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OUTLOOK
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Public Power Electric Utilities – US

Outlook remains stable but sector will likely face lower liquidity and coverage in 2020-21

Our outlook for US public power electric utilities remains stable. This outlook reflects our expectations for the fundamental business conditions in the sector over the next 12 to 18 months.

Our outlook for the US public power sector remains stable because we expect the sector to be relatively resilient through the coronavirus outbreak and the resulting downturn. Public power utilities provide essential services in a nonprofit manner, have strong liquidity, continue to deleverage and benefit from cost recovery through self-regulated rate-setting.

However, we expect an overall decline in liquidity and coverage ratios in 2020-21 given a likely decline in demand in 2020 resulting in lower sales revenues and cash flow coupled with most utilities temporarily suspending disconnects during the stay-at-home orders.

» **Utilities in weaker economic areas, with less competitive rates and/or high industrial/commercial concentration are more exposed to the downturn.** In the wake of the coronavirus outbreak, electricity demand has fallen sharply for some sectors such as the service industry, automobile manufacturing and oil and gas, among others.

» **We expect net negative load demand for the year rather than flat growth, as previously anticipated.** Given stay-at-home and essential business-only orders, we expect net negative load demand across the country for the year. States have enacted these orders at different times and to varying degrees, so some states may see a lag or smaller effect.

» **Liquidity and fixed charge coverage ratios likely to temporarily decline in 2020-21.** Although the sector in general has the ability to pass through costs to its customers through self-regulated rate-setting, there may be a lower willingness to raise rates, especially for utilities providing service in already weaker economic service areas.

THIS REPORT WAS REPUBLISHED ON 24 APRIL 2020 WITH A CORRECTION TO APPENDIX A TO DENOTE ISSUERS WITH FY 2019 AUDITED RESULTS

» **What could change our outlook.** We could revise the outlook to negative if stay-at-home orders and closure of nonessential services continue for a prolonged period. A longer disruption could lead to more permanent significant loss of demand as a result of widespread deteriorating economic activity, customer loss and delayed recovery, negatively affecting cost recovery and liquidity beyond 12-18 months.

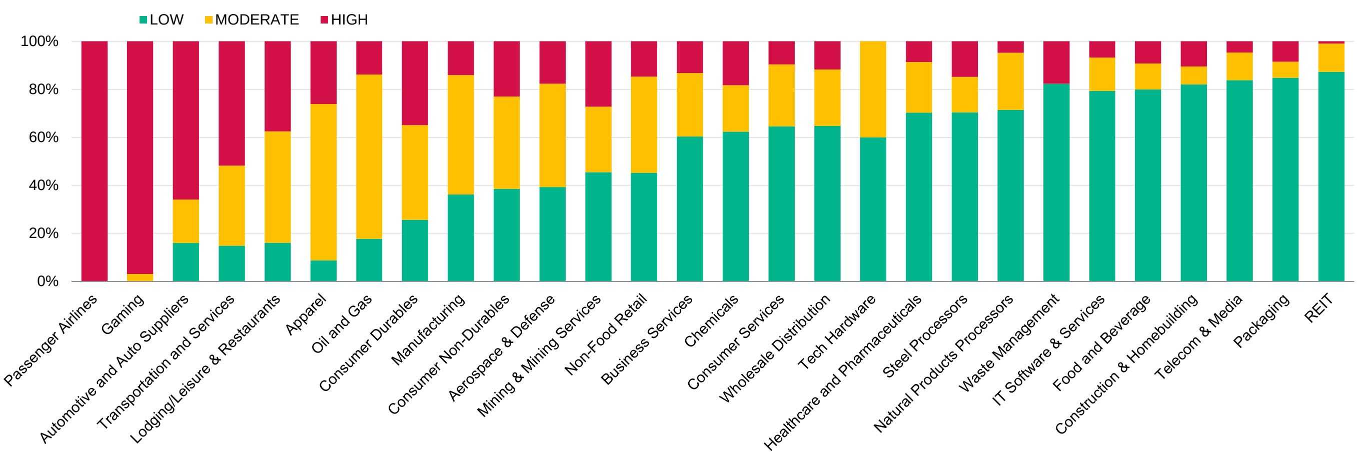
Utilities in weaker economic regions, with less competitive rates and/or high industrial/commercial concentration are more exposed to the downturn

A recession will have more significant credit implications for utilities that serve relatively weaker economic areas and/or have a high concentration of commercial and industrial customers. Electricity demand has fallen sharply for sectors highly exposed to the pandemic including the service industry, automobile manufacturing and oil and gas, among others (see Exhibit 1). The general service area economy has also deteriorated in many regions.

Exhibit 1

Overall risk exposure to coronavirus pandemic by industry

Ranked from high to low



Source: Moody's Investors Service

Business activity will likely fall sharply across advanced economies in the first half of 2020. We project a 4.3% cumulative business activity contraction over the first and second quarters of 2020 in the US before modest recovery. Although supportive fiscal and monetary policy measures will likely aid recoveries with above-trend growth in the subsequent quarters and in 2021, the output loss in the second quarter is unlikely to be recovered.

Although states and certain local governments will receive some financial support from the federal CARES Act that should provide some relief from tax revenue declines and increased new emergency health and safety spending, the funding is not intended to make government budgets' whole and could place pressure on some government enterprises like utilities to increase transfers to their owners or take on additional costs.

We expect net negative load demand for the year rather than flat growth, as we previously anticipated

Given the numerous stay-at-home and essential business only orders along with a general weakening of the economy, we expect net negative load demand nationally for the year. States have enacted these orders at different times, with Washington, California and New York among the first in February and early March. Load demand decline has not hit and is not likely to hit all areas of the country in the same manner at the same time, with some states having a lag or lower impact. For example, Florida and Texas's demand loads were largely unaffected through March (not weather adjusted).

Preliminary figures indicate declines in peak load ranging from 19% in NYISO Zone J, which covers New York City, to 9% in ISO-NE (New England Independent System Operator) for the first twenty days of April 2020 (not weather adjusted). However depending on the industrial and commercial customer concentration of particular issuers, as well as the types of industries located in their service area, some issuers may actually experience load demand growth, as in food products, hygiene and medical supply-related industries.

Exhibit 2

Daily Peak Load Demand by Independent System Operator (ISO)

Data as of 20 April 2020 — not weather adjusted

2020 vs. four-year average	Rating	Year to date	March	April (month to date)	Last 30 days
CAISO	A1	-5%	-4%	-12%	-11%
ERCOT	Aa3	6%	8%	2%	6%
ISO-NE	Aa3	-7%	-8%	-9%	-8%
MISO	A1	-4%	-4%	-10%	-8%
NYISO	N/A	-7%	-8%	-11%	-11%
PJM	Aa2	-7%	-8%	-10%	-10%
NYISO Zone J	N/A	-8%	-11%	-19%	-17%

Source: SPGMI, Moody's Investors Service

Lower demand weighs on power prices, which could benefit utilities with open positions purchasing power in the market either at lower cost or reducing purchases, while having the opposite effect on wholesalers looking to sell excess energy in the market at depressed prices. Further, utilities with flexibility in their generation mix may be able to adjust to anticipated load declines, softening the impact on revenue loss with lower cost power and fuel purchases.

Liquidity and fixed charge coverage ratios likely to decline in 2020-21

Although most public power issuers maintain the ability to pass through their operating costs to their customers through self-regulated rate-setting, the willingness to raise rates may be affected, especially for utilities providing service in already weaker economic service areas.

Utilities that had previously planned but not yet implemented rate increases for 2020 may choose to postpone those rate increases to later in the year or delay into the following year as businesses slowly reopen and the current situation normalizes. Some municipal utilities in Florida have already lowered prices over the next few months, passing on the benefit of lower fuel costs (natural gas) to customers.

We expect that some utilities may tap rate stabilization reserves, when available, as well as existing discretionary liquidity, rather than passing on rate increases to spread the loss of revenues associated with nonessential services' shutdowns, among remaining customers.

In addition to load demand declines, public power utilities will likely experience an increase in bad debts. According to the Energy and Policy Institute, at least twenty-seven states and the District of Columbia have either ordered or have strongly encouraged voluntary suspension of electric disconnection. Given the severe economic downturn, we expect this will lead to an increase in bad debts and an increase in working capital requirements for public power utilities since they will continue to serve customers who ultimately may not be able to pay or may be able to pay at a slower pace, adding to the downward pressure on financial metrics.

Although lower demand can also generate cost savings, in particular fuel-related costs, and lower market prices for power purchases or reduced purchases, the relationship is unlikely to be net zero given a utility's fixed cost structure, generation mix and contractual obligations such as power purchase agreements (PPAs).

As previously mentioned, liquidity may also be impacted from the potential pressure to increase transfers from the utilities to their respective state or local government owners, given deterioration of service area economies.

Coronavirus-driven negative credit effects will be felt throughout the course of an economic downturn instead of a sudden debilitating impact such as the one felt by airlines or the oil and gas sector.

Utilities undertaking large construction projects are already suffering delays associated with labor, equipment supply chain interruptions, and increased costs as a result.

Also, the decline in global equity market valuations is likely to increase adjusted net pension liabilities and adjusted debt ratios across all sectors, including public power issuers.

What could change our outlook

We could revise the outlook to negative if stay-at-home orders and closure of nonessential services persist for a prolonged period. A longer disruption could lead to more permanent significant loss of load as a result of widespread deteriorating economic activity, customer loss and delayed recovery, negatively affecting cost recovery and liquidity beyond 12-18 months.

Coronavirus and credit

The rapid and widening spread of the coronavirus outbreak, deteriorating global economic outlook, falling oil prices and asset price declines are creating a severe and extensive credit shock across many sectors, regions and markets. The combined credit effects of these developments are unprecedented. We expect that credit quality around the world will continue to deteriorate, especially for those companies in the most vulnerable sectors that are most affected by prospectively reduced revenues, margins and disrupted supply chains. At this time, the sectors most exposed to the shock are those that are most sensitive to consumer demand and sentiment, including global passenger airlines, lodging and cruise, autos, as well as those in the oil & gas sector most negatively affected by the oil price shock. Lower-rated issuers are most vulnerable to these unprecedented operating conditions and to shifts in market sentiment that curtail credit availability. We will take rating actions as warranted to reflect the breadth and severity of the shock, and the broad deterioration in credit quality that it has triggered.

For more information on research on and ratings affected by the coronavirus outbreak, please see moodys.com/coronavirus.

Appendix A: Issuers that we rate

Exhibit 3

List of issuers rated Aaa-Aa3 with days cash on hand (DCOH), reserve policy and fixed charge coverage ratio (FCC) as of fiscal 2019

In declining order of DCOH

Issuer	Rating	Outlook	State	FY 2019*, FY 2018 Total Adjusted Debt ($ Mill)	FY 2019*, FY 2018 Operating Revenues ($ Mill) YE	FY 2019*, FY 2018 Adjusted Days Cash on Hand (days)	FY 2019*, FY 2018 Adjusted Debt Ratio (%)	FY 2019*, FY 2018 Fixed Obligation Charge Coverage	DS Reserve
Holland (City of) MI Electric Enterprise *	Aa3	STA	MI	$ 174	$ 107	786	37%	3.x	MADS
Grant County Public Utility District 2, WA	Aa3	STA	WA	$ 1,498	$ 311	744	55%	1.9x	Other
Chelan County Public Util. Dist 1, WA	Aa3	STA	WA	$ 739	$ 378	718	42%	2.6x	Other **
Glendale (City of) CA Electric Enterprise*	Aa3	NEG	CA	$ 312	$ 218	654	59%	1.8x	Average Annual
District Energy Corporation Facility, NE	Aa2	STA	NE	$ 58	$ 6	526	96%	1.2x	MADS
San Antonio (City of) TX Combined Util. Ent. *	Aa1	STA	TX	$ 6,916	$ 2,744	442	71%	2.x	MADS
Tallahassee (City of) FL Electric Enterprise	Aa3	STA	FL	$ 682	$ 309	431	64%	1.8x	Other **
Fayetteville Public Works Commission, NC *	Aa2	STA	NC	$ 386	$ 338	384	28%	2.8x	None
Douglas County Public Utility District 1, WA	Aa3	STA	WA	$ 212	$ 99	350	40%	2.3x	Other **
Austin (City of) TX Electric Enterprise *	Aa3	STA	TX	$ 2,596	$ 1,447	327	67%	3.2x	Other **
Colorado Springs (City of) CO Comb. Util Ent. *	Aa2	STA	CO	$ 2,978	$ 893	291	66%	2.2x	Other **
Salt River Proj. Agric. Imp. & Pwr. Dist. AZ	Aa1	STA	AZ	$ 4,466	$ 3,196	270	42%	2.7x	Average Annual
Burbank (City of) CA Combined Utility Ent. *	Aa3	NEG	CA	$ 286	$ 193	251	73%	1.8x	MADS
Snohomish County P.U.D. 1, WA Electric Ent.	Aa2	STA	WA	$ 779	$ 682	249	39%	1.9x	Other **
Omaha Public Power District, NE *	Aa2	STA	NE	$ 3,186	$ 1,157	237	104%	2.9x	Other **
Lansing Board of Water & Light, MI *	Aa3	STA	MI	$ 638	$ 357	230	62%	3.7x	MADS
Rochester (City of) MN Electric Enterprise	Aa3	STA	MN	$ 221	$ 169	223	59%	2.8x	Average Annual
Los Angeles Department of Water & Power, CA Power System *	Aa2	NEG	CA	$ 14,443	$ 4,071	223	101%	1.7x	None
Orlando Utilities Commission, FL *	Aa2	STA	FL	$ 1,694	$ 897	220	56%	1.6x	None
Sacramento Municipal Utility District, CA *	Aa3	NEG	CA	$ 4,342	$ 1,595	213	103%	1.8x	Other **
Tacoma Power, WA	Aa3	STA	WA	$ 747	$ 455	207	56%	2.5x	Average Annual
Lakeland (City of) FL Electric Enterprise	Aa3	STA	FL	$ 559	$ 315	201	64%	2.x	Other **
Clark County Public Utility District 1, WA	Aa3	STA	WA	$ 461	$ 403	186	50%	1.7x	Average Annual
Citizens Energy Group, IN (Water Enterprise)	Aa3	STA	IN	$ 972	$ 211	173	76%	1.8x	Average Annual
Arizona Power Authority *	Aa1	STA	AZ	$ 29	$ 22	151	86%	1.1x	MADS
Gainesville (City of) FL Combined Util. Ent. *	Aa3	STA	FL	$ 2,019	$ 417	150	90%	1.7x	None
New York State Power Authority *	Aa1	STA	NY	$ 3,022	$ 2,389	139	46%	1.7x	None
Seattle (City of) WA Electric Enterprise	Aa2	STA	WA	$ 3,193	$ 995	138	74%	1.6x	Average Annual
Anaheim (City of) CA Electric Enterprise *	Aa3	STA	CA	$ 875	$ 459	107	72%	1.4x	Average Annual
Memphis (City of) TN Electric Enterprise	Aa2	STA	TN	$ 609	$ 1,403	89	45%	1.3x	None
CWA Authority, Inc	Aa3	STA	IN	$ 1,866	$ 299	89	86%	1.5x	Average Annual
Bonneville Power Administration, OR *	Aa2	STA	OR	$ 14,468	$ 36,097	73	80%	1.x	None
Tennessee Valley Authority *	Aaa	STA	TN and parts of AL, MI, KY, GA, NC and VA	$ 29,153	$ 11,233	19	78%	3.9x	None
Total				**$ 104,581**					

* denotes FY 2019

** Represents a level of reserve which is the equivalent of less than the standard three-pronged test (lesser of MADS, 125% of average annual debt service or 10% of proceeds of bonds), a mix of series of debt with and without a debt service reserve; springing reserves; average or maximum annual interest only

MADS = maximum annual debt service; Average annual = average annual debt service

Source: Moody's Investors Service

Exhibit 4

List of issuers rated A1 and below with days cash on hand (DCOH), reserve policy and fixed charge coverage ratio (FCC) as of fiscal 2019

In declining order of DCOH

Issuer	Rating	Outlook	State	FY 2019*, FY 2018 Total Adjusted Debt ($ Mill)	FY 2019*, FY 2018 Operating Revenues ($ Mill) YE	FY 2019*, FY 2018 Adjusted Days Cash on Hand (days)	FY 2019*, FY 2018 Adjusted Debt Ratio (%)	FY 2019*, FY 2018 Fixed Obligation Charge Coverage	DS Reserve
Monroe (City of) NC Combined Utility Ent. *	A1	STA	NC	$ 52	$ 103	740	12%	2.8x	None
Roseville (City of) CA Electric Enterprise	A1	STA	CA	$ 340	$ 168	717	51%	3.6x	Other **
LCRA Transmission Services Corporation *	A1	STA	TX	$ 2,232	$ 433	529	70%	1.6x	Other **
Brownsville Public Utility Board, TX	A2	STA	TX	$ 392	$ 220	509	47%	1.7x	MADS
Vernon (City of) CA Electric Enterprise *	Baa3	STA	CA	$ 313	$ 178	493	77%	1.4x	MADS
Grand River Dam Authority, OK	A1	STA	OK	$ 1,061	$ 438	413	61%	2.2x	Average Annual
Lower Colorado River Authority, TX *	A2	STA	TX	$ 4,109	$ 1,100	403	74%	1.8x	Other **
Turlock Irrigation District, CA	A2	STA	CA	$ 1,290	$ 344	395	79%	1.6x	Other **
Key West Utility Board, FL*	A1	STA	FL	$ 192	$ 98	394	70%	2.5x	Other **
Holyoke Gas and Electric Department, MA	A1	STA	MA	$ 156	$ 75	372	65%	2.4x	Other **
Pend Oreille County P.U.D. 1, WA	Baa2	POS	WA	$ 188	$ 55	329	58%	1.5x	Average Annual
Nebraska Public Power District	A1	STA	NE	$ 1,463	$ 1,145	319	42%	1.3x	Other **
South Carolina Public Service Authority	A2	NEG	SC	$ 7,952	$ 1,807	306	128%	1.4x	Average Annual
Hamilton (City Of) OH Electric Enterprise	A3	STA	OH	$ 69	$ 80	300	42%	1.1x	None
Owensboro (City of) KY Electric Enterprise *	A3	STA	KY	$ 216	$ 155	299	75%	1.5x	MADS
Lafayette (City of) LA Combined Util. Ent.	A1	STA	LA	$ 240	$ 233	284	32%	2.x	MADS
Modesto Irrigation District, CA	A2	STA	CA	$ 898	$ 412	270	90%	1.6x	Average Annual
Grand Island (City of) NE Electric System *	A1	STA	NE	$ 35	$ 87	238	15%	1.6x	MADS
Princeton Electric Plant Board, KY *	Baa1	STA	KY	$ 21	$ 18	246	87%	1.2x	MADS
Lodi (City of) CA Electric Enterprise	A2	STA	CA	$ 81	$ 71	233	119%	1.4x	Average Annual
Henderson Municipal Power & Light, KY *	Baa1	STA	KY	$ 22	$ 51	216	48%	5.1x	MADS
Imperial Irrigation District, CA Elec. Ent.	A1	STA	CA	$ 629	$ 440	215	37%	2.4x	Average Annual
Klickitat County Public Utility Dist. 1, WA	A3	STA	WA	$ 178	$ 46	208	62%	1.6x	MADS
Long Island Power Authority *	A2	STA	NY	$ 10,109	$ 3,780	227	98%	1.3x	None
Guam Power Authority	Baa2	RUR	GUAM	$ 694	$ 381	196	84%	1.4x	MADS
Rochelle (City of) IL Electric Enterprise	A3	STA	IL	$ 22	$ 39	185	33%	1.5x	MADS
Dalton (City of) GA Combined Utility Ent.	A2	STA	GA	$ 111	$ 214	156	12%	18.7x	None
Paducah (City of) KY Electric Enterprise	Baa1	STA	KY	$ 151	$ 80	140	94%	1.1x	Other **
Green Island Power Authority, NY *	Ba1	STA	NY	$ 13	$ 4	138	85%	1.2x	MADS
JEA, FL - Electric Enterprise	A2	NEG	FL	$ 2,636	$ 1,298	132	79%	2.2x	Average Annual
Cleveland Public Power, OH	A3	STA	OH	$ 311	$ 212	128	72%	1.4x	MADS
Burlington (City of) VT Electric Enterprise	A3	STA	VT	$ 72	$ 58	109	62%	1.3x	MADS
Rock Hill (City of) SC Combined Utility Ent.	A2	STA	SC	$ 233	$ 160	99	44%	1.4x	None
Clatskanie People's Utility District, OR	A3	STA	OR	$ 35	$ 59	96	64%	2.5x	Other **
Unified Govt of Wyandotte Co/KS Cty BPU	A2	STA	KS	$ 891	$ 356	92	72%	1.8x	Other **
Springfield (City of) IL Electric Enterprise *	A3	STA	IL	$ 721	$ 235	92	77%	1.8x	MADS
Virgin Islands Water & Power Authority	Caa2	NEG	U.S. VIRGIN ISLANDS	$ 702	$ 244	17	163%	.8x	Other **
Total				**$ 38,831**					

* denotes Fiscal 2019

** Represents a level of reserve which is the equivalent of less than the standard three-pronged test (lesser of MADS, 125% of average annual debt service or 10% of proceeds of bonds), a mix of series of debt with and without a debt service reserve; springing reserves; average or maximum annual interest only

MADS = maximum annual debt service; Average annual = average annual debt service

Source: Moody's Investors Service

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