and operating expenses within 12 months Down cases assume a 50% or 75% deferral of purchase power beyond 12 months and minimal rate increases Source: Moody's Investors Service

The average allowed return on equity (ROE) remains relatively flat at about 9.45%, compared to 9.5% in 2021. We expect ROEs to be sustained at current levels through 2023 because most requests for rate increases have been approved without lowering ROEs, as was common in many previous rate cases. Rising interest rates could lead to higher ROEs in some instances, although there is likely to be a lag because of the timing of rate cases, which typically take up to a year to resolve. In addition, the aggregate earned ROE lags the allowed ROE by about 70 basis points because of the large number of deferrals related to one-time costs incurred since 2020 for the coronavirus pandemic, wildfires, storms and delays in general rate case filings during the pandemic. Regulatory asset balances for these costs also add pressure on ratepayers. Regulators could delay the pace of recovery of these items as a lever to minimize the impact on customer bills as has been the case for New York utilities over the past several years. The commission used rate modifiers and extended regulatory asset recovery to keep customer bill increases at 2%. This resulted in significant lag in cash flow recovery, leading to weaker credit metrics and ultimately driving rating downgrades of the New York utilities.

Utilities were well positioned to manage through a short period of higher natural gas prices because of their procurement strategies, which include both physical and financial hedging that was mostly done during a period of lower spot prices in 2021. Because natural gas prices have remained at higher levels for an extended period of time, procurement of natural gas at these higher prices has resulted in ballooning purchased power and fuel cost balances that make it more difficult to pass through to customers all at once particularly during a period of high inflation and rising interest rates. Current and future rate case filings and other regulatory requests will likely experience heightened scrutiny because of the sensitivity of increasing residential customer bills. These bills had already been rising because of increased base rates.

## Capital spending and dividends will be sustained at steady clip, weighing on financial performance

Utilities are likely to maintain their high levels of capital spending as they focus on reducing carbon emissions to further their progress toward net-zero targets and invest in overall system resilience (see <a href="Environmental risks drive capital spending increases">Environmental risks drive capital spending increases</a>, pressuring credit quality). Following the passage of the US Inflation Reduction Act of 2022, capital expenditures could increase even further because the legislation will reduce the cost of developing clean energy-related projects and help facilitate the sector's carbon transition (see <a href="Inflation Reduction Act's renewable">Inflation Reduction Act's renewable</a>, nuclear and other energy credits are credit positive). Although credit positive, the Inflation Reduction Act's provisions are not sufficient to offset the combined adverse effects of high natural gas prices, inflation and rising interest rates. While the sector is willing to issue more equity than it has in the recent past (such as through the use of at-the-market programs), debt issuance and even asset sale proceeds will drive the funding of capital spending programs with limited new common equity issuance, despite the relatively high valuations of most regulated utilities.

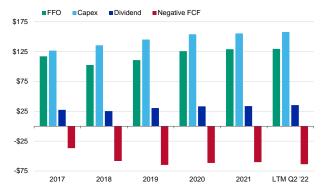
The sector has benefitted from regulatory outcomes that have supported rate base growth over the years. As shown in Exhibit 4, growth in FFO and capital spending has been relatively steady since 2017 because regulators have generally authorized timely recovery of prudent investments. This favorable business environment benefitted from a strong US economy, low natural gas prices and low interest rates, providing the means for companies to grow their dividend payments by about 5.2% since 2017. At the same time, the sector has experienced a substantial growth in negative free cash flow (FCF) of about 11.5% since 2017, which has contributed to the growth in total debt shown in Exhibit 5. Utility subsidiaries have some flexibility to absorb cost pressures by cutting back on capital spending and reducing dividends should there be a need to respond to an adverse regulatory climate. However, holding companies generally have little to no cushion in their financial metrics in light of the sector's continued high parent leverage to support capital expenditures and dividends.

Exhibit 4

Steadily increasing capital investment and dividend payout weighing on financial metrics

Historical FEO, capital expenditures, dividend and pagative FCE for rate

Historical FFO, capital expenditures, dividend and negative FCF for rated US investor owned utility sector



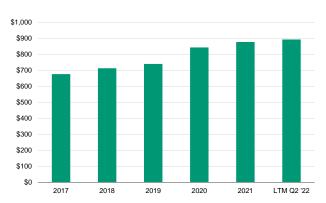
5 -year CAGR: FFO - 2.0%, Capex - 4.5%, Dividend - 5.2%, Negative FCF - 11.5% (\$ billions)

Source: Moody's Investors Service

#### Exhibit 5

Sector's total debt has increased to fund capital investment and negative free cash flow

Historical aggregate total debt for rated US investor owned utility sector



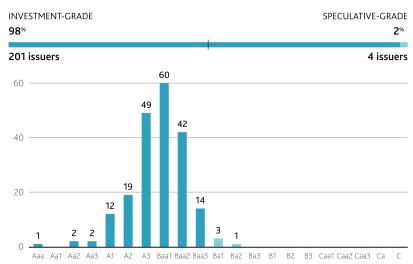
5-year CAGR - 5.7% (\$ billions) Source: Moody's Investors Service

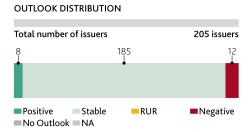
Although the US investor-owned utility sector is facing significant headwinds, it continues to benefit from the fact that they operate critical infrastructure assets and are subject to strong regulation. The sector continues to experience relatively high equity valuations and strong capital markets access because it is often the sector that is most favored by investors in times of stress, as most recently seen during the volatile market conditions caused by the coronavirus pandemic in early 2020. Additionally, utilities maintain robust liquidity profiles through readily available multiyear facilities with modest covenant terms.

## Appendix A

#### Exhibit 6

Distribution of long-term ratings and rating outlooks for US regulated electric and gas utilities Ratings and rating outlooks distribution by number of issuers as of 1 November 2022 RATING DISTRIBUTION BY NUMBER OF ISSUERS





Includes holding companies and operating subsidiaries. Source: Moody's Investors Service

## **Appendix B**

Exhibit 7

Utility holding companies

Data for the most recent 12-month period available (\$ millions)

Issuer	Rating and Outlook	CF	O Pre-WC	То	otal Debt	CFO Pre-WC/Debt	(	Capex	Div	/idends
Berkshire Hathaway Energy Company	A3 stable	\$	8,634	\$	54,716	16%	\$	7,309	\$	-
Vectren Utility Holdings, Inc.	A3 stable	\$	445	\$	2,461	18%	\$	633	\$	40
NextEra Energy, Inc.	(P)Baa1 stable	\$	9,415	\$	63,407	15%	\$	16,377	\$	3,184
Ameren Corporation	Baa1 stable	\$	2,367	\$	14,650	16%	\$	3,316	\$	588
OGE Energy Corp.	Baa1 stable	\$	733	\$	5,033	15%	\$	881	\$	327
PPL Corporation[1]	Baa1 stable	\$	1,909	\$	13,784	14%	\$	2,035	\$	1,092
WEC Energy Group, Inc.	Baa1 stable	\$	2,485	\$	15,376	16%	\$	2,282	\$	886
Xcel Energy Inc.	Baa1 stable	\$	4,058	\$	24,209	17%	\$	4,349	\$	972
Eversource Energy	Baa1 negative	\$	2,560	\$	21,842	12%	\$	3,666	\$	831
Pinnacle West Capital Corporation	Baa1 negative	\$	1,205	\$	8,013	15%	\$	1,510	\$	375
Alliant Energy Corporation	Baa2 stable	\$	1,172	\$	8,394	14%	\$	1,304	\$	415
American Electric Power Company, Inc.	Baa2 stable	\$	5,391	\$	38,267	14%	\$	6,442	\$	1,577
Avangrid, Inc.	Baa2 stable	\$	1,497	\$	8,995	17%	\$	2,908	\$	681
Black Hills Corporation	Baa2 stable	\$	704	\$	4,488	16%	\$	652	\$	151
CenterPoint Energy, Inc.	Baa2 stable	\$	2,283	\$	15,658	15%	\$	3,929	\$	416
CMS Energy Corporation	Baa2 stable	\$	1,873	\$	12,223	15%	\$	2,300	\$	529
Consolidated Edison, Inc.	Baa2 stable	\$	3,913	\$	26,230	15%	\$	4,243	\$	1,067
Dominion Energy, Inc.	Baa2 stable	\$	5,039	\$	45,421	11%	\$	6,670	\$	2,116
DTE Energy Company	Baa2 stable	\$	2,366	\$	19,312	12%	\$	3,385	\$	713
Duke Energy Corporation	Baa2 stable	\$	10,516	\$	72,528	14%	\$	11,160	\$	3,147
Evergy, Inc.	Baa2 stable	\$	2,004	\$	12,899	16%	\$	2,223	\$	517
Exelon Corporation	Baa2 stable	\$	5,176	\$	42,511	12%	\$	8,146	\$	1,413
IDACORP, Inc.	Baa2 stable	\$	337	\$	2,646	13%	\$	354	\$	150
NiSource Inc.	Baa2 stable	\$	1,506	\$	10,950	14%	\$	1,997	\$	363
Otter Tail Corporation	Baa2 stable	\$	409	\$	949	43%	\$	170	\$	67
Public Service Enterprise Group Incorporated	Baa2 stable	\$	2,732	\$	21,368	13%	\$	2,946	\$	1,056
Sempra Energy	Baa2 stable	\$	4,498	\$	27,118	17%	\$	4,968	\$	1,408
Southern Company (The)	Baa2 stable	\$	7,979	\$	54,354	15%	\$	8,416	\$	2,825
Southwest Gas Holdings, Inc.	Baa2 stable	\$	666	\$	6,424	10%	\$	761	\$	149
Spire Inc.	Baa2 stable	\$	426	\$	4,320	10%	\$	569	\$	140
Unitil Corporation	Baa2 stable	\$	126	\$	619	20%	\$	120	\$	25
Entergy Corporation	Baa2 negative	\$	3,223	\$	29,060	11%	\$	6,375	\$	804

#### MOODY'S INVESTORS SERVICE

## INFRASTRUCTURE AND PROJECT FINANCE

Issuer	Rating and Outlook	look CFO Pre-WC		<b>Total Debt</b>		CFO Pre-WC/Debt	Capex		Dividends	
Edison International	Baa3 positive	\$	3,085	\$	30,725	10%	\$	5,610	\$	1,018
Cleco Corporate Holdings LLC	Baa3 stable	\$	345	\$	3,900	9%	\$	278	\$	133
Duquesne Light Holdings, Inc.	Baa3 stable	\$	388	\$	2,783	14%	\$	375	\$	58
Emera Inc.	Baa3 negative	\$	1,127	\$	13,214	8%	\$	1,902	\$	363
Fortis Inc.	Baa3 stable	\$	2,477	\$	21,943	11%	\$	2,845	\$	502
PNM Resources, Inc.	Baa3 stable	\$	605	\$	4,194	14%	\$	643	\$	116
Puget Energy, Inc.	Baa3 stable	\$	830	\$	7,064	12%	\$	983	\$	62
IPALCO Enterprises, Inc.	Baa3 stable	\$	344	\$	2,970	12%	\$	415	\$	139
FirstEnergy Corp.	Ba1 positive	\$	2,675	\$	24,027	11%	\$	2,714	\$	880
DPL Inc.	Ba1 negative	\$	114	\$	1,638	7%	\$	243	\$	-
PG&E Corporation	Ba2 stable *	\$	5,542	\$	50,803	11%	\$	9,116	\$	-

All ratios are based on GAAP "Adjusted" financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations, but may not include all analytical adjustments.

List excludes intermediate holding companies unless the ultimate parent company is excluded from the holding company peer group (e.g. AES Corporation) or is domiciled outside of the U.S.

[1] PPL Corp.'s credit metric includes the total debt but partial cash flow from NECO due to the timing of the completed acquisition.

Source: Moody's Investors Service

<sup>\*</sup>PG&E Corporation is a Corporate Family Rating

Exhibit 8

Vertically integrated operating companies

Data for the most recent 12-month period available (\$ millions)

Issuer	Rating and Outlook	CF	O Pre-WC	Т	otal Debt	CFO Pre-WC/Debt	(	Capex	Div	vidends
Alabama Power Company	A1 stable	\$	2,125	\$	10,079	21%	\$	2,137	\$	1,000
Consumers Energy Company	A1 stable*	\$	2,133	\$	8,691	25%	\$	2,233	\$	775
Florida Power & Light Company	A1 stable	\$	6,808	\$	21,535	32%	\$	8,264	\$	2,105
Madison Gas and Electric Company	A1 stable	\$	173	\$	689	25%	\$	144	\$	17
MidAmerican Energy Company	A1 stable	\$	1,934	\$	7,836	25%	\$	2,054	\$	-
Southern Indiana Gas & Electric Company	A1 stable	\$	229	\$	1,004	23%	\$	310	\$	30
DTE Electric Company	A2 stable	\$	2,007	\$	10,611	19%	\$	2,730	\$	734
Duke Energy Carolinas, LLC	A2 stable	\$	3,291	\$	14,303	23%	\$	3,163	\$	-
Duke Energy Indiana, LLC.	A2 stable	\$	1,096	\$	5,023	22%	\$	941	\$	362
Duke Energy Progress, LLC	A2 stable	\$	2,286	\$	11,093	21%	\$	2,077	\$	950
Northern States Power Company (Minnesota)	A2 stable	\$	1,234	\$	7,025	18%	\$	1,780	\$	478
Northern States Power Company (Wisconsin)	A2 stable	\$	250	\$	1,058	24%	\$	308	\$	113
Virginia Electric and Power Company	A2 stable	\$	3,386	\$	17,622	19%	\$	4,066	\$	-
Wisconsin Electric Power Company [1]	A2 stable	\$	853	\$	6,125	14%	\$	914	\$	580
Wisconsin Public Service Corporation	A2 stable	\$	459	\$	1,885	24%	\$	399	\$	260
Indiana Michigan Power Company	A3 positive	\$	849	\$	3,420	25%	\$	726	\$	200
Cleco Power LLC	A3 stable	\$	231	\$	2,173	11%	\$	269	\$	52
Duke Energy Florida, LLC.	A3 stable	\$	1,984	\$	9,252	21%	\$	2,145	\$	-
Kentucky Utilities Co.	A3 stable	\$	699	\$	2,983	23%	\$	608	\$	298
Louisville Gas & Electric Company	A3 stable	\$	567	\$	2,419	23%	\$	439	\$	219
Oklahoma Gas & Electric Company	A3 stable	\$	962	\$	4,137	23%	\$	880	\$	265
Otter Tail Power Company	A3 stable	\$	180	\$	823	22%	\$	136	\$	53
PacifiCorp	A3 stable	\$	1,710	\$	8,799	19%	\$	1,567	\$	250
Portland General Electric Company	A3 stable	\$	584	\$	3,616	16%	\$	666	\$	154
Public Service Company of Colorado	A3 stable	\$	1,403	\$	7,073	20%	\$	1,792	\$	479
Tucson Electric Power Company	A3 stable	\$	525	\$	2,333	23%	\$	527	\$	63
Wisconsin Power and Light Company	A3 stable	\$	367	\$	2,806	13%	\$	824	\$	172
Tampa Electric Company	A3 negative	\$	938	\$	4,397	21%	\$	1,399	\$	471
Arizona Public Service Company	A3 negative	\$	1,242	\$	7,014	18%	\$	1,495	\$	382
Entergy Arkansas, LLC	Baa1 positive	\$	858	\$	4,763	18%	\$	994	\$	86
Entergy Mississippi, LLC	Baa1 positive	\$	487	\$	2,553	19%	\$	664	\$	-
Union Electric Company	(P)Baa1 stable	\$	1,071	\$	6,445	17%	\$	1,772	\$	24
Appalachian Power Company	Baa1 stable	\$	911	\$	5,490	17%	\$	943	\$	75
Duke Energy Kentucky, Inc.	Baa1 stable	\$	134	\$	853	16%	\$	164	\$	-
Empire District Electric Company (The)	Baa1 stable	\$	231	\$	1,200	19%	\$	318	\$	-
Evergy Kansas Central, Inc.	Baa1 stable	\$	976	\$	5,326	18%	\$	914	\$	465
Evergy Metro, Inc.	Baa1 stable	\$	758	\$	3,498	22%	\$	793	\$	50
Georgia Power Company	Baa1 stable	\$	2,610	\$	15,076	17%	\$	3,916	\$	1,670
Hawaiian Electric Company, Inc.	Baa1 stable	\$	413	\$	2,183	19%	\$	301	\$	119
Idaho Power Company	Baa1 stable	\$	289	\$	2,646	11%	\$	354	\$	150

## MOODY'S INVESTORS SERVICE

## INFRASTRUCTURE AND PROJECT FINANCE

Issuer	Rating and Outloo	k	CFO Pre-WC	Total Debt	CFO Pre-WC/De	ebt	Capex	Dividends
Indianapolis Power & Light Company	Baa1 stable	\$	370	\$ 2,097	18%	\$	414	\$ 162
Interstate Power and Light Company	Baa1 stable	\$	667	\$ 3,774	18%	\$	365	\$ 360
Mississippi Power Company	Baa1 stable	\$	383	\$ 1,572	24%	\$	225	\$ 163
Nevada Power Company	Baa1 stable	\$	722	\$ 3,115	23%	\$	579	\$ 200
Newfoundland Power Inc.	Baa1 stable	\$	102	\$ 537	19%	\$	103	\$ 27
Northern Indiana Public Service Company	Baa1 stable	\$	817	\$ 2,992	27%	\$	821	\$ -
Public Service Company of Oklahoma	Baa1 stable	\$	389	\$ 2,950	13%	\$	396	\$ 10
Puget Sound Energy, Inc.	Baa1 stable	\$	867	\$ 5,175	17%	\$	954	\$ 149
Sierra Pacific Power Company	Baa1 stable	\$	242	\$ 1,278	19%	\$	370	\$ 70
Superior Water, Light and Power Company	Baa1 stable	\$	14	\$ 50	27%	\$	13	\$ -
ALLETE, Inc.	Baa1 stable	\$	317	\$ 2,167	15%	\$	276	\$ 138
Entergy Louisiana, LLC	Baa1 negative	\$	1,030	\$ 10,727	10%	\$	3,622	\$ 185
Dominion Energy South Carolina, Inc.	Baa2 positive	\$	715	\$ 4,737	15%	\$	698	\$ 301
NorthWestern Corporation	Baa2 stable	\$	357	\$ 2,633	14%	\$	487	\$ 133
Avista Corp.	(P)Baa2 stable	\$	304	\$ 2,671	11%	\$	442	\$ 124
El Paso Electric Company	Baa2 stable	\$	259	\$ 1,887	14%	\$	387	\$ 130
Entergy Texas, Inc.	Baa2 stable	\$	568	\$ 2,782	20%	\$	602	\$ -
Evergy Missouri West, Inc.	Baa2 stable	\$	263	\$ 1,706	15%	\$	490	\$ -
Liberty Utilities Co.	Baa2 stable	\$	399	\$ 2,631	15%	\$	667	\$ -
Monongahela Power Company	Baa2 stable	\$	195	\$ 2,006	10%	\$	249	\$ 106
Public Service Company of New Mexico	Baa2 stable	\$	406	\$ 2,043	20%	\$	675	\$ 61
Southwestern Electric Power Company	Baa2 stable	\$	520	\$ 3,941	13%	\$	499	\$ 17
Southwestern Public Service Company	Baa2 stable	\$	647	\$ 3,252	20%	\$	507	\$ 290
Avista Corp.	(P)Baa2 stable	\$	304	\$ 2,671	11%	\$	442	\$ 124
Pacific Gas & Electric Company	Baa3 stable*	\$	5,817	\$ 46,149	13%	\$	9,091	\$ 425
Alaska Electric Light and Power Company(AELP)	Baa3 stable	\$	16	\$ 122	13%	\$	5	\$ 6
Kentucky Power Company	Baa3 stable	\$	132	\$ 1,245	11%	\$	200	\$ -
Entergy New Orleans, LLC.	Ba1 negative	\$	128	\$ 868	15%	\$	242	\$ -

All ratios are based on GAAP "Adjusted" financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations, but may not include all analytical adjustments.

<sup>[1]</sup> These ratios do not reflect the adjustments related to the Power the Future lease agreements.

<sup>\*</sup>First mortgage bond rating

Source: Moody's Investors Service

Exhibit 9
Transmission and distribution operating companies
Data for the most recent 12-month period available (\$ millions)

Issuer	Rating and Outlook	CFC	Pre-WC	1	Total Debt	CFO Pre-WC/Debt	(	Capex	Dividends
NSTAR Electric Company	A1 negative	\$	885	\$	4,547	19%	\$	1,030	\$ 144
Oncor Electric Delivery Company LLC	A2 stable*	\$	1,790	\$	11,931	15%	\$	2,736	\$ 859
PECO Energy Company	A2 stable	\$	927	\$	4,515	21%	\$	1,321	\$ 370
Ameren Illinois Company	(P)A3 stable	\$	1,159	\$	4,551	25%	\$	1,485	\$ -
Baltimore Gas and Electric Company	A3 stable	\$	894	\$	4,475	20%	\$	1,213	\$ 296
Commonwealth Edison Company	A3 stable	\$	1,548	\$	10,675	15%	\$	2,436	\$ 543
Connecticut Light and Power Company (The)	A3 stable	\$	897	\$	4,349	21%	\$	909	\$ 347
Duquesne Light Company	A3 stable	\$	389	\$	1,454	27%	\$	357	\$ 60
FortisBC Energy Inc.	A3 stable	\$	332	\$	2,610	12%	\$	461	\$ 133
Hydro One Inc.	A3 stable	\$	1,724	\$	11,492	15%	\$	1,547	\$ 503
Jersey Central Power & Light Company	A3 stable	\$	559	\$	2,366	24%	\$	371	\$ 105
Metropolitan Edison Company	A3 stable	\$	257	\$	1,172	22%	\$	143	\$ 145
Narragansett Electric Company	A3 stable	\$	259	\$	1,544	17%	\$	379	\$ -
Ohio Edison Company	A3 stable	\$	366	\$	1,266	29%	\$	285	\$ 271
Pennsylvania Power Company	A3 stable	\$	61	\$	267	23%	\$	41	\$ 26
PPL Electric Utilities Corporation	A3 stable	\$	916	\$	4,486	20%	\$	897	\$ 298
Public Service Company of New Hampshire	A3 stable	\$	336	\$	1,756	19%	\$	452	\$ 102
Public Service Electric and Gas Company	A3 stable	\$	1,973	\$	12,528	16%	\$	2,627	\$ -
West Penn Power Company	A3 stable	\$	238	\$	1,018	23%	\$	190	\$ 90
San Diego Gas & Electric Company	(P)A3 stable	\$	1,750	\$	9,204	19%	\$	2,266	\$ 300
United Illuminating Company	Baa1 positive	\$	237	\$	1,131	21%	\$	215	\$ 115
Atlantic City Electric Company	Baa1 stable	\$	335	\$	1,769	19%	\$	394	\$ 97
CenterPoint Energy Houston Electric, LLC	Baa1 stable	\$	943	\$	6,170	15%	\$	2,272	\$ 67
Central Hudson Gas & Electric Corporation	Baa1 stable	\$	124	\$	1,079	11%	\$	227	\$ -
Consolidated Edison Company of New York, Inc.	Baa1 stable	\$	3,326	\$	21,065	16%	\$	3,818	\$ 984
Delmarva Power & Light Company	Baa1 stable	\$	397	\$	1,995	20%	\$	422	\$ 140
Duke Energy Ohio, Inc.	Baa1 stable	\$	568	\$	3,834	15%	\$	829	\$ -
Fitchburg Gas & Electric Light Company	Baa1 stable	\$	32	\$	161	20%	\$	27	\$ 6
FortisAlberta Inc.	Baa1 stable	\$	296	\$	1,915	15%	\$	302	\$ 69
Massachusetts Electric Company	Baa1 stable	\$	192	\$	1,940	10%	\$	344	\$ -
New York State Electric and Gas Corporation	Baa1 stable	\$	123	\$	2,285	5%	\$	756	\$ 270
Niagara Mohawk Power Corporation	Baa1 stable	\$	729	\$	4,025	18%	\$	900	\$ 275
Ohio Power Company	Baa1 stable	\$	561	\$	3,512	16%	\$	777	\$ 86
Pennsylvania Electric Company	Baa1 stable	\$	257	\$	1,545	17%	\$	147	\$ 265
Potomac Electric Power Company	Baa1 stable	\$	542	\$	3,765	14%	\$	817	\$ 445
Rochester Gas & Electric Corporation	Baa1 stable	\$	164	\$	1,547	11%	\$	435	\$ 250
Texas-New Mexico Power Company	Baa1 stable	\$	181	\$	1,110	16%	\$	396	\$ -
Unitil Energy Systems, Inc.	Baa1 stable	\$	35	\$	127	27%	\$	23	\$ 5

## MOODY'S INVESTORS SERVICE

## INFRASTRUCTURE AND PROJECT FINANCE

Issuer	Rating and Outlook	CF	O Pre-WC	1	Total Debt	CFO Pre-WC/Debt	Capex	I	Dividends
Southern California Edison Company	Baa2 positive	\$	3,228	\$	26,762	12%	\$ 5,610	\$	1,085
AEP Texas Inc.	Baa2 stable	\$	747	\$	6,202	12%	\$ 1,162	\$	-
Electric Transmission Texas, LLC	Baa2 stable	\$	237	\$	1,601	15%	\$ 122	\$	70
National Grid North America Inc.	Baa2 stable	\$	2,191	\$	20,609	11%	\$ 4,171	\$	-
National Grid USA	Baa2 stable	\$	1,948	\$	24,045	8%	\$ 4,156	\$	-
Orange and Rockland Utilities, Inc.	Baa2 stable	\$	185	\$	1,149	16%	\$ 223	\$	54
Potomac Edison Company (The)	Baa2 stable	\$	174	\$	755	23%	\$ 141	\$	-
Toledo Edison Company	Baa2 stable	\$	102	\$	486	21%	\$ 60	\$	47
Cleveland Electric Illuminating Company (The)	Baa3 stable	\$	209	\$	1,617	13%	\$ 190	\$	53
Dayton Power & Light Company	Baa2 negative	\$	138	\$	766	18%	\$ 241	\$	69

All ratios are based on GAAP "Adjusted" financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations, but may not include all analytical adjustments.

<sup>\*</sup>First mortgage bond rating Source: Moody's Investors Service

Exhibit 10 Local gas distribution operating companies Data for the most recent 12-month period available (\$ millions)

Issuer	Rating and Outlook	CFC	Pre-WC	Т	otal Debt	CFO Pre-WC/Debt	(	Capex	Div	vidends
Atmos Energy Corporation	A1 stable	\$	1,357	\$	8,193	17%	\$	2,362	\$	362
New Jersey Natural Gas Company	A1 stable*	\$	295	\$	1,316	22%	\$	364	\$	-
Spire Missouri Inc.	A1 negative *	\$	40	\$	2,039	2%	\$	362	\$	-
Connecticut Natural Gas Corporation	A2 stable	\$	67	\$	276	24%	\$	69	\$	35
Northern Illinois Gas Company	A2 stable	\$	506	\$	2,383	21%	\$	736	\$	-
Peoples Gas Light and Coke Company	A2 stable	\$	484	\$	1,964	25%	\$	536	\$	395
Southern California Gas Company	A2 stable	\$	1,154	\$	6,092	19%	\$	1,994	\$	25
Spire Alabama Inc.	A2 stable	\$	126	\$	839	15%	\$	148	\$	22
UGI Utilities, Inc.	A2 negative	\$	365	\$	1,541	24%	\$	432	\$	-
Berkshire Gas Company	A3 stable	\$	10	\$	82	13%	\$	19	\$	10
CenterPoint Energy Resources Corp.	A3 stable	\$	909	\$	4,585	20%	\$	1,038	\$	-
DTE Gas Company	A3 stable	\$	408	\$	2,091	20%	\$	604	\$	156
ONE Gas, Inc	A3 stable	\$	461	\$	4,242	11%	\$	540	\$	129
Piedmont Natural Gas Company, Inc.	A3 stable	\$	537	\$	3,415	16%	\$	821	\$	-
Questar Gas Company	A3 stable	\$	207	\$	1,103	19%	\$	301	\$	-
SEMCO Energy, Inc.	A3 stable	\$	126	\$	529	24%	\$	93	\$	30
South Jersey Gas Company	A3 stable	\$	253	\$	1,164	22%	\$	225	\$	-
Southern Connecticut Gas Company	A3 stable	\$	34	\$	377	9%	\$	104	\$	30
UNS Gas, Inc.	A3 stable	\$	24	\$	105	22%	\$	27	\$	-
Washington Gas Light Company	A3 stable	\$	325	\$	1,838	18%	\$	539	\$	100
Wisconsin Gas LLC	A3 negative	\$	174	\$	856	20%	\$	194	\$	50
Boston Gas Company	Baa1 stable	\$	500	\$	2,242	22%	\$	646	\$	43
FortisBC Inc.	Baa1 stable	\$	100	\$	1,002	10%	\$	109	\$	38
KeySpan Gas East Corporation	Baa1 stable	\$	256	\$	1,561	16%	\$	410	\$	-
Northwest Natural Gas Company	(P)Baa1 stable	\$	199	\$	1,289	15%	\$	311	\$	58
PNG Companies LLC	Baa1 stable*	\$	264	\$	1,517	17%	\$	280	\$	75
Public Service Co. of North Carolina, Inc.	Baa1 stable	\$	146	\$	1,109	13%	\$	156	\$	92
Southern Company Gas Capital	Baa1 stable	\$	1,264	\$	8,181	15%	\$	1,437	\$	530
Southwest Gas Corporation	Baa1 stable	\$	484	\$	3,346	14%	\$	620	\$	118
Yankee Gas Services Company	Baa1 stable	\$	122	\$	907	13%	\$	236	\$	46
Northern Utilities, Inc.	Baa1 stable	\$	49	\$	270	18%	\$	62	\$	14
Boston Gas Company	Baa1 stable	\$	500	\$	2,242	22%	\$	646	\$	43
Brooklyn Union Gas Company, The	Baa2 stable	\$	261	\$	2,694	10%	\$	712	\$	-

All ratios are based on GAAP "Adjusted" financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations, but may not include all analytical adjustments.

<sup>\*</sup>First mortgage bond rating Source: Moody's Investors Service

## Moody's related publications

#### Sector research

- » Regulated Electric and Gas Utilities US: Environmental risks drive capital spending increases, pressuring credit quality, 3 November 2022
- » Regulated Electric Utilities US: Regulatory support, storm cost recovery provisions to mitigate Hurricane Ian impact, 30 September 2022
- » Electric Utilities and Power Companies US: Inflation Reduction Act's renewable, nuclear and other energy credits are credit positive, 11 August 2022
- » Government Policy US: Inflation Reduction Act will build economic resilience, but its costs and benefits vary by sector, 10 August 2022
- » Regulated Electric and Gas Utilities US: Regulated cost recovery provides Dominion credit advantage versus offshore wind peers, 20 July 2022
- » Regulated Electric and Gas Utilities US: Offshore wind projects raise business risk, but credit implications depend on execution, 20 July 2022
- » Regulated Electric and Gas Utilities US: High natural gas prices, inflation and rising interest rates increase social risk, 13 June 2022
- » <u>Electric Utilities and Power Companies US: Renewable energy developers and owners to benefit from solar tariff exemption</u> 8 June 2022
- » Regulated Electric and Gas Utilities US: Persistent elevated electric and gas prices will increase social risks, 14 February 2022

© 2022 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE. SELL. OR HOLD PARTICULAR SECURITIES, MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at <a href="https://www.moodys.com">www.moodys.com</a> under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER

1344794

## MOODY'S INVESTORS SERVICE INFRASTRUCTURE AND PROJECT FINANCE

Contacts				CLIENT SERVICES	
Jim Hempstead MD - Global Infrastructure & Cyber Risk james.hempstead@moodys.co	+1.212.553.4318	Nana Hamilton VP-Senior Analyst nana.hamilton@moodys.com	+1.212.553.9440	Americas Asia Pacific Japan	1-212-553-1653 852-3551-3077 81-3-5408-4100
Jeffrey F. Cassella VP-Sr Credit Officer jeffrey.cassella@moodys.com	+1.212.553.1665	Natividad Martel, CFA VP-Senior Analyst natividad.martel@moodys.com	+1.212.553.4561	EMEA	44-20-7772-5454
Toby Shea VP-Sr Credit Officer toby.shea@moodys.com	+1.212.553.1779	Gavin MacFarlane  VP-Sr Credit Officer gavin.macfarlane@moodys.com	+1.416.214.3864		
<b>Yulia Rakityanskaya</b> Analyst yulia.rakityanskaya@moodys.o	+1.416.214.3627	<b>Jillian Cardona</b> <i>Analyst</i> jillian.cardona@moodys.com	+1.212.553.4351		

