MOODY'S
INVESTORS SERVICE

CREDIT OPINION
31 October 2018

Update

Rate this Research

RATINGS

Public Service Company of Colorado

Domicile	Denver, Colorado, United States
Long Term Rating	A3
Type	LT Issuer Rating
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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Public Service Company of Colorado

Update to credit analysis

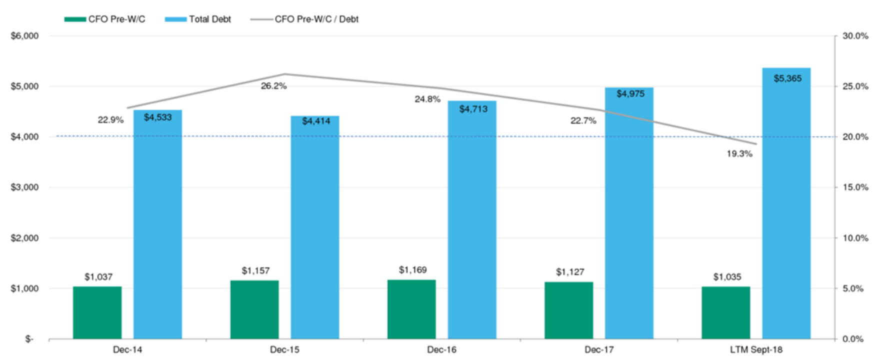
Summary

Public Service Company of Colorado's (PSCo) credit reflects the regulated vertically integrated electric and natural gas distribution utility's operations. It also considers our view of a constructive relationship with the Colorado Public Utility Commission (CPUC) and that the company's cash flows benefit from a suite of rate adjustment mechanisms that help to reduce regulatory lag. PSCO ranks as one of the larger subsidiaries in the Xcel Energy Inc (Xcel, A3 negative) family in terms of rate base (2017: 39%) as well as EBITDA and cash flow contribution (35%-40%). In contrast to its three sister utility companies, PSCO's dividend distributions are not subject to regulatory restrictions based for example on debt-to-book capitalization ratios.

The credit profile is tempered by the weakening financial metrics due to the combination of incremental debt to fund the company's $7 billion 2019-2023 investment program, recently updated to include the $1 billion Colorado Energy Plan (CEP), and the cash impact of the implementation of the Tax Cuts and Jobs Act (TCJA). However, the credit assumes that net credit positive outcomes of the pending regulatory decisions will help PSCO to continue to produce a ratio of cash flow from operations pre-working capital (CFO pre-W/C) to debt of at least 20% over the foreseeable future.

Exhibit 1

Historical CFO Pre-W/C, Total Debt and CFO Pre-W/C to Debt



The CFO Pre-W/C downgrade trigger of approximately 20% is shown with the dashed line above
Source: Moody's Financial Metrics

THIS REPORT WAS REPUBLISHED ON 2 NOVEMBER 2018 WITH TO REFLECT AN UPDATE IN THE LIQUIDITY SECTION.

Credit Strengths

» Nearly $10 billion in authorized rate base

» Vertically integrated regulated utility that operates in a credit constructive regulatory environment

» PSCO's cash flows benefit from riders

Credit Challenges

» Moderate exposure to carbon transition risk

» Declining, but still adequate, financial credit metrics amid expectation of net positive outcomes of ongoing regulatory initiatives

» Elevated capital investment program including the $1 billion Colorado Energy Plan

Rating Outlook

PSCO's stable outlook is supported by the predictable nature of the utility's operations, and the expectation that, although declining, its key credit metrics will remain adequate for its credit, including CFO pre-W/ C to debt of at least 20%. The outlook considers Xcel's group-wide O&M-cost control initiatives, overall timely recovery of costs, as well as some moderation in the utilitys base case capex.

Factors that Could Lead to an Upgrade

» Positive momentum on PSCO's ratings is unlikely given our expectation that its weakening credit metrics will result in its credit profile to be commensurate with its current rating. Longer term, the utility's ratings could experience positive momentum if higher than anticipated regulatory relief and/or cost savings allow it to record CFO pre-W/C to debt in excess of 25%.

Factors that Could Lead to a Downgrade

» The ratings could be downgraded if we perceive a deterioration in the credit supportiveness of the regulatory environment, or if its credit metrics deteriorate more than currently anticipated; specifically, downward pressure on the ratings could result if its CFO pre-W/C to debt ratio falls to below 20%, for an extended period.

Key Indicators

Exhibit 2
Public Service Company of Colorado

	Dec-14	Dec-15	Dec-16	Dec-17	LTM Sept-18
CFO Pre-W/C + Interest / Interest	6.8x	7.4x	7.4x	6.6x	6.0x
CFO Pre-W/C / Debt	22.9%	26.2%	24.8%	22.7%	19.3%
CFO Pre-W/C – Dividends / Debt	13.3%	18.7%	17.7%	15.9%	12.6%
Debt / Capitalization	38.3%	36.3%	36.7%	40.1%	40.4%

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-financial Corporations.
Source: Moody's Financial Metrics

Corporate Profile

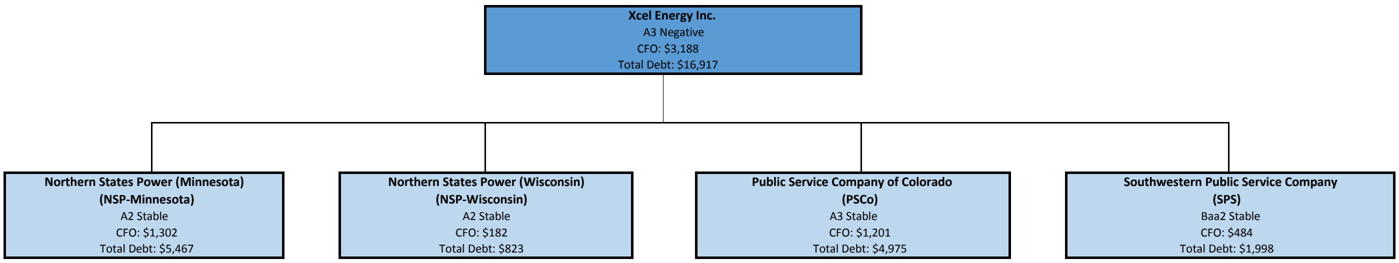
Public Service Company of Colorado (PSCo, A3 stable) is the largest integrated utility in Colorado, where it serves 1.5 million electric customers (rate base: $7 billion) and 1.4 million natural gas customers (rate base: $2.1 billion). The utility also renders sales for resale and wholesale transmission service (rate base: $511 million). As depicted in Exhibit 3 PSCo's parent, Xcel Energy Inc. (Xcel, A3 negative), is a holding company with utility operations in eight states serving around 3.6 million electric and about 2 million natural gas customers. PSCO is one of the largest subsidiaries in terms of regulated rate base and contributions to Xcel's consolidated net income between 35-45%.

3.6 million electric customers and ~2 million natural gas customers

Exhibit 3

Xcel Energy Inc. Organizational Chart

($ in millions)



Source: Xcel Energy Inc., Moody's Financial Metrics

Detailed Credit Considerations

OVERALL CREDIT SUPPORTIVE REGULATORY ENVIRONMENT

Our opinion that the regulatory environment under which PSCO operates is overall credit supportive considers our view that the utility's relationship with the regulators is overall constructive, and that the company's cash flows benefit from a suite of rate adjustment mechanisms that help to reduce regulatory lag. Our assessment of the credit supportiveness of the Colorado regulatory going forward will consider the ongoing regulatory proceedings but overall we anticipate net credit positive outcomes.

Exhibit 4

Summary of key financial parameters including authorized and actual RoEs and applicable regulatory plans

		Authorized Equity Layer / RoE		W/A Earned RoE (actual)			Regulatory Plan
				2015	2016	2017	
PSCo	Electric - Co		9.83%	9.96%	9.22%	8.81%	2015-2017 MTP - rate case filing: pending
	NG- Co	54.6%	9.35% (previously: 9.5%)	6.04%	7.34%	6.64%	Rate Case Order expected: 3Q2018
	Wholesale - PSCo		9.72%	9.72%	9.72%	9.72%	FERC's Transmission and production formula

Source: Xcel Energy, Inc, Regulatory filings

Natural gas operations (around 23% of PSCO's rate base)

CPUC's approval of the extension of PSCO's Pipeline System Integrity adjustment (PSCIA) rider through 2021 is expected before year-end after the utility reached a multi-party settlement agreement in October. The approval is important because PSCo's incremental investments in its natural gas system represent around 25% of its 2018-2022 base case capital expenditures. We also note certain resistance in the state for PSCO to implement multi-year rate plans for its natural gas operations (last filed for the 2018-2020 period in June 2017), and to authorize rate increases based on future test year (although it is allowed in Colorado). The PSCIA rider helps to reduce the regulatory lag.

The CPUC's final decisions regarding the utility's natural gas rate case and TCJA settlement agreement are expected before year-end 2018. In its interim rate case decision (August 2018), the CPUC approved most of the Administrative Law Judge's (ALJ) recommendations, including that rates would be based on 2016 historical test year, with a 13-month average rate base of $1.6 billion, and a 9.35% RoE. These factors and CPUC's authorized equity layer of 54.6% (ALJ: 54.4%) would result in a $47 million increase in the 2018 rates, prior to TCJA impacts.

The financial parameters embedded in the CPUC's interim decision still compare well with PSCO's utility peers. However, the authorized equity layer would fall below the utility's previous authorized (56.51%) and last requested (55.25%) equity ratios. Importantly, the utility's rate case request was filed (June 2017) before the TCJA-implementation, Therefore the reduction in the authorized equity layer could heighten the effect of tax reform on PSCO's natural gas cash flows, particularly in the absence of other regulatory initiatives to mitigate the impact on these operations. In February 2018, the ALJ approved the utility's TCJA settlement agreement to reduce provisional rates by $20 million (annualized provisional rates of $43 million became effective in March) subject to a true-up adjustment that will apply retroactively to January 2018. The utility's true-up filing (September 2018), included updated TCJA refunds of $24 million but it also requested authorization of a 56% equity ratio. As mentioned earlier CPUC's decision is pending.

Electric operations (around 73% of the rate base)

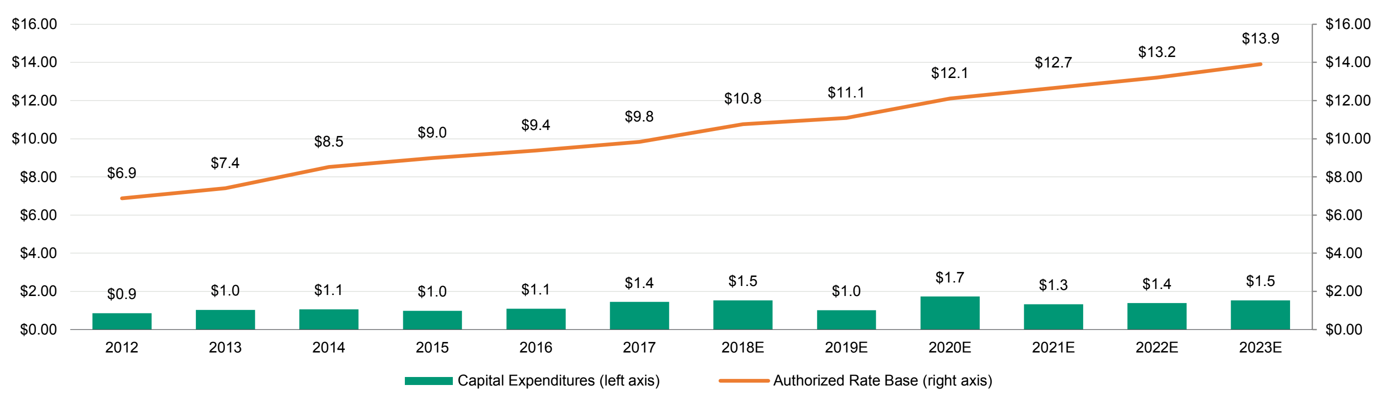
The outcome of PSCo's next electric rate case proceedings will be also important in our assessment of the Colorado regulatory environment going forward, and the impact of tax reform on PSCO's financial metrics. PSCo's three-year electric rate plan expired in 2017. The utility plans to file its next multi-year rate case next year (rates effective: early 2020) after the CPUC dismissed, based on procedural grounds, the electric rate case proceeding that the utility had filed in October 2017. This CPUC's decision followed the multi-party settlement agreement that the utility reached in March 2018 to change the procedural schedule and scope of its 2018-2021 electric rate case following the implementation of tax-reform. Importantly, in October 2018, the CPUC authorized PSCO's regulatory initiative to reduce the cash leakage associated with tax reform. It approved total refunds of $109 million in 2018 and 2019 but also to accelerate the amortization of an existing prepaid pension asset to offset the refund of the remaining $88 million (equal to nearly 45% of the total refunds) due to end-users during these years. The impacts of the TCJA for 2020 and beyond will be likely addressed in a future electric rate case. The CPUC's decision regarding the natural gas equity layer will be also important for PSCO's electric rate case to further offset the impact of tax reform on the utility's cash flows. The dismissed 2018-2021 electric rate case filing was premised on a 55.25% equity layer.

Our view of PSCO's credit considers that its electric operations cash flows benefit from several forward-looking riders for the recovery, between rate cases, of investments in renewables and transmission as well as capital outlays under the 2010 Clean Air Clean Jobs Act (CACJA), along with pension costs and property taxes. We believe that these mechanisms have helped to offset the regulatory lag following the expiration of its multi-year rate plan last year and a group-wide increase in operational and maintenance (O&M) expenses during 2018 (for PSCO: +5% for the nine month period ended September 2018 compared to same period ended in September 2017). The utility still recorded a RoE of nearly 9% for the last twelve month period ended September 2018. The implementation of the next rate case is also important because with it, PSCO's partial electric revenue decoupling mechanism for its residential and small C&I customers will become effective. Its implementation (expected in 2020) will eliminate the impact of demand side management, distributed generation and other energy saving programs on PSCo's sales as customer usage continues to decline.

MODERATE CARBON TRANSITION RISK EXPOSURE

In October 2018, Xcel disclosed PSCO's updated 2019-2023 investment program. This will aggregate $7 billion, including the $1 billion under the utility's approved Colorado Energy Plan approved in August 2018, and a slight reduction ($50 million) in the utility's 2019-2022 previously disclosed base case capital expenditures.

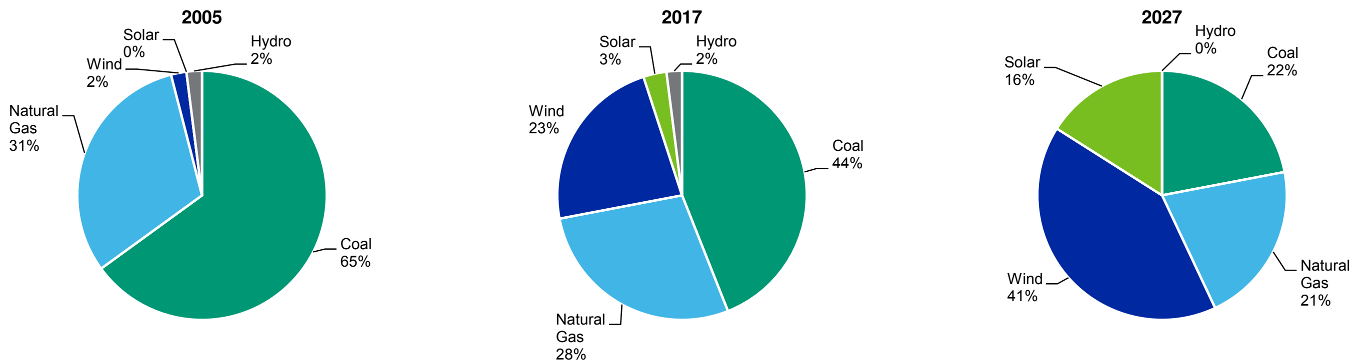
Exhibit 5
PSCo's rate base development and 2012-2022 historical and projected capital expenditure
The utility's significant investments will further grow its rate base



($ in billions)
Source: Xcel Energy Inc., Moody's estimations

PSCO's Colorado Energy Plan, approved in August 2018, foresees investments of around $1 billion to install 500 MW of wind farms and supporting transmission lines to be completed before year-end 2020, as well as to acquire 383 MW combustion turbine capacity in 2022. In addition, PSCO will also enter into power purchase agreements for more than 1.3 GW of wind and solar capacity that third parties will build and operate. Some of these winning bids include a combination of solar resources and battery storage (275M), which shows that the cost of this technology is also rapidly declining. As depicted in Exhibit 5 the utility anticipates that these owned and purchased renewable resources will account for around 57% of its power requirements by 2027, a material increase compared to 26% at year-end 2017. This development includes PSCO's 600 MW Rush Creek wind project authorized last year with earmarked investments of nearly $1.1 billion.

Exhibit 6
PSCo's 2005-2027 planned development of the company's energy mix



Source: Xcel Energy, Inc.

The CEP also foresees PSCO's voluntary early retirement of the two units at its 660 MW coal-fired Comanche plant in 2022 and 2025, respectively. Within the Xcel group, PSC has undertaken most of the recent coal-fired plants' retirements and/or conversions to natural gas. Between 2022 and 2017, PSCO retired and/or converted the Cherokee (4 units), Arapahoe (2 units) and Valmont Unit 5, which aggregate nearly 1,050 MW. The Comanche plant is more than 35 years old and we assume its remaining rate base is relatively small, and largely reflects environmental compliance investments. The CPUC has approved the recovery of the plant's remaining rate base, which also contributes to our view that the utility's exposure to carbon transition risk is moderate, a credit positive.

PSCO expects to complete all its wind projects before year-end 2020 to allow the projects to quality for production tax credits which helps to explain the planned peak in capex in 2020 (see Exhibit 5). We calculate that on average, PSCO's investments will represent less than 2.0x the utility's depreciation expense during the 2019-2023 period (compared to nearly 2.7x during the 2013-2017 period).

The flow back to customers of the PTCs-tax benefits, along with the saved fuel costs, the reduction in fixed costs from the retirement of coal-fired facilities and Xcel's group-wide focus on reducing O&M costs (down 1% in 2017 and 0.2% in 2016) help the utility to reduce the impact from the material investments on its end-users' bills. This is credit positive, particularly in an environment of flat to declining electric sales growth (for PSCO 3QLTM: +0.3% on a weather adjusted basis) amid lower usage per customers (PSCO's 3QLTM customer growth: +1.1%) and until its electric decoupling mechanism becomes effective (next rate case). That said, as mentioned earlier, Xcel has disclosed that volatile summer weather conditions drove, higher sales across the group, but also a step-up by 2%-3% in consolidated O&M costs to enhance reliability amid unanticipated vegetation growth and some stress in its systems.

WEAKENING FINANCIAL METRICS

The incremental debt to fund PSCO's material investments along with the implementation of tax reform in December 2018, cash refunds and expiration of bonus depreciation, have contributed to the deterioration of PSCO's credit metrics during 2018. We calculate that during the 2014-2017 period, the deferred tax payments contributed to around 21% of PSCO's operational cash flows. However, the credit assumes that net credit positive outcomes of PSCO's pending regulatory decisions will help the utility to record credit metrics that remain commensurate with the credit profile, including CFO pre-W/C to debt that will exceed 20% starting in 2019.

Liquidity Analysis

Similar to its sister companies, PSCO has its own separate committed credit facility scheduled to mature in June 2021. This back-stops its $700 million CP-program (Prime-2), At the end of September 2018, the utility had $17 million of cash on hand an $690 million available under this credit facility (letters of credit outstanding: $10 million). The facility provides for same day funding and borrowings are not subject to conditionality. We anticipate the utility will be able to continue to comfortably comply with the only financial covenant embedded in the facility, namely a total Debt/Capitalization ratio below 65%.

PSCO also participates in a regulated money pool with its sister companies, NSP-Minnesota and SPS. As of 30 September 2018 and year-end 2017, PSCo's $ million borrowing limit was fully available. This money pool allows for short-term loans among those utility subsidiaries and allows for short-term loans from Xcel to the utilities. However, it does not permit loans from the utilities to Xcel.

For the rest of 2018 and 2019, we anticipate that the utility will fund its capital requirements, including investments (2019: $1 billion), largely with internally generated cash flows (LTM September 2018: $1.1 billion) and a combination of internal and external sources including parent contributions and short- and long-term debt. In June 2018, PSCO issued two green first mortgage bonds (aggregate amount: $700 million) due in 2028 and 2048. PSCO repaid the $300 million FMB that became due in August. PSCO's next debt maturity consists of $400 million FMB due in June 2019 while Xcel has disclosed PSCO's planned FMB issuance for up to $600 million. In addition, we anticipate that Xcel will continue to manage PSCO's dividend policy (LTM September 2018: $360 million) and equity contributions to the utility (LTM September 2018: $424 million) so as to meet its regulatory capital structure (pending regulatory decisions). In January 2018, Xcel contributed $150 million across the four pension plans (PSCO's contribution: $22 million; 2017: $17.5 million).

Rating Methodology and Scorecard Factors

Moody's assesses PSCo's financial performance based on the standard grid under the Regulated Electric and Gas Utilities Methodology. The indicated rating based on its historical and projected metrics is A3, the same as the utility's current assigned senior unsecured rating.

Exhibit 9

Rating Factors

Public Service Company of Colorado

Regulated Electric and Gas Utilities Industry Grid [1][2]	Current LTM 9/30/2018		Moody's 12-18 Month Forward View As of Date Published [3]	
Factor 1 : Regulatory Framework (25%)	**Measure**	**Score**	**Measure**	**Score**
a) Legislative and Judicial Underpinnings of the Regulatory Framework	A	A	A	A
b) Consistency and Predictability of Regulation	A	A	A	A
Factor 2 : Ability to Recover Costs and Earn Returns (25%)				
a) Timeliness of Recovery of Operating and Capital Costs	Aa	Aa	Aa	Aa
b) Sufficiency of Rates and Returns	Baa	Baa	Baa	Baa
Factor 3 : Diversification (10%)				
a) Market Position	A	A	A	A
b) Generation and Fuel Diversity	Baa	Baa	Baa	Baa
Factor 4 : Financial Strength (40%)				
a) CFO pre-WC + Interest / Interest (3 Year Avg)	6.8x	Aa	6.5x - 7.5x	Aa
b) CFO pre-WC / Debt (3 Year Avg)	22.8%	A	20% - 24%	A
c) CFO pre-WC – Dividends / Debt (3 Year Avg)	15.9%	Baa	14% - 18%	Baa
d) Debt / Capitalization (3 Year Avg)	37.5%	A	38% - 40%	A
Rating:				
Grid-Indicated Rating Before Notching Adjustment		A2		A2
HoldCo Structural Subordination Notching	0	0	0	0
a) Indicated Rating from Grid		A2		A2
b) Actual Rating Assigned		A3		A3

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
[2] As of 6/30/2018(L)
[3] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.
Source: Moody's Financial Metrics

Appendix

Exhibit 10

Cash Flow and Credit Metrics [1]

CF Metrics	Dec-14	Dec-15	Dec-16	Dec-17	LTM Sept-18
As Adjusted					
EBITDA	**1,407**	**1,491**	**1,501**	**1,421**	**1,436**
FFO	**1,033**	**1,180**	**1,141**	**1,162**	**1,093**
- Div	434	331	337	334	360
RCF	**434**	**331**	**337**	**334**	**360**
FFO	1,033	1,180	1,141	1,162	1,093
+/- ΔWC	(81)	96	11	74	100
+/- Other	4	(23)	28	(34)	(58)
CFO	**955**	**1,253**	**1,179**	**1,201**	**1,136**
- Div	434	331	337	334	360
- Capex	1,064	996	1,108	1,445	1,660
FCF	**(542)**	**(74)**	**(266)**	**(578)**	**(885)**
Debt / EBITDA	3.2x	3.0x	3.1x	3.5x	3.7x
EBITDA / Interest	7.9x	8.3x	8.2x	7.1x	6.9x
FFO / Debt	22.8%	26.7%	24.2%	23.3%	20.4%
RCF / Debt	22.8%	26.7%	24.2%	23.3%	20.4%
Revenue	4,383	4,164	4,048	4,043	4,047
Cost of Goods Sold	2,127	1,748	1,622	1,589	1,551
Interest Expense	178	180	184	201	207
Net Income	541	517	539	486	549
Total Assets	13,873	14,157	14,887	16,026	16,838
Total Liabilities	9,010	9,075	9,657	10,247	10,649
Total Equity	4,863	5,082	5,230	5,778	6,189

[1] All figures and ratios are calculated using Moody's estimates and standard adjustments. Periods are Financial Year-End unless indicated. LTM = Last Twelve Months
Source: Moody's Financial Metrics

Exhibit 11

Peer Comparison [1]

	Public Service Company of Colorado (P)A3 Stable			Black Hills Power, Inc. A3 Stable			Indiana Michigan Power Company A3 Stable			PacifiCorp A3 Stable		
(in US millions)	FYE Dec-16	FYE Dec-17	LTM Sept-18	FYE Dec-16	FYE Dec-17	LTM Jun-18	FYE Dec-16	FYE Dec-17	LTM Jun-18	FYE Dec-16	FYE Dec-17	LTM Jun-18
Revenue	4,048	4,043	4,047	268	288	293	2,168	2,121	2,260	5,201	5,237	5,088
CFO Pre-W/C	1,169	1,127	1,035	87	87	96	660	714	767	1,791	1,701	1,725
Total Debt	4,713	4,975	5,365	354	351	351	3,079	3,257	3,427	7,727	7,380	7,323
CFO Pre-W/C / Debt	24.8%	22.7%	19.3%	24.5%	24.7%	27.5%	21.4%	21.9%	22.4%	23.2%	23.0%	23.6%
CFO Pre-W/C – Dividends / Debt	17.7%	15.9%	12.6%	9.6%	12.7%	12.7%	17.4%	18.1%	18.6%	11.9%	14.9%	13.3%
Debt / Capitalization	36.7%	40.1%	40.4%	37.4%	41.2%	41.4%	45.7%	50.9%	51.0%	38.7%	42.2%	42.1%

[1] All figures & ratios calculated using Moody's estimates & standard adjustments. FYE = Financial Year-End. LTM = Last Twelve Months. RUR* = Ratings under Review, where UPG = for upgrade and DNG = for downgrade
Source: Moody's Financial Metrics

Ratings

Exhibit 12

Category	Moody's Rating
PUBLIC SERVICE COMPANY OF COLORADO	
Outlook	Stable
Issuer Rating	A3
First Mortgage Bonds	A1
Senior Secured Shelf	(P)A1
Sr Unsec Bank Credit Facility	A3
Senior Unsecured Shelf	(P)A3
Commercial Paper	P-2
PARENT: XCEL ENERGY INC.	
Outlook	Negative
Issuer Rating	A3
Sr Unsec Bank Credit Facility	A3
Senior Unsecured	A3
Subordinate Shelf	(P)Baa1
Pref. Shelf	(P)Baa2
Commercial Paper	P-2

Source: Moody's Investors Service

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