SECURITIES AND EXCHANGE COMMISSION

FORM 10-Q

Quarterly report pursuant to sections 13 or 15(d)

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-Q

(Mark One)

[X] QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2019

Or

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to
Commission File No. 001-12079

CALPINE®

Calpine Corporation

(A Delaware Corporation)
I.R.S. Employer Identification No. 77-0212977
717 Texas Avenue, Suite 1000, Houston, Texas 77002
Telephone: (713) 830-2000

Securities registered pursuant to Section 12(b) of the Act: None

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [ ] No [X]

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes [X] No [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	[ ]	Accelerated filer	[ ]
Non-accelerated filer	[X]	Smaller reporting company	[ ]
Emerging growth company	[ ]		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. [ ]

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes [ ] No [X]

Indicate the number of shares outstanding of each of the registrant’s classes of common stock, as of the latest practicable date: 105.2 shares of common stock, par value $0.001, were outstanding as of November 8, 2019, none of which were publicly traded.

CALPINE CORPORATION AND SUBSIDIARIES

REPORT ON FORM 10-Q
For the Quarter Ended September 30, 2019

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DEFINITIONS

As used in this report for the quarter ended September 30, 2019 (this “Report”), the following abbreviations and terms have the meanings as listed below. Additionally, the terms “Calpine,” “we,” “us” and “our” refer to Calpine Corporation and its consolidated subsidiaries, unless the context clearly indicates otherwise. The term “Calpine Corporation” refers only to Calpine Corporation and not to any of its subsidiaries. Unless and as otherwise stated, any references in this Report to any agreement means such agreement and all schedules, exhibits and attachments in each case as amended, restated, supplemented or otherwise modified to the date of filing this Report.

ABBREVIATION	DEFINITION
2018 Form 10-K	Calpine Corporation’s Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on March 28, 2019
2019 First Lien Term Loan	The $400 million first lien senior secured term loan, dated February 3, 2017, among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and MUFG Union Bank, N.A., as collateral agent, repaid on April 5, 2019
2022 First Lien Notes	The $750 million aggregate principal amount of 6.0% senior secured notes due 2022, issued October 31, 2013
2023 First Lien Term Loans	The $550 million first lien senior secured term loan, dated December 15, 2015, among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and Goldman Sachs Credit Partners L.P., as collateral agent, repaid on April 5, 2019, and the $562 million first lien senior secured term loan, dated May 31, 2016, among Calpine Corporation, as borrower, the lenders party thereto, Citibank, N.A., as administrative agent and MUFG Union Bank, N.A., as collateral agent, repaid on August 12, 2019
2023 Senior Unsecured Notes	The $1.25 billion aggregate principal amount of 5.375% senior unsecured notes due 2023, issued July 22, 2014
2024 First Lien Notes	The $490 million aggregate principal amount of 5.875% senior secured notes due 2024, issued October 31, 2013
2024 First Lien Term Loan	The $1.6 billion first lien senior secured term loan, dated May 28, 2015 (as amended December 21, 2016), among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and Goldman Sachs Credit Partners L.P., as collateral agent
2024 Senior Unsecured Notes	The $650 million aggregate principal amount of 5.5% senior unsecured notes due 2024, issued February 3, 2015
2025 Senior Unsecured Notes	The $1.55 billion aggregate principal amount of 5.75% senior unsecured notes due 2025, issued July 22, 2014
2026 First Lien Notes	Collectively, the $625 million aggregate principal amount of 5.25% senior secured notes due 2026, issued May 31, 2016, and the $560 million aggregate principal amount of 5.25% senior secured notes due 2026, issued on December 15, 2017
2026 First Lien Term Loan	The $950 million first lien senior secured term loan, dated April 5, 2019, among Calpine Corporation, as borrower, the lenders party thereto, Morgan Stanley Senior Funding, Inc., as administrative agent and MUFG Union Bank, N.A., as collateral agent
2026 First Lien Term Loans	Collectively, the 2026 First Lien Term Loan and the New 2026 First Lien Term Loan

Accounts Receivable Sales Program	Receivables purchase agreement between Calpine Solutions and Calpine Receivables and the purchase and sale agreement between Calpine Receivables and an unaffiliated financial institution, both which allows for the revolving sale of up to $250 million in certain trade accounts receivables to third parties
AOCI	Accumulated Other Comprehensive Income

ABBREVIATION	DEFINITION
Average availability	Represents the total hours during the period that our plants were in-service or available for service as a percentage of the total hours in the period
Average capacity factor, excluding peakers	A measure of total actual power generation as a percent of total potential power generation. It is calculated by dividing (a) total MWh generated by our power plants, excluding peakers, by (b) the product of multiplying (i) the average total MW in operation, excluding peakers, during the period by (ii) the total hours in the period
Btu	British thermal unit(s), a measure of heat content
Calpine Receivables	Calpine Receivables, LLC, an indirect, wholly owned subsidiary of Calpine, which was established as a bankruptcy remote, special purpose subsidiary and is responsible for administering the Accounts Receivable Sales Program
Calpine Solutions	Calpine Energy Solutions, LLC, an indirect, wholly owned subsidiary of Calpine, which is a supplier of power to commercial and industrial retail customers in the United States with customers in 20 states, including presence in California, Texas, the Mid-Atlantic and the Northeast
CCFC	Calpine Construction Finance Company, L.P., an indirect, wholly owned subsidiary of Calpine
CCFC Term Loan	The $1.0 billion first lien senior secured term loan entered into on December 15, 2017 among CCFC as borrower, the lenders party thereto, and Credit Suisse AG, Cayman Islands Branch, as administrative agent and collateral agent
CDHI	Calpine Development Holdings, Inc., an indirect, wholly owned subsidiary of Calpine
Champion Energy	Champion Energy Marketing, LLC, an indirect, wholly owned subsidiary of Calpine, which owns a retail electric provider that serves residential, governmental, commercial and industrial customers in deregulated electricity markets in 14 states and the District of Columbia, including presence in California, Texas, the Mid-Atlantic and Northeast
Cogeneration	Using a portion or all of the steam generated in the power generating process to supply a customer with steam for use in the customer's operations
Commodity expense	The sum of our expenses from fuel and purchased energy expense, commodity transmission and transportation expense, environmental compliance expenses, ancillary retail expense and realized settlements from our marketing, hedging and optimization activities including natural gas and fuel oil transactions hedging future power sales
Commodity Margin	Measure of profit that includes revenue recognized on our wholesale and retail power sales activity, electric capacity sales, REC sales, steam sales, realized settlements associated with our marketing, hedging, optimization and trading activities, fuel and purchased energy expenses, commodity transmission and transportation expenses, environmental compliance expenses and ancillary retail expense. Commodity Margin is a measure of segment profit or loss under FASB Accounting Standards Codification 280 used by our chief operating decision maker to make decisions about allocating resources to the relevant segments and assessing their performance
Commodity revenue	The sum of our revenues recognized on our wholesale and retail power sales activity, electric capacity sales, REC sales, steam sales and realized settlements from our marketing, hedging, optimization and trading activities
Company	Calpine Corporation, a Delaware corporation, and its subsidiaries

Corporate Revolving Facility

The approximately $2.0 billion aggregate amount revolving credit facility credit agreement, dated as of December 10, 2010, as amended on June 27, 2013, July 30, 2014, February 8, 2016, December 1, 2016, September 15, 2017, October 20, 2017, March 8, 2018, May 18, 2018, April 5, 2019 and August 12, 2019 among Calpine Corporation, the Bank of Tokyo-Mitsubishi UFJ, Ltd., as successor administrative agent, MUFG Union Bank, N.A., as successor collateral agent, the lenders party thereto and the other parties thereto

CPN Management

CPN Management, LP, which owns 100% of the common stock of Calpine Corporation

ABBREVIATION	DEFINITION
CPUC	California Public Utilities Commission
Exchange Act	U.S. Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FERC	U.S. Federal Energy Regulatory Commission
First Lien Notes	Collectively, the 2022 First Lien Notes, the 2024 First Lien Notes and the 2026 First Lien Notes
First Lien Term Loans	Collectively, the 2019 First Lien Term Loan, the 2023 First Lien Term Loans, the 2024 First Lien Term Loan and the 2026 First Lien Term Loans
Geysers Assets	Our geothermal power plant assets, including our steam extraction and gathering assets, located in northern California consisting of 13 operating power plants
Greenfield LP	Greenfield Energy Centre LP, a 50% partnership interest between certain of our subsidiaries and a third party which operates the Greenfield Energy Centre, a 1,038 MW natural gas-fired, combined-cycle power plant in Ontario, Canada
Heat Rate(s)	A measure of the amount of fuel required to produce a unit of power
IRS	U.S. Internal Revenue Service
ISO(s)	Independent System Operator, which is an entity that coordinates, controls and monitors the operation of an electric power system
KWh	Kilowatt hour(s), a measure of power produced, purchased or sold
LIBOR	London Inter-Bank Offered Rate
Lyondell	LyondellBasell Industries N.V.
Market Heat Rate(s)	The regional power price divided by the corresponding regional natural gas price
Merger	Merger of Volt Merger Sub, Inc. with and into Calpine pursuant to the terms of the Merger Agreement, which was consummated on March 8, 2018
Merger Agreement	Agreement and Plan of Merger, dated, August 17, 2017, by and among Calpine Corporation, Volt Parent, LP and Volt Merger Sub, Inc.
MMBtu	Million Btu
MW	Megawatt(s), a measure of plant capacity
MWh	Megawatt hour(s), a measure of power produced, purchased or sold
New 2026 First Lien Term Loan	The $750 million first lien senior secured term loan, dated August 12, 2019, among Calpine Corporation, as borrower, the lending party thereto, Credit Suisse AG, Cayman Islands Branch, as administrative agent and MUFG Union Bank, N.A., as collateral agent
NOL(s)	Net operating loss(es)
OCI	Other Comprehensive Income

OMEC	Otay Mesa Energy Center, LLC, an indirect, wholly owned subsidiary of Calpine, that owns the Otay Mesa Energy Center, a 608 MW power plant located in San Diego County, California
OTC	Over-the-Counter
PG&E	Pacific Gas and Electric Company

ABBREVIATION	DEFINITION
PJM	PJM Interconnection is a RTO that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia
PPA(s)	Any term power purchase agreement or other contract for a physically settled sale (as distinguished from a financially settled future, option or other derivative or hedge transaction) of any power product, including power, capacity and/or ancillary services, in the form of a bilateral agreement or a written or oral confirmation of a transaction between two parties to a master agreement, including sales related to a tolling transaction in which the purchaser provides the fuel required by us to generate such power and we receive a variable payment to convert the fuel into power and steam
REC(s)	Renewable energy credit(s)
Risk Management Policy	Calpine’s policy applicable to all employees, contractors, representatives and agents, which defines the risk management framework and corporate governance structure for commodity risk, interest rate risk, currency risk and other risks
RTO(s)	Regional Transmission Organization, which is an entity that coordinates, controls and monitors the operation of an electric power system and administers the transmission grid on a regional basis
SDG&E	San Diego Gas & Electric Company
SEC	U.S. Securities and Exchange Commission
Securities Act	U.S. Securities Act of 1933, as amended
Senior Unsecured Notes	Collectively, the 2023 Senior Unsecured Notes, the 2024 Senior Unsecured Notes and the 2025 Senior Unsecured Notes
Spark Spread(s)	The difference between the sales price of power per MWh and the cost of natural gas to produce it
Steam Adjusted Heat Rate	The adjusted Heat Rate for our natural gas-fired power plants, excluding peakers, calculated by dividing (a) the fuel consumed in Btu reduced by the net equivalent Btu in steam exported to a third party by (b) the KWh generated. Steam Adjusted Heat Rate is a measure of fuel efficiency, so the lower our Steam Adjusted Heat Rate, the lower our cost of generation
U.S. GAAP	Generally accepted accounting principles in the U.S.
VAR	Value-at-risk
VIE(s)	Variable interest entity(ies)
Whitby	Whitby Cogeneration Limited Partnership, a 50% partnership interest between certain of our subsidiaries and a third party, which operates Whitby, a 50 MW natural gas-fired, simple-cycle cogeneration power plant located in Ontario, Canada

Forward-Looking Statements

This Report contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act, and Section 21E of the Exchange Act. Forward-looking statements may appear throughout this Report, including without limitation, the "Management's Discussion and Analysis" section. We use words such as "believe," "intend," "expect," "anticipate," "plan," "may," "will," "should," "estimate," "potential," "project" and similar expressions to identify forward-looking statements. Such statements include, among others, those concerning our expected financial performance and strategic and operational plans, as well as all assumptions, expectations, predictions, intentions or beliefs about future events. We believe that the forward-looking statements are based upon reasonable assumptions and expectations. However, you are cautioned that any such forward-looking statements are not guarantees of future performance and that a number of risks and uncertainties could cause actual results to differ materially from those anticipated in the forward-looking statements. Such risks and uncertainties include, but are not limited to:

- Financial results that may be volatile and may not reflect historical trends due to, among other things, seasonality of demand, fluctuations in prices for commodities such as natural gas and power, changes in U.S. macroeconomic conditions, fluctuations in liquidity and volatility in the energy commodities markets and our ability and the extent to which we hedge risks;
- Laws, regulations and market rules in the wholesale and retail markets in which we participate and our ability to effectively respond to changes in laws, regulations or market rules or the interpretation thereof including those related to the environment, derivative transactions and market design in the regions in which we operate;
- Our ability to manage our liquidity needs, access the capital markets when necessary and comply with covenants under our First Lien Term Loans, Senior Unsecured Notes, First Lien Notes, Corporate Revolving Facility, CCFC Term Loan and other existing financing obligations;
- Risks associated with the operation, construction and development of power plants, including unscheduled outages or delays and plant efficiencies;
- Risks related to our geothermal resources, including the adequacy of our steam reserves, unusual or unexpected steam field well and pipeline maintenance requirements, variables associated with the injection of water to the steam reservoir and potential regulations or other requirements related to seismicity concerns that may delay or increase the cost of developing or operating geothermal resources;
- Extensive competition in our wholesale and retail businesses, including from renewable sources of power, interference by states in competitive power markets through subsidies or similar support for new or existing power plants, lower prices and other incentives offered by retail competitors, and other risks associated with marketing and selling power in the evolving energy markets;
- Structural changes in the supply and demand of power, resulting from the development of new fuels or technologies and demand-side management tools (such as distributed generation, power storage and other technologies);
- The expiration or early termination of our PPAs and the related results on revenues;
- Future capacity revenue may not occur at expected levels;
- Natural disasters, such as hurricanes, earthquakes, droughts, wildfires and floods, acts of terrorism or cyber attacks that may affect our power plants or the markets our power plants or retail operations serve and our corporate offices;
- Disruptions in or limitations on the transportation of natural gas or fuel oil and the transmission of power;
- Our ability to manage our counterparty and customer exposure and credit risk, including our commodity positions or if a significant customer were to seek bankruptcy protection under Chapter 11;
- Our ability to attract, motivate and retain key employees;
- Present and possible future claims, litigation and enforcement actions that may arise from noncompliance with market rules promulgated by the SEC, Commodity Futures Trading Commission, FERC and other regulatory bodies; and
- Other risks identified in this Report, in our 2018 Form 10-K and in other reports filed by us with the SEC.

Given the risks and uncertainties surrounding forward-looking statements, you should not place undue reliance on these statements. Many of these factors are beyond our ability to control or predict. Our forward-looking statements speak only as of the date of this Report. Other than as required by law, we undertake no obligation to update or revise forward-looking statements, whether as a result of new information, future events, or otherwise.

Where You Can Find Other Information

Our website is www.calpine.com. Information contained on our website is not part of this Report. Information that we furnish or file with the SEC, including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to, or exhibits included in, these reports are available for download, free of charge, through our website. Our SEC filings, including exhibits filed therewith, are also available directly on the SEC's website at www.sec.gov.

PART I — FINANCIAL INFORMATION

Item 1. ***Financial Statements***

CALPINE CORPORATION AND SUBSIDIARIES
CONSOLIDATED CONDENSED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in millions)			
Operating revenues:				
Commodity revenue	$ 2,710	$ 2,845	$ 7,376	$ 7,362
Mark-to-market gain (loss)	78	40	601	(220)
Other revenue	4	5	13	16
Operating revenues	2,792	2,890	7,990	7,158
Operating expenses:				
Fuel and purchased energy expense:				
Commodity expense	1,620	1,912	4,745	5,128
Mark-to-market (gain) loss	11	(66)	301	(143)
Fuel and purchased energy expense	1,631	1,846	5,046	4,985
Operating and maintenance expense	255	248	739	765
Depreciation and amortization expense	173	179	522	566
General and other administrative expense	39	31	105	122
Other operating expenses	15	23	53	79
Total operating expenses	2,113	2,327	6,465	6,517
Impairment losses	—	—	55	—
(Income) from unconsolidated subsidiaries	(3)	(5)	(14)	(16)
Income from operations	682	568	1,484	657
Interest expense	153	158	459	466
Loss on extinguishment of debt	12	1	11	1
Other (income) expense, net	5	3	33	72
Income before income taxes	512	406	981	118
Income tax expense	21	128	40	78
Net income	491	278	941	40
Net income attributable to the noncontrolling interest	(6)	(6)	(15)	(14)
Net income attributable to Calpine	$ 485	$ 272	$ 926	$ 26

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

CALPINE CORPORATION AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
	(in millions)			
Net income	$ 491	$ 278	$ 941	$ 40
Cash flow hedging activities:				
Gain (loss) on cash flow hedges before reclassification adjustment for cash flow hedges realized in net income	(5)	13	(57)	76
Reclassification adjustment for (gain) loss on cash flow hedges realized in net income	3	—	(2)	7
Foreign currency translation gain (loss)	(1)	1	2	(7)
Income tax benefit (expense)	1	1	2	(3)
Other comprehensive income (loss)	(2)	15	(55)	73
Comprehensive income	489	293	886	113
Comprehensive (income) attributable to the noncontrolling interest	(6)	(7)	(14)	(17)
Comprehensive income attributable to Calpine	$ 483	$ 286	$ 872	$ 96

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

CALPINE CORPORATION AND SUBSIDIARIES

CONSOLIDATED CONDENSED BALANCE SHEETS

(Unaudited)

	September 30, 2019	December 31, 2018
	(in millions, except share and per share amounts)	
ASSETS		
Current assets:		
Cash and cash equivalents ($47 and $43 attributable to VIEs)	$ 792	$ 205
Accounts receivable, net of allowance of $9 and $9	882	1,022
Inventories	571	525
Margin deposits and other prepaid expense	301	315
Restricted cash, current ($227 and $90 attributable to VIEs)	345	167
Derivative assets, current	144	142
Current assets held for sale	6	—
Other current assets	47	43
Total current assets	3,088	2,419
Property, plant and equipment, net ($3,509 and $3,919 attributable to VIEs)	12,002	12,442
Restricted cash, net of current portion ($30 and $33 attributable to VIEs)	62	34
Investments in unconsolidated subsidiaries	73	76
Long-term derivative assets	243	160
Goodwill	242	242
Intangible assets, net	359	412
Other assets ($60 and $30 attributable to VIEs)	449	277
Total assets	$ 16,518	$ 16,062
LIABILITIES & STOCKHOLDER'S EQUITY		
Current liabilities:		
Accounts payable	$ 748	$ 958
Accrued interest payable	120	96
Debt, current portion ($177 and $201 attributable to VIEs)	229	637
Derivative liabilities, current	198	303
Other current liabilities ($149 and $36 attributable to VIEs)	629	489
Total current liabilities	1,924	2,483
Debt, net of current portion ($1,693 and $1,978 attributable to VIEs)	10,413	10,148
Long-term derivative liabilities	84	140
Other long-term liabilities ($55 and $36 attributable to VIEs)	556	235
Total liabilities	12,977	13,006
Commitments and contingencies (see Note 11)		
Stockholder's equity:		
Common stock, $0.001 par value per share; authorized 5,000 shares, 105.2 shares issued and outstanding	—	—
Additional paid-in capital	9,584	9,582
Accumulated deficit	(6,017)	(6,542)

Accumulated other comprehensive loss	(131)	(77)
Total Calpine stockholder’s equity	3,436	2,963
Noncontrolling interest	105	93
Total stockholder’s equity	3,541	3,056
Total liabilities and stockholder’s equity	$ 16,518	$ 16,062

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

CALPINE CORPORATION AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF STOCKHOLDER’S EQUITY

For the Three and Nine Months Ended September 30, 2019 and 2018
(Unaudited)
(in millions)

	Common Stock	Treasury Stock	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total Stockholder’s Equity
Balance, December 31, 2018	$ —	$ —	$ 9,582	$ (6,542)	$ (77)	$ 93	$ 3,056
Net income	—	—	—	175	—	5	180
Other comprehensive loss	—	—	—	—	(23)	—	(23)
Other	—	—	2	—	—	(2)	—
Balance, March 31, 2019	$ —	$ —	$ 9,584	$ (6,367)	$ (100)	$ 96	$ 3,213
Net income	—	—	—	266	—	4	270
Other comprehensive loss	—	—	—	—	(29)	(1)	(30)
Balance, June 30, 2019	$ —	$ —	$ 9,584	$ (6,101)	$ (129)	$ 99	$ 3,453
Dividends	—	—	—	(401)	—	—	(401)
Net income	—	—	—	485	—	6	491
Other comprehensive loss	—	—	—	—	(2)	—	(2)
Balance, September 30, 2019	$ —	$ —	$ 9,584	$ (6,017)	$ (131)	$ 105	$ 3,541

	Common Stock	Treasury Stock	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total Stockholder’s Equity
Balance, December 31, 2017	$ —	$ (15)	$ 9,661	$ (6,552)	$ (106)	$ 79	$ 3,067
Treasury stock transactions	—	(7)	—	—	—	—	(7)
Stock-based compensation expense	—	—	41	—	—	—	41
Effects of the Merger	—	22	(100)	—	—	—	(78)
Dividends	—	—	(20)	—	—	—	(20)
Contribution from the noncontrolling interest	—	—	—	—	—	2	2
Distribution to the noncontrolling interest	—	—	—	—	—	(2)	(2)
Net income (loss)	—	—	—	(598)	—	4	(594)
Other comprehensive income	—	—	—	—	36	2	38
Balance, March 31, 2018	$ —	$ —	$ 9,582	$ (7,150)	$ (70)	$ 85	$ 2,447
Distribution to the noncontrolling interest	—	—	—	—	—	(1)	(1)
Net income	—	—	—	352	—	4	356
Other comprehensive income	—	—	—	—	20	—	20
Balance, June 30, 2018	$ —	$ —	$ 9,582	$ (6,798)	$ (50)	$ 88	$ 2,822
Distribution to the noncontrolling interest	—	—	—	—	—	(3)	(3)
Net income	—	—	—	272	—	6	278
Other comprehensive income	—	—	—	—	14	1	15
Balance, September 30, 2018	$ —	$ —	$ 9,582	$ (6,526)	$ (36)	$ 92	$ 3,112

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

CALPINE CORPORATION AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS
(Unaudited)

	Nine Months Ended September 30,	
	2019	2018
	(in millions)	
Cash flows from operating activities:		
Net income	$ 941	$ 40
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization[1]	585	642
Deferred income taxes	33	69
Impairment losses	55	—
Mark-to-market activity, net	(297)	73
(Income) from unconsolidated subsidiaries	(14)	(16)
Return on investments from unconsolidated subsidiaries	11	5
Stock-based compensation expense	—	57
Other	12	17
Change in operating assets and liabilities:		
Accounts receivable	138	35
Accounts payable	(217)	(35)
Margin deposits and other prepaid expense	14	(43)
Other assets and liabilities, net	169	(32)
Derivative instruments, net	1	61
Net cash provided by operating activities	1,431	873
Cash flows from investing activities:		
Purchases of property, plant and equipment	(435)	(314)
Proceeds from sale of power plants	303	10
Other	(5)	(9)
Net cash used in investing activities	(137)	(313)
Cash flows from financing activities:		
Borrowings under First Lien Term Loans	1,687	—
Repayment of CCFC Term Loan and First Lien Term Loans	(1,496)	(31)
Repurchases of Senior Unsecured Notes	(44)	—
Borrowings under revolving facilities	280	525
Repayments of revolving facilities	(250)	(525)
Repayments of project financing, notes payable and other	(311)	(89)
Distribution to noncontrolling interest holder	—	(6)
Financing costs	(20)	(12)
Stock repurchases	—	(79)
Shares repurchased for tax withholding on stock-based awards	—	(7)
Dividends paid[2]	(401)	(20)
Other	54	4
Net cash used in financing activities	(501)	(240)

Net increase in cash, cash equivalents and restricted cash	793	320
Cash, cash equivalents and restricted cash, beginning of period	406	443
Cash, cash equivalents and restricted cash, end of period[3]	$ 1,199	$ 763

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

CALPINE CORPORATION AND SUBSIDIARIES

CONSOLIDATED CONDENSED STATEMENTS OF CASH FLOWS — (CONTINUED)
(Unaudited)

	Nine Months Ended September 30,	
	2019	2018
	(in millions)	
Cash paid during the period for:		
Interest, net of amounts capitalized	$ 402	$ 401
Income taxes	$ 8	$ 10
Supplemental disclosure of non-cash investing and financing activities:		
Change in capital expenditures included in accounts payable	$ 6	$ (12)
Plant tax settlement offset in prepaid assets	$ (4)	$ —
Asset retirement obligation adjustment offset in operating activities	$ (10)	$ —

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(1) Includes amortization recorded in Commodity revenue and Commodity expense associated with intangible assets and amortization recorded in interest expense associated with debt issuance costs and discounts.

(2) Dividends paid during the nine months ended September 30, 2019 and 2018, includes approximately $1 million and $20 million, respectively, in certain Merger-related costs incurred by CPN Management, our parent.

(3) Our cash and cash equivalents, restricted cash, current and restricted cash, net of current portion are stated as separate line items on our Consolidated Condensed Balance Sheets.

The accompanying notes are an integral part of these Consolidated Condensed Financial Statements.

1. Basis of Presentation and Summary of Significant Accounting Policies

We are a power generation company engaged in the ownership and operation of primarily natural gas-fired and geothermal power plants in North America. We have a significant presence in major competitive wholesale and retail power markets in California, Texas and the Northeast and Mid-Atlantic regions of the U.S. We sell power, steam, capacity, renewable energy credits and ancillary services to our customers, which include utilities, independent electric system operators and industrial companies, retail power providers, municipalities and other governmental entities, power marketers as well as retail commercial, industrial, governmental and residential customers. We continue to focus on providing products and services that are beneficial to our wholesale and retail customers. We purchase primarily natural gas and some fuel oil as fuel for our power plants and engage in related natural gas transportation and storage transactions. We also purchase power and related products for sale to our customers and purchase electric transmission rights to deliver power to our customers. Additionally, consistent with our Risk Management Policy, we enter into natural gas, power, environmental product, fuel oil and other physical and financial commodity contracts to hedge certain business risks and optimize our portfolio of power plants.

Basis of Interim Presentation — The accompanying unaudited, interim Consolidated Condensed Financial Statements of Calpine Corporation, a Delaware corporation, and consolidated subsidiaries have been prepared pursuant to the rules and regulations of the SEC. In the opinion of management, the Consolidated Condensed Financial Statements include the normal, recurring adjustments necessary for a fair statement of the information required to be set forth therein. Certain information and note disclosures, normally included in financial statements prepared in accordance with U.S. GAAP, have been condensed or omitted from these statements pursuant to such rules and regulations and, accordingly, these financial statements should be read in conjunction with our audited Consolidated Financial Statements for the year ended December 31, 2018, included in our 2018 Form 10-K. The results for interim periods are not indicative of the results for the entire year primarily due to acquisitions and disposals of assets, seasonal fluctuations in our revenues and expenses, timing of major maintenance expense, variations resulting from the application of the method to calculate the provision for income tax for interim periods, volatility of commodity prices and mark-to-market gains and losses from commodity and interest rate derivative contracts.

Use of Estimates in Preparation of Financial Statements — The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures included in our Consolidated Condensed Financial Statements. Actual results could differ from those estimates.

Reclassifications — We have reclassified certain prior period amounts for comparative purposes. These reclassifications did not have a material effect on our financial condition, results of operations or cash flows.

Cash and Cash Equivalents — We consider all highly liquid investments with an original maturity of three months or less to be cash equivalents. We have cash and cash equivalents held in non-corporate accounts relating to certain project finance facilities and lease agreements that require us to establish and maintain segregated cash accounts. These accounts have been pledged as security in favor of the lenders under such project finance facilities, and the use of certain cash balances on deposit in such accounts is limited, at least temporarily, to the operations of the respective projects.

Restricted Cash — Certain of our debt agreements, lease agreements or other operating agreements require us to establish and maintain segregated cash accounts, the use of which is restricted, making these cash funds unavailable for general use. These amounts are held by depository banks in order to comply with the contractual provisions requiring reserves for payments such as for debt service, rent and major maintenance or with applicable regulatory requirements. Funds that can be used to satisfy obligations due during the next 12 months are classified as current restricted cash, with the remainder classified as non-current restricted cash. Restricted cash is generally invested in accounts earning market rates; therefore, the carrying value approximates fair value. Such cash is excluded from cash and cash equivalents on our Consolidated Condensed Balance Sheets.

The table below represents the components of our restricted cash as of September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019			December 31, 2018		
	Current	Non-Current	Total	Current	Non-Current	Total
Debt service	$ 84	$ 7	$ 91	$ 13	$ 8	$ 21
Construction/major maintenance	12	22	34	23	24	47
Security/project/insurance	245	31	276	120	—	120
Other	4	2	6	11	2	13
Total	$ 345	$ 62	$ 407	$ 167	$ 34	$ 201

Business Interruption Proceeds — We record business interruption insurance proceeds in operating revenues when they are realizable. We recorded approximately nil and $14 million of business interruption proceeds for the three and nine months ended September 30, 2018. We have not recorded any business interruption insurance proceeds during the three and nine months ended September 30, 2019.

Property, Plant and Equipment, Net — At September 30, 2019 and December 31, 2018, the components of property, plant and equipment are stated at cost less accumulated depreciation as follows (in millions):

	September 30, 2019	December 31, 2018	Depreciable Lives
Buildings, machinery and equipment	$ 16,565	$ 16,400	1.5 – 50 Years
Geothermal properties	1,510	1,501	13 – 58 Years
Other	272	286	3 – 50 Years
	18,347	18,187	
Less: Accumulated depreciation	6,855	6,832	
	11,492	11,355	
Land	128	121	
Construction in progress	382	966	
Property, plant and equipment, net	$ 12,002	$ 12,442	

Capitalized Interest — The total amount of interest capitalized was $2 million and $7 million during the three months ended September 30, 2019 and 2018, respectively, and $10 million and $21 million during the nine months ended September 30, 2019 and 2018, respectively.

Goodwill — We have not recorded any impairment losses or changes in the carrying amount of our goodwill during the three and nine months ended September 30, 2019 and 2018.

New Accounting Standards and Disclosure Requirements

Leases — On January 1, 2019, we adopted Accounting Standards Update 2016-02, "Leases" ("Topic 842"). The comprehensive new lease standard superseded all existing lease guidance. The standard requires that a lessee should recognize a right-of-use asset and a lease liability for substantially all operating leases based on the present value of the minimum rental payments. For lessors, the accounting for leases under Topic 842 remained substantially unchanged. The standard also requires expanded disclosures surrounding leases. We adopted the standards under Topic 842 using the modified retrospective method and elected a number of the practical expedients in our implementation of Topic 842. The key change that affected us relates to our accounting for operating leases for which we are the lessee that were historically off-balance sheet. The impact of adopting the standards resulted in the recognition of a right-of-use asset and lease obligation liability of $191 million on our Consolidated Condensed Balance Sheet on January 1, 2019, exclusive of previously recognized lease balances. The implementation of Topic 842 did not have a material effect on our Consolidated Condensed Statement of Operations or Consolidated Condensed Statement of Cash Flows for the nine months ended September 30, 2019. See Note 3 for a discussion of the practical expedients we elected and additional disclosures required by Topic 842.

Derivatives and Hedging — In August 2017, the FASB issued Accounting Standards Update 2017-12, "Targeted Improvements to Accounting for Hedging Activities." The standard better aligns an entity's hedging activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results in the financial statements. The standard will prospectively make hedge accounting easier to apply to hedging activities and also enhances disclosure requirements for how hedge transactions are reflected in the financial statements when hedge accounting is elected. We adopted Accounting Standards Update 2017-12 in the first quarter of 2019 which did not have a material effect on our financial condition, results of operations or cash flows.

Fair Value Measurements — In August 2018, the FASB issued Accounting Standards Update 2018-13, "Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement." The standard removes, modifies and adds disclosures about fair value measurements and is effective for fiscal years beginning after December 15, 2019. The changes required by this standard to remove or modify disclosures may be early adopted with adoption of the additional disclosures required by this standard delayed until their effective date. We do not anticipate a material effect on our financial condition, results of operations or cash flows as a result of adopting this standard.

2. Revenue from Contracts with Customers

Disaggregation of Revenues with Customers

The following tables represent a disaggregation of our revenue for the three and nine months ended September 30, 2019 and 2018 by reportable segment (in millions). See Note 13 for a description of our segments.

	Three Months Ended September 30, 2019					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 238	$ 490	$ 169	$ 491	$ —	$ 1,388
Capacity	52	31	115	—	—	198
Revenues relating to physical or executory contracts – third party	$ 290	$ 521	$ 284	$ 491	$ —	$ 1,586
Affiliate[1]:	$ 11	$ 14	$ 21	$ 2	$ (48)	$ —
Revenues relating to leases and derivative instruments[2]						$ 1,206
Total operating revenues						$ 2,792

	Three Months Ended September 30, 2018					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 369	$ 470	$ 221	$ 543	$ —	$ 1,603
Capacity	51	23	190	—	—	264
Revenues relating to physical or executory contracts – third party	$ 420	$ 493	$ 411	$ 543	$ —	$ 1,867
Affiliate[1]:	$ 9	$ 11	$ 20	$ —	$ (40)	$ —
Revenues relating to leases and derivative instruments[2]						$ 1,023
Total operating revenues						$ 2,890

	Nine Months Ended September 30, 2019					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 675	$ 1,110	$ 496	$ 1,316	$ —	$ 3,597
Capacity	123	96	446	—	—	665
Revenues relating to physical or executory contracts – third party	$ 798	$ 1,206	$ 942	$ 1,316	$ —	$ 4,262
Affiliate[1]:	$ 28	$ 42	$ 78	$ 6	$ (154)	$ —
Revenues relating to leases and derivative instruments[2]						$ 3,728
Total operating revenues						$ 7,990

	Nine Months Ended September 30, 2018					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 744	$ 1,100	$ 473	$ 1,437	$ —	$ 3,754
Capacity	105	72	479	—	—	656
Revenues relating to physical or executory contracts – third party	$ 849	$ 1,172	$ 952	$ 1,437	$ —	$ 4,410
Affiliate[1]:	$ 22	$ 24	$ 62	$ 2	$ (110)	$ —
Revenues relating to leases and derivative instruments[2]						$ 2,748
Total operating revenues						$ 7,158

[1] Affiliate energy, other and capacity revenues reflect revenues on transactions between wholesale and retail affiliates excluding affiliate activity related to leases and derivative instruments. All such activity supports retail supply needs from the wholesale business and/or allows for collateral margin netting efficiencies at Calpine.

[2] Revenues relating to contracts accounted for as leases and derivatives include energy and capacity revenues relating to PPAs that we are required to account for as operating leases and physical and financial commodity derivative contracts, primarily relating to power, natural gas and environmental products. Revenue related to derivative instruments includes revenue recorded in Commodity revenue and mark-to-market gain (loss) within our operating revenues on our Consolidated Condensed Statements of Operations.

Performance Obligations and Contract Balances

At September 30, 2019 and December 31, 2018, deferred revenue balances relating to contracts with our customers were included in other current liabilities on our Consolidated Condensed Balance Sheets and primarily relate to sales of environmental products and capacity. We classify deferred revenue as current or long-term based on the timing of when we expect to recognize revenue. The balance outstanding at September 30, 2019 and December 31, 2018 was $10 million and $14 million, respectively. Revenue recognized during the three months ended September 30, 2019 and 2018, relating to the deferred revenue balance at the beginning of each period was $19 million and $18 million, respectively. Revenue recognized during the nine months ended September 30, 2019 and 2018, relating to the deferred revenue balance at the beginning of each period was $14 million and $17 million, respectively. Revenue recognized each period relating to deferred revenue balances resulted from our performance under the customer contracts. The change in the deferred revenue balance during the three and nine months ended September 30, 2019 and 2018 was primarily due to the timing difference of when consideration was received and when the related good or service was transferred.

Performance Obligations not yet Satisfied

As of September 30, 2019, we have entered into certain contracts for fixed and determinable amounts with customers under which we have not yet completed our performance obligations which primarily includes agreements for which we are providing capacity from our generating facilities. We have revenues related to the sale of capacity through participation in various ISO capacity auctions estimated based upon cleared volumes and the sale of capacity to our customers of $136 million that will be recognized during the remainder of 2019, and $611 million, $603 million, $371 million and $125 million that will be recognized during the years ending December 31, 2020, 2021, 2022 and 2023, respectively, and $112 million thereafter. Revenues under these contracts will be recognized as we transfer control of the commodities to our customers.

3. Leases

Accounting for Leases – Lessee

We evaluate contracts for lease accounting at contract inception and assess lease classification at the lease commencement date. For our leases, we recognize a right-of-use asset and corresponding lease obligation liability at the lease commencement date where the lease obligation liability is measured at the present value of the minimum lease payments. For our operating leases, the amortization of the right-of-use asset and the accretion of our lease obligation liability result in a single straight-line expense recognized over the lease term.

We determine the discount rate associated with our operating and finance leases using our incremental borrowing rate at lease commencement. For our operating leases, we use an interest rate commensurate with the interest rate to borrow on a collateralized basis over a similar term with an amount equal to the lease payments. Factors management considers in the calculation of the discount rate include the amount of the borrowing, the lease term including options that are reasonably certain of exercise, the current interest rate environment and the credit rating of the entity. For our finance leases, we use the interest rate commensurate with the interest rate for a project finance borrowing arrangement with a similar collateral package, repayment terms, restrictive covenants and guarantees.

Our operating leases are primarily related to office space for our corporate and regional offices as well as land and operating related leases for our power plants. Additionally, one of our power plants is accounted for as an operating lease. Payments made by Calpine on this lease are recognized on a straight-line basis with capital improvements associated with our leased power plant deemed leasehold improvements that are amortized over the shorter of the term of the lease or the economic life of the capital improvement. Several of our leases contain renewal options held by us to extend the lease term. The inclusion of these renewal periods in the lease term and in the minimum lease payments included in our lease liabilities is dependent on specific facts and circumstances for each lease and whether it is determined to be reasonably certain that we will exercise our option to extend the term. Our office, land and other operating leases do not contain any material restrictive covenants or residual value guarantees.

We have entered into finance leases for certain power plants and related equipment with terms that range up to 30 years (including lease renewal options). The finance leases generally provide for the lessee to pay taxes, maintenance, insurance, and certain other operating costs of the leased property.

In connection with our adoption of Topic 842 on January 1, 2019, we elected certain practical expedients that were available under the new lease standards including:

- we elected not to separate lease and nonlease components for our current classes of underlying leased assets as the lessee;
- we did not evaluate existing and expired land easements that were not previously accounted for as leases prior to January 1, 2019; and
- we did not reassess the classification of leases, the accounting for initial direct costs or whether contractual arrangements contained a lease for all contracts that expired or commenced prior to January 1, 2019.

Further, upon the adoption of Topic 842, we made an accounting policy election to not recognize lease assets and liabilities for leases with a term of 12 months or less. We do not have any material subleases associated with our operating and finance leases.

The components of our operating and finance lease expense are as follows for the three and nine months ended September 30, 2019 (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019		2019	
Operating Leases				
Operating lease expense	$	11	$	34
Finance Leases				
Amortization of the right-of-use assets	$	2	$	6
Interest expense		2		6
Finance lease expense	$	4	$	12
Variable lease expense	$	3	$	8
Total lease expense	$	18	$	54

The following is a schedule by year of future minimum lease payments associated with our operating and finance leases together with the present value of the net minimum lease payments as of September 30, 2019 (in millions):

	Operating Leases[1]		Finance Leases[2]	
2019	$	34	$	7
2020		20		16
2021		21		16
2022		19		16
2023		18		19
Thereafter		201		33
Total minimum lease payments		313		107
Less: Amount representing interest		105		29
Total lease obligation		208		78
Less: current lease obligation		39		10
Long-term lease obligation	$	169	$	68

(1) The lease liabilities associated with our operating leases as of September 30, 2019 are included in other current liabilities and other long-term liabilities on our Consolidated Condensed Balance Sheet.

(2) The lease liabilities associated with our finance leases as of September 30, 2019 are included in debt, current portion and debt, net of current portion on our Consolidated Condensed Balance Sheet.

Supplemental balance sheet information related to our operating and finance leases is as follows as of September 30, 2019 (in millions, except lease term and discount rate):

		September 30, 2019
Operating leases[1]		
Right-of-use assets associated with operating leases	$	175
Finance leases[2]		
Property, plant and equipment, gross	$	212
Accumulated amortization		(104)
Property, plant and equipment, net	$	108
Weighted average remaining lease term (in years)		
Operating leases		15.6
Finance leases		7.2
Weighted average discount rate		
Operating leases		5.3%
Finance leases		8.0%

[1] The right-of-use assets associated with our operating leases as of September 30, 2019 are included in other assets on our Consolidated Condensed Balance Sheet.

[2] The right-of-use assets associated with our finance leases as of September 30, 2019 are included in property, plant and equipment, net on our Consolidated Condensed Balance Sheet.

Supplemental cash flow information related to our operating and finance leases is as follows for the period presented (in millions):

		Nine Months Ended September 30, 2019
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$	19
Operating cash flows from finance leases	$	5
Financing cash flows from finance leases	$	6
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$	9
Finance leases	$	—

As of September 30, 2019, we have executed agreements that contain a lease with a future lease commencement date and future lease commitments of $5 million primarily related to office leases scheduled to commence in the fourth quarter of 2019.

Accounting for Leases – Lessor

We apply lease accounting to PPAs that meet the definition of a lease and determine lease classification treatment at commencement of the agreement. We currently do not have any contracts which are accounted for as sales-type leases or direct financing leases and all of our leases as the lessor are classified as operating leases. As part of the implementation of Topic 842, we elected the practical expedient to not reassess leases that have commenced prior to January 1, 2019.

Revenue from contracts accounted for as operating leases, such as certain tolling agreements, with minimum lease rentals (capacity payments) which vary over time must be levelized. Generally, we levelize these contract revenues on a straight-line basis over the term of the contract. Our operating leases that have commenced contain terms extending through December 2034. These contracts also generally contain variable payment components based on generation volumes or operating efficiency over a period of time. Revenues associated with the variable payments are recognized over time as the goods or services are provided to the lessee. Our operating leases generally do not contain renewal or purchase options or residual value guarantees. We have elected to not separate our lease and non-lease components as the lease components reflect the predominant characteristics of these agreements.

Revenue recognized related to fixed lease payments on our operating leases for the periods presented is as follows (in millions):

	Three Months Ended September 30,	Nine Months Ended September 30,
	2019	2019
Operating Leases[1]		
Fixed lease payments	$ 130	$ 269

[1] Revenues associated with our operating leases are included in Commodity revenue and other revenue on our Consolidated Condensed Statement of Operations.

The total contractual future minimum lease rentals for our contracts that have commenced and are accounted for as operating leases at September 30, 2019, are as follows (in millions):

2019	$ 74
2020	286
2021	261
2022	226
2023	144
Thereafter	277
Total	$ 1,268

We do not recognize lease receivables associated with our operating leases as the long-lived assets subject to the lease contracts are recorded on our Consolidated Condensed Balance Sheet and are being depreciated over their estimated useful lives. Amounts recorded on our Consolidated Condensed Balance Sheet associated with the long-lived assets subject to our operating leases as of September 30, 2019 are as follows (in millions):

	September 30, 2019
Assets subject to contracts accounted for as operating leases	
Property, plant and equipment, gross	$ 3,085
Accumulated depreciation	(911)
Property, plant and equipment, net[1]	$ 2,174

[1] Our assets subject to contracts that are accounted for as operating leases primarily consist of our power plants subject to tolling contracts.

We also record lease levelization assets and liabilities for any difference between the timing of the contractual payments made related to our operating lease contracts and revenue recognized on a straight-line basis. These balances are included in current and long-term assets and liabilities on our Consolidated Condensed Balance Sheet.

Disclosures for periods prior to the adoption of Topic 842

Lessee

The following is a schedule by year of future minimum lease payments under operating and capital leases as of December 31, 2018 (in millions):

	Operating Leases	Capital Leases[1]
2019	$ 50	$ 40
2020	19	40
2021	20	38
2022	18	33
2023	17	27
Thereafter	192	92
Total minimum lease payments	$ 316	270
Less: Amount representing interest		89
Present value of net minimum lease payments		$ 181

[1] Includes a failed sale-leaseback transaction related to our Pasadena Power Plant.

At December 31, 2018, the asset balance for our assets under capital leases totaled approximately $715 million with accumulated amortization of $353 million.

Lessor

The total contractual future minimum lease rentals for our contracts accounted for as operating leases at December 31, 2018, are as follows (in millions):

2019	$ 342
2020	261
2021	257
2022	224
2023	141
Thereafter	239
Total	$ 1,464

4. Divestitures

Sale of Garrison Energy Center and RockGen Energy Center

On July 10, 2019, we, through our indirect, wholly owned subsidiaries Calpine Holdings, LLC and Calpine Northbrook Project Holdings, LLC, completed the sale of 100% of our ownership interests in Garrison Energy Center LLC ("Garrison") and RockGen Energy LLC ("RockGen") to Cobalt Power, L.L.C. for approximately $360 million, subject to certain immaterial working capital adjustments and the execution of financial commodity contracts. Upon closing, we recognized a liability of $52 million for the fair value of the financial commodity contracts on our Consolidated Condensed Balance Sheet, and the related proceeds are reflected within the financing section on our Consolidated Condensed Statement of Cash Flows. Garrison owns the Garrison Energy Center, a 309 MW natural gas-fired, combined-cycle power plant located in Dover, Delaware, and RockGen owns the RockGen Energy Center, a 503 MW natural gas-fired, simple-cycle power plant located in Christiana, Wisconsin. We used the sale proceeds, together with cash on hand, to fund a dividend of $400 million to our parent, CPN Management.

We recorded an immaterial gain on the sale during the third quarter of 2019 and an impairment loss of $55 million during the nine months ended September 30, 2019, to adjust the carrying value of the assets to reflect fair value less cost to sell.

5. Variable Interest Entities and Unconsolidated Investments

We consolidate all of our VIEs where we have determined that we are the primary beneficiary. There were no changes to our determination of whether we are the primary beneficiary of our VIEs for the nine months ended September 30, 2019. See Note 7 in our 2018 Form 10-K for further information regarding our VIEs.

VIE Disclosures

Our consolidated VIEs include natural gas-fired power plants with an aggregate capacity of 6,769 MW and 7,880 MW at September 30, 2019 and December 31, 2018, respectively. For these VIEs, we may provide other operational and administrative support through various affiliate contractual arrangements among the VIEs, Calpine Corporation and its other wholly owned subsidiaries whereby we support the VIE through the reimbursement of costs and/or the purchase and sale of energy. On August 14, 2019, we repaid the OMEC project debt outstanding balance utilizing proceeds from our New 2026 First Lien Term Loan and cash on hand. See below for further discussion of OMEC. Other than amounts contractually required, we provided no additional material support to our VIEs in the form of cash and other contributions during each of the three and nine months ended September 30, 2019 and 2018.

OMEC — OMEC had a ten-year tolling agreement with SDG&E, which commenced on October 3, 2009 and expired on October 2, 2019. Under a ground lease agreement, OMEC held a put option to sell the Otay Mesa Energy Center for $280 million to SDG&E, pursuant to the terms and conditions of the agreement, which was exercisable until April 1, 2019 and SDG&E held a call option to purchase the Otay Mesa Energy Center for $377 million, which was exercisable through October 3, 2018. The call option held by SDG&E expired unexercised.

OMEC has executed a new 59-month Resource Adequacy (“RA”) contract with SDG&E. The RA contract received initial regulatory approval by the CPUC on February 21, 2019. This approval was subject to a 30 day appeal period from the date of the issuance of the CPUC decision. On March 27, 2019, an appeal of the CPUC decision was filed with the CPUC. Accordingly, on March 28, 2019, we provided notice of our exercise of the put option, which we subsequently rescinded by agreement following the CPUC’s denial of all appeals of the new RA contract on August 1, 2019. On October 3, 2019, the RA contract with SDG&E commenced. As a result, we will retain the 608 MW Otay Mesa Energy Center, which plays an integral role in electric reliability in Southern California.

As the call and put options have terminated and the project debt has been fully repaid, we determined that OMEC no longer meets the definition of a VIE as of September 30, 2019.

Unconsolidated VIEs and Investments in Unconsolidated Subsidiaries

We have a 50% partnership interest in Greenfield LP and in Whitby. Greenfield LP and Whitby are VIEs; however, we do not have the power to direct the most significant activities of these entities and therefore do not consolidate them. Greenfield LP is a limited partnership between certain subsidiaries of ours and of Mitsui & Co., Ltd., which operates the Greenfield Energy Centre, a 1,038 MW natural gas-fired, combined-cycle power plant located in Ontario, Canada. We and Mitsui & Co., Ltd. each hold a 50% interest in Greenfield LP. Whitby is a limited partnership between certain of our subsidiaries and Atlantic Packaging Ltd., which operates the Whitby facility, a 50 MW natural gas-fired, simple-cycle cogeneration power plant located in Ontario, Canada. We and Atlantic Packaging Ltd. each hold a 50% partnership interest in Whitby.

Calpine Receivables is a VIE and a bankruptcy remote entity created for the special purpose of purchasing trade accounts receivable from Calpine Solutions under the Accounts Receivable Sales Program. We have determined that we do not have the power to direct the activities of the VIE that most significantly affect the VIE’s economic performance nor the obligation to absorb losses or receive benefits from the VIE. Accordingly, we have determined that we are not the primary beneficiary of Calpine Receivables because we do not have the power to affect its financial performance as the unaffiliated financial institutions that purchase the receivables from Calpine Receivables control the selection criteria of the receivables sold and appoint the servicer of the receivables which controls management of default. Thus, we do not consolidate Calpine Receivables in our Consolidated Condensed Financial Statements and use the equity method of accounting to record our net interest in Calpine Receivables.

We account for these entities under the equity method of accounting and include our net equity interest in investments in unconsolidated subsidiaries on our Consolidated Condensed Balance Sheets. At September 30, 2019 and December 31, 2018, our equity method investments included on our Consolidated Condensed Balance Sheets were comprised of the following (in millions):

	Ownership Interest as of September 30, 2019	September 30, 2019	December 31, 2018
Greenfield LP[(1)]	50%	$ 59	$ 55
Whitby	50%	9	15
Calpine Receivables	100%	5	6
Total investments in unconsolidated subsidiaries		$ 73	$ 76

[(1)] Includes our share of accumulated other comprehensive income/loss related to interest rate hedging instruments associated with our unconsolidated subsidiary Greenfield LP's debt.

Our risk of loss related to our investments in Greenfield LP and Whitby is limited to our investment balance. Our risk of loss related to our investment in Calpine Receivables is $63 million which consists of our notes receivable from Calpine Receivables at September 30, 2019 and our initial investment associated with Calpine Receivables. See Note 12 for further information associated with our related party activity with Calpine Receivables.

Holders of the debt of our unconsolidated investments do not have recourse to Calpine Corporation and its other subsidiaries; therefore, the debt of our unconsolidated investments is not reflected on our Consolidated Condensed Balance Sheets. At September 30, 2019 and December 31, 2018, Greenfield LP's debt was approximately $297 million and $301 million, respectively, and based on our pro rata share of our investment in Greenfield LP, our share of such debt would be approximately $149 million and $151 million at September 30, 2019 and December 31, 2018, respectively.

Our equity interest in the net income from our investments in unconsolidated subsidiaries for the three and nine months ended September 30, 2019 and 2018, is recorded in (income) from unconsolidated subsidiaries. The following table sets forth details of our (income) from unconsolidated subsidiaries for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Greenfield LP	$ (4)	$ (2)	$ (10)	$ (6)
Whitby	1	(3)	(5)	(11)
Calpine Receivables	—	—	1	1
Total	$ (3)	$ (5)	$ (14)	$ (16)

Distributions from Greenfield LP were nil during each of the three and nine months ended September 30, 2019 and 2018. Distributions from Whitby were nil and $11 million during the three and nine months ended September 30, 2019, respectively, and nil and $5 million during the three and nine months ended September 30, 2018, respectively. We did not have material distributions from our investment in Calpine Receivables for the three and nine months ended September 30, 2019 and 2018.

Inland Empire Energy Center Put and Call Options — We held a call option to purchase the Inland Empire Energy Center (a 775 MW natural gas-fired power plant located in California) at predetermined prices from GE that could be exercised between years 2017 and 2024. GE held a put option whereby they could require us to purchase the power plant, if certain plant performance criteria were met by 2025. On February 1, 2019, we entered into an agreement with GE, which among other things, terminated our call option and GE's put option related to the Inland Empire Energy Center. As per this agreement, we will take ownership of the facility site and certain remaining site infrastructure and equipment after closure and decommissioning of the facility at a future date, until such time GE continues to own, operate and maintain the power plant, including directing any closure activities. As GE continues to direct all such significant activities of the power plant, we have determined that we no longer hold any variable interests in the Inland Empire Energy Center and it is not a VIE to Calpine.

6. Debt

Our debt at September 30, 2019 and December 31, 2018, was as follows (in millions):

	September 30, 2019	December 31, 2018
First Lien Term Loans	$ 3,175	$ 2,976
Senior Unsecured Notes	2,991	3,036
First Lien Notes	2,404	2,400
Project financing, notes payable and other	965	1,264
CCFC Term Loan	969	974
Finance lease obligations	78	105
Revolving facilities	60	30
Subtotal	10,642	10,785
Less: Current maturities	229	637
Total long-term debt	$ 10,413	$ 10,148

Our effective interest rate on our consolidated debt, excluding the effects of capitalized interest and mark-to-market gains (losses) on interest rate hedging instruments, increased to 5.9% for the nine months ended September 30, 2019, from 5.7% for the same period in 2018. Since the fourth quarter of 2018, we have cumulatively repurchased $438 million in aggregate principal amount of our Senior Unsecured Notes for $399 million.

First Lien Term Loans

The amounts outstanding under our senior secured First Lien Term Loans are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2019 First Lien Term Loan	$ —	$ 389
2023 First Lien Term Loans	—	1,059
2024 First Lien Term Loan	1,519	1,528
2026 First Lien Term Loans	1,656	—
Total First Lien Term Loans	$ 3,175	$ 2,976

On August 12, 2019, we entered into a $750 million first lien senior secured term loan which bears interest, at our option, at either (i) the Base Rate, equal to the highest of (a) the Federal Funds Effective Rate plus 0.50% per annum, (b) the Prime Rate or (c) the Eurodollar Rate for a one month interest period plus 1.0% (in each case, as such terms are defined in the credit agreement), plus an applicable margin of 1.50%, or (ii) LIBOR plus 2.50% per annum (with a 0% LIBOR floor) and matures on August 12, 2026. An aggregate amount equal to 0.25% of the aggregate principal amount of the New 2026 First Lien Term Loans is payable at the end of each quarter with the remaining balance payable on the maturity date. We paid an upfront fee of an amount equal to 0.50% of the aggregate principal amount of the New 2026 First Lien Term Loan, which is structured as original issue discount and recorded approximately $11 million in debt issuance costs during the third quarter of 2019 related to the issuance of our New 2026 First Lien Term Loan. The New 2026 First Lien Term Loan contains substantially similar covenants, qualifications, exceptions and limitations as our First Lien Term Loans and First Lien Notes. We used the proceeds, together with cash on hand, to repay the remaining 2023 First Lien Term Loans with a maturity date in May 2023 and to repay project debt associated with OMEC. We recorded approximately $12 million in loss on extinguishment of debt during the third quarter of 2019 associated with the repayment.

On April 5, 2019, we entered into a $950 million first lien senior secured term loan which bears interest, at our option, at either (i) the Base Rate, equal to the highest of (a) the Federal Funds Effective Rate plus 0.50% per annum, (b) the Prime Rate or (c) the Eurodollar Rate for a one month interest period plus 1.0% (in each case, as such terms are defined in the credit agreement), plus an applicable margin of 1.75%, or (ii) LIBOR plus 2.75% per annum (with a 0% LIBOR floor) and matures on April 5, 2026. An aggregate amount equal to 0.25% of the aggregate principal amount of the 2026 First Lien Term Loan is payable at the end of each quarter with the remaining balance payable on the maturity date. We paid an upfront fee of an amount equal to 1.0% of the aggregate principal amount of the 2026 First Lien Term Loan, which is structured as original issue discount and recorded approximately $7 million in debt issuance costs during the second quarter of 2019 related to the issuance of our 2026 First Lien Term Loan. The 2026 First Lien Term Loan contains substantially similar covenants, qualifications, exceptions and limitations as our First Lien Term Loans and First Lien Notes. We used the proceeds from our 2026 First Lien Term Loan to repay our 2019

First Lien Term Loan and a portion of our 2023 First Lien Term Loans with a maturity date in January 2023 and recorded approximately $3 million in loss on extinguishment of debt during the second quarter of 2019 associated with the repayment.

Senior Unsecured Notes

The amounts outstanding under our Senior Unsecured Notes are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2023 Senior Unsecured Notes[1]	$ 1,229	$ 1,227
2024 Senior Unsecured Notes	589	599
2025 Senior Unsecured Notes	1,173	1,210
Total Senior Unsecured Notes	$ 2,991	$ 3,036

[1] On October 23, 2019, we announced the commencement of a cash tender offer (the "2023 Offer") for any and all of our outstanding 2023 Senior Unsecured Notes. The 2023 Offer is being made exclusively pursuant to an offer to purchase dated October 23, 2019 (the "Offer to Purchase"), which sets forth the terms and conditions of the 2023 Offer. Consummation of the 2023 Offer is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the 2023 Offer at any time as described in the Offer to Purchase.

During the nine months ended September 30, 2019, we repurchased $48 million in aggregate principal amount of our Senior Unsecured Notes for $44 million. In connection with the repurchases, we recorded approximately $4 million in gain on extinguishment of debt.

First Lien Notes

The amounts outstanding under our senior secured First Lien Notes are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2022 First Lien Notes[1]	$ 745	$ 743
2024 First Lien Notes[1]	487	486
2026 First Lien Notes	1,172	1,171
Total First Lien Notes	$ 2,404	$ 2,400

[1] On October 23, 2019, we announced the commencement of cash tender offers (the "Offers") for any and all of our outstanding 2022 First Lien Notes and 2024 First Lien Notes. The Offers are being made exclusively pursuant to the Offer to Purchase, which sets forth the terms and conditions of the Offers. Consummation of the Offers is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the Offers at any time as described in the Offer to Purchase.

Project Financing, Notes Payable and Other

On January 29, 2019, PG&E and PG&E Corporation each filed voluntary petitions for relief under Chapter 11. Our power plants that sell energy and energy-related products to PG&E through PPAs, include Russell City Energy Center and Los Esteros Critical Energy Facility. Since the bankruptcy filing, we have received all material payments under the PPAs, either directly or through the application of collateral. As a result of PG&E's bankruptcy, we are currently unable to make distributions from our Russell City and Los Esteros projects in accordance with the terms of the project debt agreements associated with each related project. In July 2019, we executed forbearance agreements associated with the Russell City and Los Esteros project debt agreements, under which the lenders have agreed to forbear enforcement of their rights and remedies, including the ability to accelerate the repayment of borrowings outstanding, otherwise arising because PG&E did not assume our PPAs during the first 180 days of PG&E's bankruptcy proceeding. The forbearance agreements are effective for rolling 90-day periods, so long as we continue to meet certain conditions, including that the PPAs have not been rejected and there are no other defaults under the project debt agreements or the forbearance agreements. We may be required to reclassify $354 million of Russell City and Los Esteros long-term project debt outstanding at September 30, 2019 to a current liability in a future period. We continue to monitor the bankruptcy proceedings and are assessing our options.

On August 14, 2019, we repaid the project debt associated with OMEC totaling $198 million from the proceeds received from the issuance of our New 2026 First Lien Term Loan (as discussed above), together with cash on hand.

Corporate Revolving Facility and Other Letter of Credit Facilities

The table below represents amounts issued under our letter of credit facilities at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Corporate Revolving Facility[1]	$ 602	$ 693
CDHI[2]	20	251
Various project financing facilities	199	228
Other corporate facilities[3]	294	193
Total	$ 1,115	$ 1,365

[1] The Corporate Revolving Facility represents our primary revolving facility. On April 5, 2019, we amended our Corporate Revolving Facility to increase the capacity by approximately $330 million from $1.69 billion to approximately $2.02 billion. On August 12, 2019, we amended our Corporate Revolving Facility to extend the maturity of $150 million in revolving commitments from June 27, 2020 to March 8, 2023, and to reduce the commitments outstanding by $20 million to approximately $2.0 billion. The entire Corporate Revolving Facility now matures on March 8, 2023.

[2] Pursuant to the terms and conditions of the CDHI credit agreement, the capacity under the CDHI revolving facility was reduced to $125 million on June 28, 2019. The decrease in capacity did not have a material effect on our liquidity as alternative sources of liquidity are available.

[3] We have three unsecured letter of credit facilities with two third-party financial institutions totaling approximately $300 million at September 30, 2019.

Fair Value of Debt

We record our debt instruments based on contractual terms, net of any applicable premium or discount and debt issuance costs. The following table details the fair values and carrying values of our debt instruments at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019		December 31, 2018	
	Fair Value	Carrying Value	Fair Value	Carrying Value
First Lien Term Loans	$ 3,232	$ 3,175	$ 2,877	$ 2,976
Senior Unsecured Notes	3,062	2,991	2,803	3,036
First Lien Notes	2,477	2,404	2,299	2,400
Project financing, notes payable and other[1]	895	889	1,209	1,188
CCFC Term Loan	983	969	938	974
Revolving facilities	60	60	30	30
Total	$ 10,709	$ 10,488	$ 10,156	$ 10,604

[1] Excludes an agreement that is accounted for as a failed sale-leaseback transaction under U.S. GAAP.

Our First Lien Term Loans, Senior Unsecured Notes, First Lien Notes, CCFC Term Loan and revolving facilities are categorized as level 2 within the fair value hierarchy. Our project financing, notes payable and other debt instruments are categorized as level 3 within the fair value hierarchy. We do not have any debt instruments with fair value measurements categorized as level 1 within the fair value hierarchy.

7. Assets and Liabilities with Recurring Fair Value Measurements

Cash Equivalents — Highly liquid investments which meet the definition of cash equivalents, primarily investments in money market accounts and other interest-bearing accounts, are included in both our cash and cash equivalents and our restricted cash on our Consolidated Condensed Balance Sheets. Certain of our money market accounts invest in U.S. Treasury securities or other obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities. We do not have any cash equivalents invested in institutional prime money market funds which require use of a floating net asset value and are subject to liquidity fees and redemption restrictions. Certain of our cash equivalents are classified within level 1 of the fair value hierarchy.

Derivatives — The primary factors affecting the fair value of our derivative instruments at any point in time are the volume of open derivative positions (MMBtu, MWh and $ notional amounts); changing commodity market prices, primarily for power and natural gas; our credit standing and that of our counterparties and customers for energy commodity derivatives; and prevailing interest rates for our interest rate hedging instruments. Prices for power and natural gas and interest rates are volatile, which can result in material changes in the fair value measurements reported in our financial statements in the future.

We utilize market data, such as pricing services and broker quotes, and assumptions that we believe market participants would use in pricing our assets or liabilities including assumptions about the risks inherent to the inputs in the valuation technique. These inputs can be either readily observable, market corroborated or generally unobservable. The market data obtained from broker pricing services is evaluated to determine the nature of the quotes obtained and, where accepted as a reliable quote, used to validate our assessment of fair value. We use other qualitative assessments to determine the level of activity in any given market. We primarily apply the market approach and income approach for recurring fair value measurements and utilize what we believe to be the best available information. We utilize valuation techniques that seek to maximize the use of observable inputs and minimize the use of unobservable inputs. We classify fair value balances based on the observability of those inputs.

The fair value of our derivatives includes consideration of our credit standing, the credit standing of our counterparties and customers and the effect of credit enhancements, if any. We have also recorded credit reserves in the determination of fair value based on our expectation of how market participants would determine fair value. Such valuation adjustments are generally based on market evidence, if available, or our best estimate.

Our level 1 fair value derivative instruments primarily consist of power and natural gas swaps, futures and options traded on the NYMEX or Intercontinental Exchange.

Our level 2 fair value derivative instruments primarily consist of interest rate hedging instruments and OTC power and natural gas forwards for which market-based pricing inputs in the principal or most advantageous market are representative of executable prices for market participants. These inputs are observable at commonly quoted intervals for substantially the full term of the instruments. In certain instances, our level 2 derivative instruments may utilize models to measure fair value. These models are industry-standard models, including the Black-Scholes option-pricing model, that incorporate various assumptions, including quoted interest rates, correlation, volatility, as well as other relevant economic measures. Substantially all of these assumptions are observable in the marketplace throughout the full term of the instrument, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Our level 3 fair value derivative instruments may consist of OTC power and natural gas forwards and options where pricing inputs are unobservable, as well as other complex and structured transactions primarily for the sale and purchase of power and natural gas to both wholesale counterparties and retail customers. Complex or structured transactions are tailored to our customers' needs and can introduce the need for internally-developed model inputs which might not be observable in or corroborated by the market. When such inputs have a significant effect on the measurement of fair value, the instrument is categorized in level 3. Our valuation models may incorporate historical correlation information and extrapolate available broker and other information to future periods.

Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement at period end. Our assessment of the significance of a particular input to the fair value measurement requires judgment and may affect our estimate of the fair value of our assets and liabilities and their placement within the fair value hierarchy levels. The following tables present our assets and liabilities that were accounted for at fair value on a recurring basis as of September 30, 2019 and December 31, 2018, by level within the fair value hierarchy:

	Assets and Liabilities with Recurring Fair Value Measures as of September 30, 2019			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets:				
Cash equivalents[1]	$ 359	$ —	$ —	$ 359
Commodity instruments:				
Commodity exchange traded derivatives contracts	679	—	—	679
Commodity forward contracts[2]	—	343	318	661
Interest rate hedging instruments	—	6	—	6
Effect of netting and allocation of collateral[3][4]	(679)	(257)	(23)	(959)
Total assets	$ 359	$ 92	$ 295	$ 746
Liabilities:				
Commodity instruments:				
Commodity exchange traded derivatives contracts	$ 767	$ —	$ —	$ 767
Commodity forward contracts[2]	—	415	111	526
Interest rate hedging instruments	—	38	—	38
Effect of netting and allocation of collateral[3][4]	(767)	(259)	(23)	(1,049)
Total liabilities	$ —	$ 194	$ 88	$ 282

	Assets and Liabilities with Recurring Fair Value Measures as of December 31, 2018			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets:				
Cash equivalents[1]	$ 168	$ —	$ —	$ 168
Commodity instruments:				
Commodity exchange traded derivatives contracts	933	—	—	933
Commodity forward contracts[2]	—	338	212	550
Interest rate hedging instruments	—	40	—	40
Effect of netting and allocation of collateral[3][4]	(933)	(262)	(26)	(1,221)
Total assets	$ 168	$ 116	$ 186	$ 470
Liabilities:				
Commodity instruments:				
Commodity exchange traded derivatives contracts	$ 932	$ —	$ —	$ 932
Commodity forward contracts[2]	—	549	220	769
Interest rate hedging instruments	—	10	—	10
Effect of netting and allocation of collateral[3][4]	(932)	(310)	(26)	(1,268)
Total liabilities	$ —	$ 249	$ 194	$ 443

[1] At September 30, 2019 and December 31, 2018, we had cash equivalents of $187 million and $23 million included in cash and cash equivalents and $172 million and $145 million included in restricted cash, respectively.

(2) Includes OTC swaps and options.

(3) We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

(4) Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $88 million, $2 million and nil, respectively, at September 30, 2019. Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $(1) million, $48 million and nil, respectively, at December 31, 2018.

At September 30, 2019 and December 31, 2018, the derivative instruments classified as level 3 primarily included commodity contracts, which are classified as level 3 because the contract terms relate to a delivery location or tenor for which observable market rate information is not available. The fair value of the net derivative position classified as level 3 is predominantly driven by market commodity prices. The following table presents quantitative information for the unobservable inputs used in our most significant level 3 fair value measurements at September 30, 2019 and December 31, 2018:

Quantitative Information about Level 3 Fair Value Measurements

September 30, 2019

	Fair Value, Net Asset (Liability)	Valuation Technique	Significant Unobservable Input	Range
	(in millions)			
Power Contracts[1]	$ 165	Discounted cash flow	Market price (per MWh)	$ 3.68 — $182.70 /MWh
Power Congestion Products	$ 13	Discounted cash flow	Market price (per MWh)	$ (13.19) — $12.51 /MWh
Natural Gas Contracts	$ 10	Discounted cash flow	Market price (per MMBtu)	$ 1.72 — $6.34 /MMBtu

December 31, 2018

	Fair Value, Net Asset (Liability)	Valuation Technique	Significant Unobservable Input	Range
	(in millions)			
Power Contracts[1]	$ 36	Discounted cash flow	Market price (per MWh)	$ 2.12 — $227.98 /MWh
Power Congestion Products	$ 26	Discounted cash flow	Market price (per MWh)	$ (11.71) — $11.88 /MWh
Natural Gas Contracts	$ (73)	Discounted cash flow	Market price (per MMBtu)	$ 0.75 — $8.87 /MMBtu

[1] Power contracts include power and heat rate instruments classified as level 3 in the fair value hierarchy.

The following table sets forth a reconciliation of changes in the fair value of our net derivative assets (liabilities) classified as level 3 in the fair value hierarchy for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Balance, beginning of period	$ 227	$ 131	$ (8)	$ 197
Realized and mark-to-market gains (losses):				
Included in net income:				
Included in operating revenues[1]	20	(99)	151	(84)
Included in fuel and purchased energy expense[2]	—	18	2	27
Change in collateral	(1)	—	—	—
Purchases, Issuances and settlements:				
Purchases	—	4	3	12
Issuances	—	—	(1)	—
Settlements	(23)	37	68	(56)
Transfers in and/or out of level 3[3]:				
Transfers into level 3[4]	7	(1)	10	—
Transfers out of level 3[5]	(23)	(2)	(18)	(8)
Balance, end of period	$ 207	$ 88	$ 207	$ 88
Change in unrealized gains (losses) relating to instruments still held at end of period	$ 20	$ (81)	$ 153	$ (57)

[1] For power contracts and other power-related products, included on our Consolidated Condensed Statements of Operations.

[2] For natural gas and power contracts, swaps and options, included on our Consolidated Condensed Statements of Operations.

[3] We transfer amounts among levels of the fair value hierarchy as of the end of each period. There were no transfers into or out of level 1 for each of the three and nine months ended September 30, 2019 and 2018.

[4] We had $7 million in gains and $(1) million in losses transferred out of level 2 into level 3 for the three months ended September 30, 2019 and 2018, respectively, and $10 million in gains and nil transferred out of level 2 into level 3 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

[5] We had $23 million and $2 million in gains transferred out of level 3 into level 2 for the three months ended September 30, 2019 and 2018, respectively, and $18 million and $8 million in gains transferred out of level 3 into level 2 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

8. Derivative Instruments

Types of Derivative Instruments and Volumetric Information

Commodity Instruments — We are exposed to changes in prices for the purchase and sale of power, natural gas, fuel oil, environmental products and other energy commodities. We use derivatives, which include physical commodity contracts and financial commodity instruments such as OTC and exchange traded swaps, futures, options, forward agreements and instruments that settle on the power price to natural gas price relationships (Heat Rate swaps and options) or instruments that settle on power or natural gas price relationships between delivery points for the purchase and sale of power and natural gas to attempt to maximize the risk-adjusted returns by economically hedging a portion of the commodity price risk associated with our assets. By entering into these transactions, we are able to economically hedge a portion of our Spark Spread at estimated generation and prevailing price levels.

We also engage in limited trading activities related to our commodity derivative portfolio as authorized by our Board of Directors and monitored by our Chief Risk Officer and Risk Management Committee of senior management. These transactions are executed primarily for the purpose of providing improved price and price volatility discovery, greater market access, and profiting from our market knowledge, all of which benefit our asset hedging activities. Our trading results were not material for each of the three and nine months ended September 30, 2019 and 2018.

Interest Rate Hedging Instruments — A portion of our debt is indexed to base rates, primarily LIBOR. We have historically used interest rate hedging instruments to adjust the mix between fixed and variable rate debt to hedge our interest rate risk for potential adverse changes in interest rates. As of September 30, 2019, the maximum length of time over which we were hedging using interest rate hedging instruments designated as cash flow hedges was 6 years.

As of September 30, 2019 and December 31, 2018, the net forward notional buy (sell) position of our outstanding commodity derivative instruments that did not qualify or were not designated under the normal purchase normal sale exemption and our interest rate hedging instruments were as follows:

	Notional Amounts		
Derivative Instruments	**September 30, 2019**	**December 31, 2018**	**Unit of Measure**
Power	(161)	(161)	Million MWh
Natural gas	1,030	1,045	Million MMBtu
Environmental credits	20	13	Million Tonnes
Interest rate hedging instruments	$ 4.9	$ 4.5	Billion U.S. dollars

Certain of our derivative instruments contain credit risk-related contingent provisions that require us to maintain collateral balances consistent with our credit ratings. If our credit rating were to be downgraded, it could require us to post additional collateral or could potentially allow our counterparty to request immediate, full settlement on certain derivative instruments in liability positions. The aggregate fair value of our derivative liabilities with credit risk-related contingent provisions as of September 30, 2019, was $136 million for which we have posted collateral of $89 million by posting margin deposits, letters of credit or granting additional first priority liens on the assets currently subject to first priority liens under our First Lien Notes, First Lien Term Loans and Corporate Revolving Facility. However, if our credit rating were downgraded by one notch from its current level, we estimate that an immaterial amount of collateral would be required and that no counterparty could request immediate, full settlement.

Accounting for Derivative Instruments

We recognize all derivative instruments that qualify for derivative accounting treatment as either assets or liabilities and measure those instruments at fair value unless they qualify for, and we elect, the normal purchase normal sale exemption. For transactions in which we elect the normal purchase normal sale exemption, gains and losses are not reflected on our Consolidated Condensed Statements of Operations until the period of delivery. Revenues and expenses derived from instruments that qualified for hedge accounting or represent an economic hedge are recorded in the same financial statement line item as the item being hedged. Hedge accounting requires us to formally document, designate and assess the effectiveness of transactions that receive hedge accounting. We present the cash flows from our derivatives in the same category as the item being hedged (or economically hedged) within operating activities on our Consolidated Condensed Statements of Cash Flows unless they contain an other-than-insignificant financing element in which case their cash flows are classified within financing activities.

Cash Flow Hedges — We currently apply hedge accounting to our interest rate hedging instruments. We report the mark-to-market gain or loss on our interest rate hedging instruments designated and qualifying as a cash flow hedging instrument as a component of OCI and reclassify such gains and losses into earnings in the same period during which the hedged forecasted transaction affects earnings. Prior to January 1, 2019, gains and losses due to ineffectiveness on interest rate hedging instruments were recognized in earnings as a component of interest expense. Upon the adoption of Accounting Standards Update 2017-12 on January 1, 2019, hedge ineffectiveness is no longer separately measured and recorded in earnings. If it is determined that the forecasted transaction is no longer probable of occurring, then hedge accounting will be discontinued prospectively and future changes in fair value will be recorded in earnings. If the hedging instrument is terminated or de-designated prior to the occurrence of the hedged forecasted transaction, the net accumulated gain or loss associated with the changes in fair value of the hedge instrument remains deferred in AOCI until such time as the forecasted transaction affects earnings or until it is determined that the forecasted transaction is probable of not occurring.

Derivatives Not Designated as Hedging Instruments — We enter into power, natural gas, interest rate, environmental product and fuel oil transactions that primarily act as economic hedges to our asset and interest rate portfolio, but either do not qualify as hedges under the hedge accounting guidelines or qualify under the hedge accounting guidelines and the hedge accounting designation has not been elected. Changes in fair value of commodity derivatives not designated as hedging instruments are recognized currently in earnings and are separately stated on our Consolidated Condensed Statements of Operations in mark-to-market gain/loss as a component of operating revenues (for physical and financial power and Heat Rate and commodity option activity) and fuel and purchased energy expense (for physical and financial natural gas, power, environmental product and fuel oil activity). Changes in fair value of interest rate derivatives not designated as hedging instruments are recognized currently in earnings as interest expense.

Derivatives Included on Our Consolidated Condensed Balance Sheets

We offset fair value amounts associated with our derivative instruments and related cash collateral and margin deposits on our Consolidated Condensed Balance Sheets that are executed with the same counterparty under master netting arrangements. Our netting arrangements include a right to set off or net together purchases and sales of similar products in the margining or settlement process. In some instances, we have also negotiated cross commodity netting rights which allow for the net presentation of activity with a given counterparty regardless of product purchased or sold. We also post and/or receive cash collateral in support of our derivative instruments which may also be subject to a master netting arrangement with the same counterparty.

The following tables present the fair values of our derivative instruments and our net exposure after offsetting amounts subject to a master netting arrangement with the same counterparty to our derivative instruments recorded on our Consolidated Condensed Balance Sheets by location and hedge type at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019		
	Gross Amounts of Assets and (Liabilities)	Gross Amounts Offset on the Consolidated Condensed Balance Sheets	Net Amount Presented on the Consolidated Condensed Balance Sheets[1]
Derivative assets:			
Commodity exchange traded derivatives contracts	$ 492	$ (492)	$ —
Commodity forward contracts	333	(190)	143
Interest rate hedging instruments	3	(2)	1
Total current derivative assets[2]	$ 828	$ (684)	$ 144
Commodity exchange traded derivatives contracts	187	(187)	—
Commodity forward contracts	328	(88)	240
Interest rate hedging instruments	3	—	3
Total long-term derivative assets[2]	$ 518	$ (275)	$ 243
Total derivative assets	$ 1,346	$ (959)	$ 387
Derivative (liabilities):			
Commodity exchange traded derivatives contracts	$ (571)	$ 571	$ —
Commodity forward contracts	(383)	195	(188)
Interest rate hedging instruments	(12)	2	(10)
Total current derivative (liabilities)[2]	$ (966)	$ 768	$ (198)
Commodity exchange traded derivatives contracts	(196)	196	—
Commodity forward contracts	(143)	85	(58)
Interest rate hedging instruments	(26)	—	(26)
Total long-term derivative (liabilities)[2]	$ (365)	$ 281	$ (84)
Total derivative liabilities	$ (1,331)	$ 1,049	$ (282)
Net derivative assets (liabilities)	$ 15	$ 90	$ 105

	December 31, 2018		
	Gross Amounts of Assets and (Liabilities)	Gross Amounts Offset on the Consolidated Condensed Balance Sheets	Net Amount Presented on the Consolidated Condensed Balance Sheets[1]
Derivative assets:			
Commodity exchange traded derivatives contracts	$ 820	$ (820)	$ —
Commodity forward contracts	341	(229)	112
Interest rate hedging instruments	30	—	30
Total current derivative assets[3]	$ 1,191	$ (1,049)	$ 142
Commodity exchange traded derivatives contracts	113	(113)	—
Commodity forward contracts	209	(59)	150
Interest rate hedging instruments	10	—	10
Total long-term derivative assets[3]	$ 332	$ (172)	$ 160
Total derivative assets	$ 1,523	$ (1,221)	$ 302
Derivative (liabilities):			
Commodity exchange traded derivatives contracts	$ (764)	$ 764	$ —
Commodity forward contracts	(576)	277	(299)
Interest rate hedging instruments	(4)	—	(4)
Total current derivative (liabilities)[3]	$ (1,344)	$ 1,041	$ (303)
Commodity exchange traded derivatives contracts	(168)	168	—
Commodity forward contracts	(193)	59	(134)
Interest rate hedging instruments	(6)	—	(6)
Total long-term derivative (liabilities)[3]	$ (367)	$ 227	$ (140)
Total derivative liabilities	$ (1,711)	$ 1,268	$ (443)
Net derivative assets (liabilities)	$ (188)	$ 47	$ (141)

[1] At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

[2] At September 30, 2019, current and long-term derivative assets are shown net of collateral of $(7) million and $(6) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $92 million and $11 million, respectively.

[3] At December 31, 2018, current and long-term derivative assets are shown net of collateral of $(58) million and $(8) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $49 million and $64 million, respectively.

	September 30, 2019		December 31, 2018	
	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities
Derivatives designated as cash flow hedging instruments:				
Interest rate hedging instruments	$ 4	$ 34	$ 40	$ 10
Total derivatives designated as cash flow hedging instruments	$ 4	$ 34	$ 40	$ 10
Derivatives not designated as hedging instruments:				
Commodity instruments	$ 383	$ 246	$ 262	$ 433
Interest rate hedging instruments	—	2	—	—
Total derivatives not designated as hedging instruments	$ 383	$ 248	$ 262	$ 433
Total derivatives	$ 387	$ 282	$ 302	$ 443

Derivatives Included on Our Consolidated Condensed Statements of Operations

Changes in the fair values of our derivative instruments are reflected either in cash for option premiums paid or collected, in OCI, net of tax, for derivative instruments which qualify for and we have elected cash flow hedge accounting treatment, or on our Consolidated Condensed Statements of Operations as a component of mark-to-market activity within our earnings.

The following tables detail the components of our total activity for both the net realized gain (loss) and the net mark-to-market gain (loss) recognized from our derivative instruments in earnings and where these components were recorded on our Consolidated Condensed Statements of Operations for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Realized gain (loss)[1][2]				
Commodity derivative instruments	$ 92	$ 45	$ 261	$ 111
Total realized gain (loss)	$ 92	$ 45	$ 261	$ 111
Mark-to-market gain (loss)[3]				
Commodity derivative instruments	$ 67	$ 106	$ 300	$ (77)
Interest rate hedging instruments	(1)	1	(3)	4
Total mark-to-market gain (loss)	$ 66	$ 107	$ 297	$ (73)
Total activity, net	$ 158	$ 152	$ 558	$ 38

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[1] Does not include the realized value associated with derivative instruments that settle through physical delivery.

[2] Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

[3] In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Realized and mark-to-market gain (loss)[1]				
Derivatives contracts included in operating revenues[2][3]	$ 213	$ 34	$ 791	$ (142)

Derivatives contracts included in fuel and purchased energy expense[2][3]	(54)	117	(230)	176
Interest rate hedging instruments included in interest expense	(1)	1	(3)	4
Total activity, net	$ 158	$ 152	$ 558	$ 38

(1) In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

(2) Does not include the realized value associated with derivative instruments that settle through physical delivery.

(3) Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

Derivatives Included in OCI and AOCI

The following table details the effect of our net derivative instruments that qualified for hedge accounting treatment and are included in OCI and AOCI for the periods indicated (in millions):

	Three Months Ended September 30,		Three Months Ended September 30,		
	Gain (Loss) Recognized in OCI		Gain (Loss) Reclassified from AOCI into Income[3][4]		
	2019	2018	2019	2018	Affected Line Item on the Consolidated Condensed Statements of Operations
Interest rate hedging instruments[1][2]	$ (3)	$ 13	$ (2)	$ —	Interest expense
Interest rate hedging instruments[1][2]	1	—	(1)	—	Depreciation and amortization expense
Total	$ (2)	$ 13	$ (3)	$ —	

	Nine Months Ended September 30,		Nine Months Ended September 30,		
	Gain (Loss) Recognized in OCI		Gain (Loss) Reclassified from AOCI into Income[3][4]		
	2019	2018	2019	2018	Affected Line Item on the Consolidated Condensed Statements of Operations
Interest rate hedging instruments[1][2]	$ (60)	$ 82	$ 3	$ (6)	Interest expense
Interest rate hedging instruments[1][2]	1	1	(1)	(1)	Depreciation and amortization expense
Total	$ (59)	$ 83	$ 2	$ (7)	

(1) We recorded nil and $1 million in gains on hedge ineffectiveness related to our interest rate hedging instruments designated as cash flow hedges during the three and nine months ended September 30, 2018. Upon the adoption of Accounting Standards Update 2017-12 on January 1, 2019, hedge ineffectiveness is no longer separately measured and recorded in earnings.

(2) We recorded an income tax benefit of $1 million for each of the three months ended September 30, 2019 and 2018, respectively, and income tax benefit of $2 million and income tax expense of $3 million for the nine months ended September 30, 2019 and 2018, respectively, in AOCI related to our cash flow hedging activities.

(3) Cumulative cash flow hedge losses attributable to Calpine, net of tax, remaining in AOCI were $90 million and $34 million at September 30, 2019 and December 31, 2018, respectively. Cumulative cash flow hedge losses attributable to the noncontrolling interest, net of tax, remaining in AOCI were $4 million and $3 million at September 30, 2019 and December 31, 2018, respectively.

(4) Includes losses (gains) of nil that were reclassified from AOCI to interest expense for the three months ended September 30, 2019 and 2018, and losses of $2 million and nil that were reclassified from AOCI to interest expense for the nine months ended September 30, 2019 and 2018, respectively, where the hedged transactions became probable of not occurring.

We estimate that pre-tax net losses of $25 million would be reclassified from AOCI into interest expense during the next 12 months as the hedged transactions settle; however, the actual amounts that will be reclassified will likely vary based on changes in interest rates. Therefore, we are unable to predict what the actual reclassification from AOCI into earnings (positive or negative) will be for the next 12 months.

9. Use of Collateral

We use margin deposits, prepayments and letters of credit as credit support with and from our counterparties for commodity procurement and risk management activities. In addition, we have granted additional first priority liens on the assets currently subject to first priority liens under various debt agreements as collateral under certain of our power and natural gas agreements and certain of our interest rate hedging instruments in order to reduce the cash collateral and letters of credit that we would otherwise be required to provide to the counterparties under such agreements. The counterparties under such agreements share the benefits of the collateral subject to such first priority liens pro rata with the lenders under our various debt agreements.

The table below summarizes the balances outstanding under margin deposits, natural gas and power prepayments, and exposure under letters of credit and first priority liens for commodity procurement and risk management activities as of September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Margin deposits[1]	$ 331	$ 343
Natural gas and power prepayments	38	31
Total margin deposits and natural gas and power prepayments with our counterparties[2]	$ 369	$ 374
Letters of credit issued	$ 902	$ 1,166
First priority liens under power and natural gas agreements	46	92
First priority liens under interest rate hedging instruments	38	10
Total letters of credit and first priority liens with our counterparties	$ 986	$ 1,268
Margin deposits posted with us by our counterparties[1][3]	$ 125	$ 52
Letters of credit posted with us by our counterparties	35	27
Total margin deposits and letters of credit posted with us by our counterparties	$ 160	$ 79

[1] We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

[2] At September 30, 2019 and December 31, 2018, $92 million and $79 million, respectively, were included in current and long-term derivative assets and liabilities, $269 million and $286 million, respectively, were included in margin deposits and other prepaid expense and $8 million and $9 million, respectively, were included in other assets on our Consolidated Condensed Balance Sheets.

[3] At September 30, 2019 and December 31, 2018, $2 million and $32 million, respectively, were included in current and long-term derivative assets and liabilities, $92 million and $20 million, respectively, were included in other current liabilities and $31 million and nil, respectively, were included in other long-term liabilities on our Consolidated Condensed Balance Sheets.

Future collateral requirements for cash, first priority liens and letters of credit may increase or decrease based on the extent of our involvement in hedging and optimization contracts, movements in commodity prices, and also based on our credit ratings and general perception of creditworthiness in our market.

10. Income Taxes

Income Tax Expense

The table below shows our consolidated income tax expense and our effective tax rates for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Income tax expense	$ 21	$ 128	$ 40	$ 78
Effective tax rate	4%	32%	4%	75%

Our income tax rates do not bear a customary relationship to statutory income tax rates primarily as a result of the effect of our NOLs, changes in unrecognized tax benefits and valuation allowances. For the three and nine months ended September 30, 2019 and 2018, our income tax expense is largely comprised of discrete tax items and estimated state and foreign income taxes in jurisdictions where we do not have NOLs or valuation allowances.

Income Tax Audits — We remain subject to periodic audits and reviews by taxing authorities; however, we do not expect these audits will have a material effect on our tax provision. Any NOLs we claim in future years to reduce taxable income could be subject to IRS examination regardless of when the NOLs were generated. Any adjustment of state or federal returns could result in a reduction of deferred tax assets rather than a cash payment of income taxes in tax jurisdictions where we have NOLs. We are currently under various state income tax audits for various periods.

Valuation Allowance — U.S. GAAP requires that we consider all available evidence, both positive and negative, and tax planning strategies to determine whether, based on the weight of that evidence, a valuation allowance is needed to reduce the value of deferred tax assets. Future realization of the tax benefit of an existing deductible temporary difference or carryforward ultimately depends on the existence of sufficient taxable income of the appropriate character within the carryback or carryforward periods available under the tax law. Due to our history of losses, we were unable to assume future profits; however, we are able to consider available tax planning strategies.

Limitation on Deduction of Net Business Interest Expense — On November 26, 2018, the U.S. Treasury Department released proposed regulations which would limit the current deductibility of net business interest expense. The proposed regulations would be applicable for taxable years ending after the date on which the regulations become final. Companies have the discretion to apply the proposed regulations, but must apply all such provisions of the proposed regulations on a consistent basis. As of September 30, 2019, we have not elected to apply the proposed regulations for the 2018 or 2019 tax years and we do not expect the application of the final regulations will have a material effect on our Consolidated Condensed Financial Statements.

Unrecognized Tax Benefits — At September 30, 2019, we had unrecognized tax benefits of $29 million. If recognized, $17 million of our unrecognized tax benefits could affect the annual effective tax rate and $12 million, related to deferred tax assets, could be offset against the recorded valuation allowance resulting in no effect on our effective tax rate. We had accrued interest and penalties of $3 million for income tax matters at September 30, 2019. We recognize interest and penalties related to unrecognized tax benefits in income tax expense on our Consolidated Condensed Statements of Operations. We believe that it is reasonably possible that a decrease within the range of nil and $8 million in unrecognized tax benefits could occur within the next twelve months primarily related to state tax issues.

11. Commitments and Contingencies

Litigation

We are party to various litigation matters, including regulatory and administrative proceedings arising out of the normal course of business. At the present time, we do not expect that the outcome of any of these proceedings, individually or in the aggregate, will have a material adverse effect on our financial condition, results of operations or cash flows.

On a quarterly basis, we review our litigation activities and determine if an unfavorable outcome to us is considered "remote," "reasonably possible" or "probable" as defined by U.S. GAAP. Where we determine an unfavorable outcome is probable and is reasonably estimable, we accrue for potential litigation losses. The liability we may ultimately incur with respect to such litigation matters, in the event of a negative outcome, may be in excess of amounts currently accrued, if any; however, we do not expect that the reasonably possible outcome of these litigation matters would, individually or in the aggregate, have a material adverse effect on our financial condition, results of operations or cash flows. Where we determine an unfavorable outcome is not probable or reasonably estimable, we do not accrue for any potential litigation loss. The ultimate outcome of these litigation matters cannot presently be determined, nor can the liability that could potentially result from a negative outcome be reasonably estimated. As a result, we give no assurance that such litigation matters would, individually or in the aggregate, not have a material adverse effect on our financial condition, results of operations or cash flows.

Environmental Matters

We are subject to complex and stringent environmental laws and regulations related to the operation of our power plants. On occasion, we may incur environmental fees, penalties and fines associated with the operation of our power plants. At the present time, we do not have environmental violations or other matters that would have a material effect on our financial condition, results of operations or cash flows or that would significantly change our operations.

Guarantees and Indemnifications

Our potential exposure under guarantee and indemnification obligations can range from a specified amount to an unlimited dollar amount, depending on the nature of the claim and the particular transaction. Our total maximum exposure under our guarantee and indemnification obligations is not estimable due to uncertainty as to whether claims will be made or how any potential claim will be resolved. As of September 30, 2019, there are no material outstanding claims related to our guarantee and indemnification obligations and we do not anticipate that we will be required to make any material payments under our guarantee and indemnification obligations. There have been no material changes to our guarantees and indemnifications from those disclosed in Note 16 of our 2018 Form 10-K.

12. Related Party Transactions

We have entered into various agreements with related parties associated with the operation of our business. A description of these related party transactions is provided below:

Calpine Receivables — Under the Accounts Receivable Sales Program, at September 30, 2019 and December 31, 2018, we had $269 million and $238 million, respectively, in trade accounts receivable outstanding that were sold to Calpine Receivables and $53 million and $34 million, respectively, in notes receivable from Calpine Receivables which were recorded on our Consolidated Condensed Balance Sheets. During the nine months ended September 30, 2019 and 2018, we sold an aggregate of $1.8 billion and $1.8 billion, respectively, in trade accounts receivable and recorded $1.8 billion and $1.8 billion, respectively, in proceeds. For a further discussion of the Accounts Receivable Sales Program and Calpine Receivables, see Notes 7 and 17 in our 2018 Form 10-K.

Lyondell — We have a ground lease agreement with Houston Refining LP (“Houston Refining”), a subsidiary of Lyondell, for our Channel Energy Center site from which we sell power, capacity and steam to Houston Refining under a PPA. We purchase refinery gas and raw water from Houston Refining under a facilities services agreement. One of the entities which obtained an ownership interest in Calpine through the Merger also has an ownership interest in Lyondell whereby they may significantly influence the management and operating policies of Lyondell. The terms of the PPA with Lyondell were negotiated prior to the Merger closing. We recorded $16 million and $17 million in Commodity revenue during the three months ended September 30, 2019 and 2018, respectively, and $53 million and $55 million in Commodity revenue during the nine months ended September 30, 2019 and 2018, associated with this contract with Lyondell. We recorded $4 million and $5 million in Commodity expense during the three months ended September 30, 2019 and 2018, respectively, and $11 million and $11 million in Commodity expense during the nine months ended September 30, 2019 and 2018, associated with this contract with Lyondell. At September 30, 2019 and December 31, 2018, the related party receivable and payable associated with this contract with Lyondell were immaterial.

Other — Following the Merger, we have identified other related party contracts for the sale of power, capacity, steam and RECs which are entered into in the ordinary course of our business. Most of these contracts relate to the sale of commodities and capacity for varying tenors. We have also entered into a long-term land lease agreement with a related party. As of September 30, 2019 and December 31, 2018, the related party revenues, expenses, receivables and payables associated with these transactions were immaterial.

13. Segment Information

We assess our business on a regional basis due to the effect on our financial performance of the differing characteristics of these regions, particularly with respect to competition, regulation and other factors affecting supply and demand. At September 30, 2019, our geographic reportable segments for our wholesale business are West (including geothermal), Texas and East (including Canada) and we have a separate reportable segment for our retail business. We continue to evaluate the optimal manner in which we assess our performance including our segments and future changes may result in changes to the composition of our geographic segments.

Commodity Margin is a key operational measure of profit reviewed by our chief operating decision maker to assess the performance of our segments. The tables below show financial data for our segments (including a reconciliation of our Commodity Margin to income (loss) from operations by segment) for the periods indicated (in millions):

	Three Months Ended September 30, 2019					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[1]	$ 856	$ 867	$ 348	$ 1,096	$ (375)	$ 2,792
Commodity Margin	$ 393	$ 369	$ 265	$ 100	$ —	$ 1,127
Add: Mark-to-market commodity activity, net and other[2]	110	(107)	(69)	108	(8)	34
Less:						
Operating and maintenance expense	82	71	69	41	(8)	255
Depreciation and amortization expense	61	47	51	14	—	173
General and other administrative expense	10	13	12	4	—	39
Other operating expenses	9	2	4	—	—	15
(Income) from unconsolidated subsidiaries	—	—	(3)	—	—	(3)
Income from operations	341	129	63	149	—	682
Interest expense						153
Loss on extinguishment of debt and other (income) expense, net						17
Income before income taxes						$ 512

	Three Months Ended September 30, 2018					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[1]	$ 701	$ 1,022	$ 460	$ 1,125	$ (418)	$ 2,890
Commodity Margin	$ 356	$ 187	$ 320	$ 111	$ —	$ 974
Add: Mark-to-market commodity activity, net and other[2]	(13)	137	(26)	(20)	(8)	70
Less:						
Operating and maintenance expense	85	63	72	36	(8)	248
Depreciation and amortization expense	70	57	39	13	—	179
General and other administrative expense	7	12	7	5	—	31
Other operating expenses	11	3	9	—	—	23
(Income) from unconsolidated subsidiaries	—	—	(5)	—	—	(5)
Income from operations	170	189	172	37	—	568
Interest expense						158
Loss on extinguishment of debt and other (income) expense, net						4

Income before income taxes	$ 406

	Nine Months Ended September 30, 2019					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[3]	$ 2,187	$ 2,509	$ 1,683	$ 3,176	$ (1,565)	$ 7,990
Commodity Margin	$ 908	$ 704	$ 765	$ 281	$ —	$ 2,658
Add: Mark-to-market commodity activity, net and other[4]	224	177	38	(127)	(26)	286
Less:						
Operating and maintenance expense	247	202	208	108	(26)	739
Depreciation and amortization expense	194	146	142	40	—	522
General and other administrative expense	22	40	31	12	—	105
Other operating expenses	25	5	23	—	—	53
Impairment losses	—	—	55	—	—	55
(Income) from unconsolidated subsidiaries	—	—	(15)	1	—	(14)
Income (loss) from operations	644	488	359	(7)	—	1,484
Interest expense						459
Loss on extinguishment of debt and other (income) expense, net						44
Income before income taxes						$ 981

	Nine Months Ended September 30, 2018					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[3]	$ 1,536	$ 2,155	$ 1,415	$ 2,998	$ (946)	$ 7,158
Commodity Margin	$ 782	$ 504	$ 729	$ 265	$ —	$ 2,280
Add: Mark-to-market commodity activity, net and other[4]	(23)	(109)	7	41	(23)	(107)
Less:						
Operating and maintenance expense	255	208	208	117	(23)	765
Depreciation and amortization expense	204	190	133	39	—	566
General and other administrative expense	28	50	30	14	—	122
Other operating expenses	33	22	24	—	—	79
(Income) from unconsolidated subsidiaries	—	—	(17)	1	—	(16)
Income (loss) from operations	239	(75)	358	135	—	657
Interest expense						466
Loss on extinguishment of debt and other (income) expense, net						73
Income before income taxes						$ 118

[1] Includes intersegment revenues of $133 million and $160 million in the West, $225 million and $238 million in Texas, $13 million and $19 million in the East and $4 million and $1 million in Retail for the three months ended September 30, 2019 and 2018, respectively.

(2) Includes $31 million and $30 million of lease levelization and $20 million and $26 million of amortization expense for the three months ended September 30, 2019 and 2018, respectively.

(3) Includes intersegment revenues of $395 million and $344 million in the West, $784 million and $447 million in Texas, $378 million and $152 million in the East and $8 million and $3 million in Retail for the nine months ended September 30, 2019 and 2018, respectively.

(4) Includes $(4) million and $(5) million of lease levelization and $59 million and $79 million of amortization expense for the nine months ended September 30, 2019 and 2018, respectively.

*Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operation*s

Forward-Looking Information

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our accompanying Consolidated Condensed Financial Statements and related Notes. See the cautionary statement regarding forward-looking statements at the beginning of this Report for a description of important factors that could cause actual results to differ from expected results.

Introduction and Overview

We are a power generation company engaged in the ownership and operation of primarily natural gas-fired and geothermal power plants in North America. We have a significant presence in major competitive wholesale and retail power markets in California, Texas and the Northeast and Mid-Atlantic regions of the U.S. We sell power, steam, capacity, renewable energy credits and ancillary services to our customers, which include utilities, independent electric system operators and industrial companies, retail power providers, municipalities and other governmental entities, power marketers as well as retail commercial, industrial, governmental and residential customers. We continue to focus on providing products and services that are beneficial to our wholesale and retail customers. We purchase primarily natural gas and some fuel oil as fuel for our power plants and engage in related natural gas transportation and storage transactions. We also purchase power and related products for sale to our customers and purchase electric transmission rights to deliver power to our customers. Additionally, consistent with our Risk Management Policy, we enter into natural gas, power, environmental product, fuel oil and other physical and financial commodity contracts to hedge certain business risks and optimize our portfolio of power plants.

We assess our wholesale business on a regional basis due to the effect on our financial performance of the differing characteristics of these regions, particularly with respect to competition, regulation and other factors affecting supply and demand. Our geographic reportable segments for our wholesale business are West (including geothermal), Texas and East (including Canada) and we have a separate reportable segment for our retail business.

Our wholesale power plant portfolio, including partnership interests, consists of 78 power plants, including one under construction, with an aggregate current generation capacity of 25,885 MW and 361 MW under construction. In March 2019, our York 2 Energy Center commenced commercial operations, bringing online approximately 828 MW of combined-cycle, natural gas-fired capacity with dual-fuel capability. Our fleet consists of 63 natural gas-fired combustion turbine-based plants, one natural gas and fuel oil-fired steam-based plant, 13 geothermal steam turbine-based plants and one photovoltaic solar plant. Our wholesale geographic segments have an aggregate generation capacity of 7,435 MW in the West, 9,095 MW in Texas and 9,355 MW with an additional 361 MW under construction in the East. Inclusive of our power generation portfolio and our retail sales platforms, we serve customers in 23 states in the U.S. and in Canada and Mexico.

Governmental and Regulatory Matters

We are subject to complex and stringent energy, environmental and other laws and regulations at the federal, state and local levels as well as rules within the ISO and RTO markets in which we participate. Federal and state legislative and regulatory actions, including those by ISO/RTOs, continue to change how our business is regulated. We are actively participating in these debates at the federal, regional, state and ISO/RTO levels. Significant updates are discussed below. For a further discussion of the environmental and other governmental regulations that affect us, see "— Governmental and Regulatory Matters" in Part I, Item 1 of our 2018 Form 10-K.

PJM

On June 29, 2018, the FERC issued a decision finding PJM's current tariff to be unjust and unreasonable due to the price-suppressive effects of out-of-market compensation provided to certain generation resources by states within the PJM market. The FERC rejected both replacement proposals submitted by PJM to address the issue and instead opted for an expedited paper hearing to identify a reasonable replacement mechanism. In its decision, the FERC outlined a Fixed Resource Requirement Alternative ("FRR Alternative") in which power resources receiving out-of-market subsidies could choose to be removed from the PJM market along with a commensurate amount of load. PJM made a compliance filing on October 2, 2018 to implement the FERC's proposed FRR Alternative, which we do not support. In the same compliance filing, however, PJM also included additional market rule changes we do support that would partially mitigate the impact of out-of-market subsidies on wholesale capacity market prices. PJM's filing has been pending for many months. On April 10, 2019, PJM submitted a filing to the FERC requesting authorization to run the auction in August 2019 under the current tariff, notwithstanding the FERC’s June 2018 ruling that the tariff is unjust and unreasonable. On July 25, 2019, the FERC issued an order rejecting PJM’s request and ordered PJM not to run the auction as scheduled. As this issue is unresolved, we cannot predict the ultimate effect on our financial condition, results of operations or cash flows.

The Independent Market Monitor ("IMM") for PJM filed a complaint with the FERC on February 21, 2019 alleging that a component of PJM's Reliability Pricing Model ("RPM") allows sellers of the Capacity Performance product ("CP") to offer CP at prices above the competitive level, thereby potentially allowing them to exercise market power. The IMM argues that this provision of the tariff is unjust and unreasonable because the tariff does not provide a mechanism for the IMM to review these offers. Additionally, the IMM argues that the tariff should be revised to lower the Market Seller Offer Cap. This change would require nearly all competitive suppliers to submit their offers to the IMM for review prior to bidding in the RPM. In response to the IMM's complaint, Calpine joined with many other competitive suppliers to urge the FERC to reject the IMM's proposed resolution as inconsistent with CP and, alternatively, to enhance the penalty provisions of CP. This course of action would address the IMM's concerns and would also be more consistent with the CP design. FERC action on the IMM's complaint is pending.

RESULTS OF OPERATIONS FOR THE THREE MONTHS ENDED SEPTEMBER 30, 2019 AND 2018

Below are our results of operations for the three months ended September 30, 2019 as compared to the same period in 2018 (in millions, except for percentages and operating performance metrics). In the comparative tables below, increases in revenue/income or decreases in expense (favorable variances) are shown without brackets while decreases in revenue/income or increases in expense (unfavorable variances) are shown with brackets.

	2019	2018	Change	% Change
Operating revenues:				
Commodity revenue	$ 2,710	$ 2,845	$ (135)	(5)
Mark-to-market gain	78	40	38	95
Other revenue	4	5	(1)	(20)
Operating revenues	2,792	2,890	(98)	(3)
Operating expenses:				
Fuel and purchased energy expense:				
Commodity expense	1,620	1,912	292	15
Mark-to-market (gain) loss	11	(66)	(77)	#
Fuel and purchased energy expense	1,631	1,846	215	12
Operating and maintenance expense	255	248	(7)	(3)
Depreciation and amortization expense	173	179	6	3
General and other administrative expense	39	31	(8)	(26)
Other operating expenses	15	23	8	35
Total operating expenses	2,113	2,327	214	9
(Income) from unconsolidated subsidiaries	(3)	(5)	(2)	(40)
Income from operations	682	568	114	20
Interest expense	153	158	5	3
Loss on extinguishment of debt	12	1	(11)	#
Other (income) expense, net	5	3	(2)	(67)
Income before income taxes	512	406	106	26
Income tax expense	21	128	107	84
Net income	491	278	213	77
Net income attributable to the noncontrolling interest	(6)	(6)	—	—
Net income attributable to Calpine	$ 485	$ 272	$ 213	78

	2019	2018	Change	% Change
Operating Performance Metrics:				
MWh generated (in thousands)(1)(2)	32,555	31,022	1,533	5
Average availability(2)	96.8%	95.5%	1.3%	1
Average total MW in operation(1)	25,167	25,070	97	—
Average capacity factor, excluding peakers	63.8%	61.5%	2.3%	4
Steam Adjusted Heat Rate(2)	7,358	7,379	21	—

# Variance of 100% or greater

(1) Represents generation and capacity from power plants that we both consolidate and operate and excludes Greenfield LP, Whitby, Freeport Energy Center, 21.5% of Hidalgo Energy Center and 25% each of Freestone Energy Center and Russell City Energy Center.

(2) Generation, average availability and Steam Adjusted Heat Rate exclude power plants and units that are inactive.

We evaluate our Commodity revenue and Commodity expense on a collective basis because the price of power and natural gas tend to move together as the price for power is generally determined by the variable operating cost of the next marginal generator to be dispatched to meet demand. The spread between our Commodity revenue and Commodity expense represents a significant portion of our Commodity Margin. Our financial performance is correlated to how we maximize our Commodity Margin through management of our portfolio of power plants, as well as our hedging and optimization activities. See additional segment discussion in "Commodity Margin by Segment."

Commodity revenue, net of Commodity expense, increased $157 million for the three months ended September 30, 2019, compared to the same period in 2018, primarily due to (favorable variances are shown without brackets while unfavorable variances are shown with brackets):

(in millions)	
$ 220	Higher energy margins primarily associated with higher market Spark Spreads in Texas and commencement of commercial operations at our 828 MW York 2 Energy Center in March 2019 partially offset by lower contribution from hedging activities in both our wholesale and retail business segments and the sale of our Garrison and RockGen Energy Centers on July 10, 2019
(67)	Lower PJM and ISO-NE regulatory capacity revenue in our East segment
4	Period-over-period change in contract amortization, lease levelization relating to tolling contracts and other[1]
$ 157	

[1] Commodity Margin excludes amortization expense related to contracts recorded at fair value, non-cash GAAP-related adjustments to levelize revenues from tolling agreements, Commodity revenue and Commodity expense attributable to the noncontrolling interest and other unusual items or non-recurring items.

Mark-to-market gain/loss, net from hedging our future generation, fuel supply requirements and retail activities had an unfavorable variance of $39 million primarily driven by lower forward natural gas prices during the third quarter of 2019 compared to the same period in 2018.

Our normal, recurring operating and maintenance expense, after excluding the effect of power plant portfolio changes, increased by $6 million for the three months ended September 30, 2019 compared to the same period in 2018 primarily driven by higher employee-related costs resulting from higher performance-based compensation given our strong financial and operating results in 2019.

General and other administrative expense increased by $8 million for the three months ended September 30, 2019 compared to the same period in 2018 primarily driven by higher employee-related costs resulting from higher performance-based compensation given our strong financial and operating results in 2019.

Loss on extinguishment of debt for the three months ended September 30, 2019 consisted of $10 million from the write-off of debt issuance costs and unamortized discount in connection with the repayment of our 2023 First Lien Term Loans with a maturity date in May 2023 and $2 million from the write-off of debt issuance costs in connection with the repayment of the OMEC project debt.

During the three months ended September 30, 2019, we recorded income tax expense of $21 million compared to $128 million for the three months ended September 30, 2018. The favorable period-over-period change primarily resulted from changes in applying the intraperiod tax allocation rules to our results of operations and related tax expense.

RESULTS OF OPERATIONS FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019 AND 2018

Below are our results of operations for the nine months ended September 30, 2019 as compared to the same period in 2018 (in millions, except for percentages and operating performance metrics). In the comparative tables below, increases in revenue/income or decreases in expense (favorable variances) are shown without brackets while decreases in revenue/income or increases in expense (unfavorable variances) are shown with brackets.

	2019	2018	Change	% Change
Operating revenues:				
Commodity revenue	$ 7,376	$ 7,362	$ 14	—
Mark-to-market gain (loss)	601	(220)	821	#
Other revenue	13	16	(3)	(19)
Operating revenues	7,990	7,158	832	12
Operating expenses:				
Fuel and purchased energy expense:				
Commodity expense	4,745	5,128	383	7
Mark-to-market (gain) loss	301	(143)	(444)	#
Fuel and purchased energy expense	5,046	4,985	(61)	(1)
Operating and maintenance expense	739	765	26	3
Depreciation and amortization expense	522	566	44	8
General and other administrative expense	105	122	17	14
Other operating expenses	53	79	26	33
Total operating expenses	6,465	6,517	52	1
Impairment losses	55	—	(55)	#
(Income) from unconsolidated subsidiaries	(14)	(16)	(2)	(13)
Income from operations	1,484	657	827	#
Interest expense	459	466	7	2
Loss on extinguishment of debt	11	1	(10)	#
Other (income) expense, net	33	72	39	54
Income before income taxes	981	118	863	#
Income tax expense	40	78	38	49
Net income	941	40	901	#
Net income attributable to the noncontrolling interest	(15)	(14)	(1)	(7)
Net income attributable to Calpine	$ 926	$ 26	$ 900	#

	2019	2018	Change	% Change
Operating Performance Metrics:				
MWh generated (in thousands)(1)(2)	75,812	73,273	2,539	3
Average availability(2)	88.3%	88.0%	0.3%	—
Average total MW in operation(1)	25,425	25,137	288	1
Average capacity factor, excluding peakers	50.4%	48.9%	1.5%	3
Steam Adjusted Heat Rate(2)	7,328	7,366	38	1

# Variance of 100% or greater

(1) Represents generation and capacity from power plants that we both consolidate and operate and excludes Greenfield LP, Whitby, Freeport Energy Center, 21.5% of Hidalgo Energy Center and 25% each of Freestone Energy Center and Russell City Energy Center.

(2) Generation, average availability and Steam Adjusted Heat Rate exclude power plants and units that are inactive.

We evaluate our Commodity revenue and Commodity expense on a collective basis because the price of power and natural gas tend to move together as the price for power is generally determined by the variable operating cost of the next marginal generator to be dispatched to meet demand. The spread between our Commodity revenue and Commodity expense represents a significant portion of our Commodity Margin. Our financial performance is correlated to how we maximize our Commodity Margin through management of our portfolio of power plants, as well as our hedging and optimization activities. See additional segment discussion in "Commodity Margin by Segment."

Commodity revenue, net of Commodity expense, increased $397 million for the nine months ended September 30, 2019, compared to the same period in 2018, primarily due to (favorable variances are shown without brackets while unfavorable variances are shown with brackets):

(in millions)	
$ 422	Higher energy margins primarily associated with higher market Spark Spreads in Texas during the third quarter of 2019 compared to the same period in 2018, higher contribution from both wholesale and retail hedging activities and the commencement of commercial operations at our 828 MW York 2 Energy Center in March 2019. The increase was partially offset by the sale of our Garrison and RockGen Energy Centers on July 10, 2019 and a gain associated with the cancellation of a PPA recorded in the first quarter of 2018 with no similar activity in 2019
(31)	The sale of environmental credits in our Texas segment during the first quarter of 2018 with no similar activity in 2019
(13)	Lower PJM and ISO-NE regulatory capacity revenue in our East segment
19	Period-over-period change in contract amortization, lease levelization relating to tolling contracts and other[1]
$ 397	

[1] Commodity Margin excludes amortization expense related to contracts recorded at fair value, non-cash GAAP-related adjustments to levelize revenues from tolling agreements, Commodity revenue and Commodity expense attributable to the noncontrolling interest and other unusual items or non-recurring items.

Mark-to-market gain/loss, net from hedging our future generation, fuel supply requirements and retail activities had a favorable variance of $377 million primarily driven by lower forward power prices partially offset by lower forward natural gas prices during the nine months ended September 30, 2019 compared to the same period in 2018.

Our normal, recurring operating and maintenance expense, after excluding the effect of power plant portfolio changes, increased by $5 million for the nine months ended September 30, 2019 compared to the same period in 2018 primarily driven by higher employee-related costs resulting from higher performance-based compensation given our strong financial and operating results in 2019. The remaining $31 million decrease in operating and maintenance expense for the nine months ended September 30, 2019 compared to the same period in 2018 primarily resulted from the acceleration of stock-based compensation expense during the first quarter of 2018 in connection with the consummation of the Merger. We no longer incur stock-based compensation expense subsequent to the consummation of the Merger.

Depreciation and amortization expense decreased by $44 million for the nine months ended September 30, 2019 compared to the same period in 2018 primarily due to the change in estimated useful lives for our componentized balance of plant parts and rotable parts initiated in 2018 and the net period-over-period effect of changes in our power plant portfolio.

General and other administrative expense decreased by $17 million for the nine months ended September 30, 2019 compared to the same period in 2018 primarily resulting from the acceleration of stock-based compensation expense during the first quarter of 2018 in connection with the consummation of the Merger in March 2018. The decrease was partially offset by higher employee-related costs resulting from higher performance-based compensation given our strong financial and operating results in 2019.

Other operating expense decreased by $26 million for the nine months ended September 30, 2019 compared to the same period in 2018 primarily due to Merger-related costs associated with legal, investment banking and other professional fees in March 2018 partially offset by the write-off of unamortized balances associated with the termination of a PPA during the first quarter of 2018.

During the nine months ended September 30, 2019, we recorded impairment losses of approximately $55 million related to the sale of our Garrison and RockGen Energy Centers. See Note 4 to Consolidated Condensed Financial Statements for further information related to the sale.

Loss on extinguishment of debt for the nine months ended September 30, 2019 consisted of $10 million from the write-off of debt issuance costs and unamortized discount in connection with the repayment of our 2023 First Lien Term Loans with a maturity date in May 2023, $2 million from the write-off of debt issuance costs in connection with the repayment of the OMEC project debt and $3 million in debt modification costs associated with the refinancing of a portion of our 2023 First Lien Term Loans with a maturity date in January 2023. The loss on extinguishment of debt was partially offset by a gain on extinguishment of debt of $4 million associated with the repurchase of a portion of our Senior Unsecured Notes in the first quarter of 2019.

Other (income) expense, net decreased by $39 million for the nine months ended September 30, 2019 compared to the same period in 2018 primarily due to shareholder settlement costs associated with the Merger recorded during the second quarter of 2018. The decrease was partially offset by the net effect of a settlement agreement with GE executed in February 2019 which, among other things, terminated our call option and GE's put option related to the Inland Empire Energy Center. See Note 5 of the Notes to Consolidated Condensed Financial Statements for further information related to the Inland Empire Energy Center.

During the nine months ended September 30, 2019, we recorded income tax expense of $40 million compared to $78 million for the nine months ended September 30, 2018. The favorable period-over-period change primarily resulted from changes in applying the intraperiod tax allocation rules to our results of operations and related tax expense.

COMMODITY MARGIN BY SEGMENT

We use Commodity Margin to assess reportable segment performance. Commodity Margin includes revenues recognized on our wholesale and retail power sales activity, electric capacity sales, REC sales, steam sales, realized settlements associated with our marketing, hedging, optimization and trading activity less costs from our fuel and purchased energy expenses, commodity transmission and transportation expenses, environmental compliance expenses and ancillary retail expense. We believe that Commodity Margin is a useful tool for assessing the performance of our core operations and is a key operational measure of profit reviewed by our chief operating decision maker. See Note 13 of the Notes to Consolidated Condensed Financial Statements for a reconciliation of Commodity Margin to income (loss) from operations by segment.

Commodity Margin by Segment for the Three Months Ended September 30, 2019 and 2018

The following tables show our Commodity Margin by segment and related operating performance metrics by regional segment for our wholesale business for the three months ended September 30, 2019 and 2018 (exclusive of the noncontrolling interest). In the comparative tables below, favorable variances are shown without brackets while unfavorable variances are shown with brackets. The MWh generated by regional segment below represent generation from power plants that we both consolidate and operate. Generation, average availability and Steam Adjusted Heat Rate exclude power plants and units that are inactive.

West:	2019	2018	Change	% Change
Commodity Margin (in millions)	$ 393	$ 356	$ 37	10
Commodity Margin per MWh generated	$ 47.30	$ 41.44	$ 5.86	14
MWh generated (in thousands)	8,309	8,590	(281)	(3)
Average availability	98.3%	97.5%	0.8 %	1
Average total MW in operation	7,435	7,425	10	—
Average capacity factor, excluding peakers	54.1%	55.1%	(1.0)%	(2)
Steam Adjusted Heat Rate	7,372	7,384	12	—

West — Commodity Margin in our West segment increased by $37 million, or 10%, for the three months ended September 30, 2019 compared to the three months ended September 30, 2018, primarily due to higher contribution from hedging activities and higher resource adequacy revenues. The increase in Commodity Margin was partially offset by lower revenue from reliability must run contracts during the third quarter of 2019 compared to the same period in 2018.

Texas:	2019	2018	Change	% Change
Commodity Margin (in millions)	$ 369	$ 187	$ 182	97
Commodity Margin per MWh generated	$ 24.83	$ 13.28	$ 11.55	87
MWh generated (in thousands)	14,864	14,081	783	6
Average availability	95.2%	95.7%	(0.5)%	(1)
Average total MW in operation	8,859	8,850	9	—
Average capacity factor, excluding peakers	76.0%	72.1%	3.9 %	5
Steam Adjusted Heat Rate	7,187	7,186	(1)	—

Texas — Commodity Margin in our Texas segment increased by $182 million, or 97%, for the three months ended September 30, 2019 compared to the three months ended September 30, 2018, primarily due to higher market Spark Spreads during August and September 2019 compared to the same months in 2018.

East:	2019	2018	Change	% Change
Commodity Margin (in millions)	$ 265	$ 320	$ (55)	(17)
Commodity Margin per MWh generated	$ 28.25	$ 38.32	$ (10.07)	(26)
MWh generated (in thousands)	9,382	8,351	1,031	12
Average availability	97.1%	93.7%	3.4%	4
Average total MW in operation	8,873	8,795	78	1
Average capacity factor, excluding peakers	57.9%	53.1%	4.8%	9
Steam Adjusted Heat Rate	7,639	7,710	71	1

East — Commodity Margin in our East segment decreased by $55 million, or 17%, for the three months ended September 30, 2019 compared to the three months ended September 30, 2018, primarily due to lower regulatory capacity revenue in PJM and ISO-NE and the sale of our Garrison and RockGen Energy Centers on July 10, 2019. The decrease in Commodity Margin was partially offset by the commencement of commercial operations at our 828 MW York 2 Energy Center in March 2019. Generation increased 12% primarily driven by our York 2 Energy Center partially offset by the sale of our Garrison and RockGen Energy Centers.

Retail:	2019	2018	Change	% Change
Commodity Margin (in millions)	$ 100	$ 111	$ (11)	(10)

Retail — Commodity Margin in our retail segment decreased by $11 million, or 10%, for the three months ended September 30, 2019 compared to the three months ended September 30, 2018, primarily due to decreased contribution from gas supply hedging activity.

Commodity Margin by Segment for the Nine Months Ended September 30, 2019 and 2018

The following tables show our Commodity Margin by segment and related operating performance metrics by regional segment for our wholesale business for the nine months ended September 30, 2019 and 2018 (exclusive of the noncontrolling interest). In the comparative tables below, favorable variances are shown without brackets while unfavorable variances are shown with brackets. The MWh generated by regional segment below represent generation from power plants that we both consolidate and operate. Generation, average availability and Steam Adjusted Heat Rate exclude power plants and units that are inactive.

West:	2019	2018	Change	% Change
Commodity Margin (in millions)	$ 908	$ 782	$ 126	16
Commodity Margin per MWh generated	$ 47.56	$ 44.35	$ 3.21	7
MWh generated (in thousands)	19,093	17,631	1,462	8
Average availability	88.3%	87.8%	0.5%	1
Average total MW in operation	7,430	7,425	5	—
Average capacity factor, excluding peakers	41.9%	38.1%	3.8%	10
Steam Adjusted Heat Rate	7,382	7,366	(16)	—

West — Commodity Margin in our West segment increased by $126 million, or 16%, for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018, primarily due to higher contribution from hedging activities and higher resource adequacy revenues. The increase in Commodity Margin was partially offset by lower revenue from reliability must run contracts during the nine months ended September 30, 2019 compared to the same period in 2018.

Texas:	2019	2018	Change	% Change
Commodity Margin (in millions)	$ 704	$ 504	$ 200	40
Commodity Margin per MWh generated	$ 19.79	$ 14.30	$ 5.49	38
MWh generated (in thousands)	35,577	35,247	330	1
Average availability	86.2%	89.0%	(2.8)%	(3)
Average total MW in operation	8,855	8,850	5	—
Average capacity factor, excluding peakers	61.3%	60.8%	0.5 %	1
Steam Adjusted Heat Rate	7,142	7,147	5	—

Texas — Commodity Margin in our Texas segment increased by $200 million, or 40%, for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018, primarily due to higher market Spark Spreads during August and September 2019 compared to the same months in 2018. The increase in Commodity Margin was partially offset by higher revenue in the first quarter of 2018 associated with the sale of environmental credits with no similar activity in 2019.

East:	2019	2018	Change	% Change
Commodity Margin (in millions)	$ 765	$ 729	$ 36	5
Commodity Margin per MWh generated	$ 36.18	$ 35.74	$ 0.44	1
MWh generated (in thousands)	21,142	20,395	747	4
Average availability	90.5%	87.1%	3.4%	4
Average total MW in operation	9,140	8,862	278	3
Average capacity factor, excluding peakers	44.8%	44.4%	0.4%	1
Steam Adjusted Heat Rate	7,615	7,752	137	2

East — Commodity Margin in our East segment increased by $36 million, or 5%, for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018, primarily due to higher contribution from hedging activities, higher regulatory capacity revenue in PJM and ISO-NE during the first half of 2019 and the commencement of commercial operations at our 828 MW York 2 Energy Center in March 2019. The increase in Commodity Margin was partially offset by lower regulatory capacity revenue in PJM and ISO-NE during the third quarter of 2019, lower market Spark Spreads, the sale of our Garrison and RockGen Energy Centers on July 10, 2019 and a gain associated with the cancellation of a PPA recorded during the first quarter of 2018 with no similar activity in 2019.

Retail:	2019	2018	Change	% Change

Commodity Margin (in millions)	$ 281	$ 265	$ 16	6

Retail — Commodity Margin in our retail segment increased by $16 million, or 6%, for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018, primarily due to increased sales revenue activity.

LIQUIDITY AND CAPITAL RESOURCES

We maintain a strong focus on liquidity. We manage our liquidity to help provide access to sufficient funding to meet our business needs and financial obligations throughout business cycles.

Our business is capital intensive. Our ability to successfully implement our strategy is dependent on the continued availability of capital on attractive terms. In addition, our ability to successfully operate our business is dependent on maintaining sufficient liquidity. We believe that we have adequate resources from a combination of cash and cash equivalents on hand and cash expected to be generated from future operations to continue to meet our obligations as they become due.

Liquidity

The following table provides a summary of our liquidity position at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Cash and cash equivalents, corporate[1]	$ 706	$ 141
Cash and cash equivalents, non-corporate[2]	86	64
Total cash and cash equivalents	792	205
Restricted cash[2]	407	201
Corporate Revolving Facility availability[3]	1,394	966
CDHI revolving facility availability[4]	45	49
Other facilities availability[5]	4	7
Total current liquidity availability[6]	$ 2,642	$ 1,428

[1] Our ability to use corporate cash and cash equivalents is unrestricted.

[2] See Note 1 of the Notes to Consolidated Condensed Financial Statements for a description of the restrictions on our use of non-corporate cash and cash equivalents and restricted cash.

[3] Our ability to use availability under our Corporate Revolving Facility is unrestricted. On April 5, 2019, we amended our Corporate Revolving Facility to increase the capacity by approximately $330 million from $1.69 billion to approximately $2.02 billion. On August 12, 2019, we amended our Corporate Revolving Facility to extend the maturity of $150 million in revolving commitments from June 27, 2020 to March 8, 2023, and to reduce the commitments outstanding by $20 million to approximately $2.0 billion. The entire Corporate Revolving Facility now matures on March 8, 2023. See "Letter of Credit Facilities" below for amounts issued under letters of credit at September 30, 2019 associated with our Corporate Revolving Facility.

[4] Our CDHI revolving facility is restricted to support certain obligations under PPAs and power transmission and natural gas transportation agreements as well as fund the construction of our Washington Parish Energy Center. Pursuant to the terms and conditions of the CDHI credit agreement, the capacity under the CDHI revolving facility was reduced to $125 million on June 28, 2019. The decrease in capacity did not have a material effect on our liquidity as alternative sources of liquidity are available.

[5] We have three unsecured letter of credit facilities with two third-party financial institutions totaling approximately $300 million at September 30, 2019.

[6] Includes $125 million and $52 million of margin deposits posted with us by our counterparties at September 30, 2019 and December 31, 2018, respectively. See Note 9 of the Notes to Consolidated Condensed Financial Statements for further information related to our collateral.

Our principal source for future liquidity is cash flows generated from our operations. We believe that cash on hand and expected future cash flows from operations will be sufficient to meet our liquidity needs for our operations, both in the near and longer term. See "Cash Flow Activities" below for a further discussion of our change in cash and cash equivalents.

Our principal uses of liquidity and capital resources, outside of those required for our operations, include, but are not limited to, collateral requirements to support our commercial hedging and optimization activities, debt service obligations including principal and interest payments, capital expenditures for construction, project development and other growth initiatives and opportunistically repaying debt to manage our balance sheet.

Cash Management — We manage our cash in accordance with our cash management system subject to the requirements of our Corporate Revolving Facility and requirements under certain of our project debt and lease agreements or by regulatory agencies. Our cash and cash equivalents, as well as our restricted cash balances, are invested in money market funds that are not FDIC insured. We place our cash, cash equivalents and restricted cash in what we believe to be creditworthy financial institutions.

On July 18, 2019, our board of directors approved a special cash dividend of $400 million to be paid to our parent, CPN Management, which was funded with the proceeds from the sale of the Garrison and RockGen Energy Centers, along with cash on hand, and was paid on July 18, 2019. See Note 4 of the Notes to Consolidated Condensed Financial Statements for further information related to the sale of the Garrison and RockGen Energy Centers.

Future cash dividends, if any, may be authorized at the discretion of our Board of Directors and will depend upon, among other things, our future operations and earnings, capital requirements, asset sales, general financial condition, contractual and financing restrictions and such other factors as our Board of Directors may deem relevant.

Liquidity Sensitivity

Significant changes in commodity prices and Market Heat Rates can affect our liquidity as we use margin deposits, cash prepayments and letters of credit as credit support (collateral) with and from our counterparties for commodity procurement and risk management activities. We estimate that as of September 30, 2019, a three standard deviation shift in collateral exposure based on commodity market price changes for the previous 12 months applied to our current portfolio of margined transactions would result in an increase in collateral posted of approximately $263 million. This amount is not necessarily indicative of the actual amounts that could be required, which may be higher or lower than the amounts estimated above, and also exclude any correlation between the changes in natural gas prices and Market Heat Rates that may occur concurrently. These sensitivities will change as new contracts or hedging activities are executed.

In order to effectively manage our future Commodity Margin, we have economically hedged a portion of our expected generation and natural gas portfolio as well as retail load supply obligations, where appropriate, mostly through power and natural gas forward physical and financial transactions including retail power sales; however, we currently remain susceptible to significant price movements for 2019 and beyond. In addition to the price of natural gas, our Commodity Margin is highly dependent on other factors such as:

- the level of Market Heat Rates;
- our continued ability to successfully hedge our Commodity Margin;
- changes in U.S. macroeconomic conditions;
- maintaining acceptable availability levels for our fleet;
- the effect of current and pending environmental regulations in the markets in which we participate;
- improving the efficiency and profitability of our operations;
- increasing future contractual cash flows; and
- our significant counterparties performing under their contracts with us.

Additionally, scheduled outages related to the life cycle of our power plant fleet in addition to unscheduled outages may result in maintenance expenditures that are disproportionate in differing periods. In order to manage such liquidity requirements, we maintain additional liquidity availability in the form of our Corporate Revolving Facility (noted in the table above), letters of credit and the ability to issue first priority liens for collateral support. It is difficult to predict future developments and the amount of credit support that we may need to provide should such conditions occur, we experience another economic recession or energy commodity prices increase significantly.

Letter of Credit Facilities

The table below represents amounts issued under our letter of credit facilities at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Corporate Revolving Facility[1]	$ 602	$ 693
CDHI[2]	20	251
Various project financing facilities	199	228
Other corporate facilities[3]	294	193
Total	$ 1,115	$ 1,365

[1] The Corporate Revolving Facility represents our primary revolving facility. On April 5, 2019, we amended our Corporate Revolving Facility to increase the capacity by approximately $330 million from $1.69 billion to approximately $2.02 billion. On August 12, 2019, we amended our Corporate Revolving Facility to extend the maturity of $150 million in revolving commitments from June 27, 2020 to March 8, 2023, and to reduce the commitments outstanding by $20 million to approximately $2.0 billion. The entire Corporate Revolving Facility now matures on March 8, 2023.

[2] Pursuant to the terms and conditions of the CDHI credit agreement, the capacity under the CDHI revolving facility was reduced to $125 million on June 28, 2019. The decrease in capacity did not have a material effect on our liquidity as alternative sources of liquidity are available.

[3] We have three unsecured letter of credit facilities with two third-party financial institutions totaling approximately $300 million at September 30, 2019.

California Wildfire

A wildfire known as the Kincade Fire began on October 23, 2019 in Geyserville, California where our Geysers Assets are located and burned on parts of the 45 square miles that make up our Geysers Assets properties and leasehold. Operating equipment at our Geysers Assets sustained limited damage which we are in the process of repairing. The fire caused extensive damage to third-party property in the region. Transmission service owned and operated by PG&E was cut due to the fire and high wind conditions, forcing us to suspend operations for several days. Some operations have resumed with the restoration of partial transmission service, and we expect to resume full operations when transmission is restored.

Prior to the fire, in response to forecasted severe wind conditions and PG&E's Public Safety Power Shutoff ("PSPS"), personnel at our Geysers Assets followed fire prevention protocols, including de-energizing the local power system that supports our Geysers Assets operations. We do not believe our facilities caused or contributed to the start of the fire, nor do we believe we have any liability for damages caused by the fire. Notably, PG&E has filed a notice with the CPUC that it was notified by the California Department of Forestry and Fire Protection ("CALFIRE") that equipment on one of its transmission towers was observed to be broken at the location that CALFIRE is investigating as the fire's potential point of origin.

Our Geysers Assets remain a critical part of the California plan to achieve a low-carbon future. In our view, our investments and processes at our Geysers Assets assure the facilities are as fire resistant and resilient as possible, and we expect our Geysers Assets will remain ready to help California meet that challenge.

NOLs

We have significant NOLs that will provide future tax deductions when we generate sufficient taxable income during the applicable carryover periods. At December 31, 2018, our consolidated federal NOLs totaled approximately $6.4 billion.

Cash Flow Activities

The following table summarizes our cash flow activities for the nine months ended September 30, 2019 and 2018 (in millions):

	2019	2018
Beginning cash, cash equivalents and restricted cash	$ 406	$ 443
Net cash provided by (used in):		
Operating activities	1,431	873
Investing activities	(137)	(313)
Financing activities	(501)	(240)
Net increase in cash, cash equivalents and restricted cash	793	320
Ending cash, cash equivalents and restricted cash	$ 1,199	$ 763

Net Cash Provided By Operating Activities

Cash provided by operating activities for the nine months ended September 30, 2019, was $1,431 million compared to $873 million for the nine months ended September 30, 2018. The increase was primarily due to:

- *Income from operations* — Income from operations, adjusted for non-cash items, increased by $444 million for the nine months ended September 30, 2019, compared to the same period in 2018. Non-cash items consist primarily of depreciation and amortization, income from unconsolidated subsidiaries, gain on sale of assets and mark-to-market activity. The increase in income from operations was primarily driven by a $397 million increase in Commodity revenue, net of Commodity expense, a $26 million decrease in operating and maintenance expense and a $26 million decrease in other operating expenses. See "Results of Operations for the Nine Months Ended September 30, 2019 and 2018" above for further discussion of these changes.

- *Working capital employed* — Working capital employed decreased by $119 million for the nine months ended September 30, 2019 compared to the same period in 2018 after adjusting for changes in debt extinguishment costs and certain mark-to-market related balances that do not impact cash provided by operating activities. This change was primarily due to margin posting activity on our commodity hedging activities as well as a change in environmental products balances.

Net Cash Used In Investing Activities

Cash used in investing activities for the nine months ended September 30, 2019, was $137 million compared to $313 million for the nine months ended September 30, 2018. The decrease was primarily due to:

- *Divestitures* — During the nine months ended September 30, 2019, we closed on the sale of the Garrison Energy Center and RockGen Energy Center for approximately $303 million.

- *Capital expenditures* — We incurred higher capital expenditures on construction and growth projects during the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018.

Net Cash Used In Financing Activities

Cash used in financing activities for the nine months ended September 30, 2019, was $501 million compared to $240 million for the nine months ended September 30, 2018. The increase was primarily due to:

- *Dividends Paid* — During the nine months ended September 30, 2019, we paid a dividend to our parent, CPN Management, of $401 million from the proceeds of the sale of the Garrison Energy Center and RockGen Energy Center and from cash on hand. We paid a $20 million dividend to CPN Management during the nine months ended September 30, 2018.

- *Stock Repurchases* — During the nine months ended September 30, 2018, we repurchased $79 million of our equity classified share-based awards on the effective date of the Merger. There was no similar activity during the nine months ended September 30, 2019.

Off Balance Sheet Arrangements

There have been no material changes to our off balance sheet arrangements from those disclosed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our 2018 Form 10-K.

Special Purpose Subsidiaries

Pursuant to applicable transaction agreements, we have established certain of our entities separate from Calpine Corporation and our other subsidiaries. In accordance with applicable accounting standards, we consolidate these entities with the exception of Calpine Receivables (see Notes 7 and 17 of the Notes to Consolidated Financial Statements in our 2018 Form 10-K for further information related to Calpine Receivables). As of September 30, 2019, these entities included: Russell City Energy Company, LLC, OMEC and Calpine Receivables.

OMEC — OMEC had a ten-year tolling agreement with SDG&E, which commenced on October 3, 2009 and expired on October 2, 2019. Under a ground lease agreement, OMEC held a put option to sell the Otay Mesa Energy Center for $280 million to SDG&E, pursuant to the terms and conditions of the agreement, which was exercisable until April 1, 2019 and SDG&E held a call option to purchase the Otay Mesa Energy Center for $377 million, which was exercisable through October 3, 2018. The call option held by SDG&E expired unexercised.

OMEC has executed a new 59-month Resource Adequacy (“RA”) contract with SDG&E. The RA contract received initial regulatory approval by the CPUC on February 21, 2019. This approval was subject to a 30 day appeal period from the date of the issuance of the CPUC decision. On March 27, 2019, an appeal of the CPUC decision was filed with the CPUC. Accordingly, on March 28, 2019, we provided notice of our exercise of the put option, which we subsequently rescinded by agreement following the CPUC’s denial of all appeals of the new RA contract on August 1, 2019. On October 3, 2019, the RA contract with SDG&E commenced. As a result, we will retain the 608 MW Otay Mesa Energy Center, which plays an integral role in electric reliability in Southern California.

RISK MANAGEMENT AND COMMODITY ACCOUNTING

Our commercial hedging and optimization strategies are designed to maximize our risk-adjusted Commodity Margin by leveraging our knowledge, experience and fundamental views on natural gas and power. We actively manage our risk exposures with a variety of physical and financial instruments with varying time horizons. These instruments include PPAs, tolling arrangements, Heat Rate swaps and options, retail power sales including through our retail subsidiaries, steam sales, buying and selling standard physical power and natural gas products, buying and selling exchange traded instruments, buying and selling environmental and capacity products, natural gas transportation and storage arrangements, electric transmission service and other contracts for the sale and purchase of power products. We utilize these instruments to maximize the risk-adjusted returns for our Commodity Margin. Our retail portfolio has been established to provide an additional source of liquidity for our generation fleet as we hedge retail load from our wholesale generation assets as appropriate.

We conduct our hedging and optimization activities within a structured risk management framework based on controls, policies and procedures. We monitor these activities through active and ongoing management and oversight, defined roles and responsibilities, and daily risk estimates and reporting. Additionally, we seek to manage the associated risks through diversification, by controlling position sizes, by using portfolio position limits, and by actively managing hedge positions to lock in margin. We are exposed to commodity price movements (both profits and losses) in connection with these transactions. These positions are included in and subject to our consolidated risk management portfolio position limits and controls structure. Changes in fair value of commodity positions that do not qualify for or for which we do not elect either hedge accounting or the normal purchase normal sale exemption are recognized currently in earnings and are separately stated on our Consolidated Condensed Statements of Operations in mark-to-market gain/loss as a component of operating revenues (for physical and financial power and Heat Rate and commodity option activity) and fuel and purchased energy expense (for physical and financial natural gas, power, environmental product and fuel oil activity). Our future hedged status and marketing and optimization activities are subject to change as determined by our commercial operations group, Chief Risk Officer, senior management and Board of Directors.

At any point in time, the relative quantity of our products hedged or sold under longer-term contracts is determined by the availability of forward product sales opportunities and our view of the attractiveness of the pricing available for forward sales. We have economically hedged a portion of our expected generation and natural gas portfolio as well as retail load supply obligations, where appropriate, mostly through power and natural gas forward physical and financial transactions including retail power sales; however, we currently remain susceptible to significant price movements for 2019 and beyond. When we elect to enter into these transactions, we are able to economically hedge a portion of our Spark Spread at pre-determined generation and price levels.

We have historically used interest rate hedging instruments to adjust the mix between our fixed and variable rate debt. To the extent eligible, our interest rate hedging instruments have been designated as cash flow hedges, and changes in fair value are recorded in OCI with gains and losses reclassified into earnings in the same period during which the hedged forecasted transaction affects earnings. See Note 8 of the Notes to Consolidated Condensed Financial Statements for further discussion of our derivative instruments.

The primary factors affecting our market risk and the fair value of our derivatives at any point in time are the volume of open derivative positions (MMBtu, MWh and $ notional amounts); changing commodity market prices, primarily for power and natural gas; our credit standing and that of our counterparties for energy commodity derivatives; and prevailing interest rates for our interest rate hedging instruments. Since prices for power and natural gas and interest rates are volatile, there may be material changes in the fair value of our derivatives over time, driven both by price volatility and the changes in volume of open derivative transactions. Our derivative assets have increased to approximately $387 million at September 30, 2019, compared to approximately $302 million at December 31, 2018, and our derivative liabilities have decreased to approximately $282 million at September 30, 2019, compared to approximately $443 million at December 31, 2018. The fair value of our level 3 derivative assets and liabilities at September 30, 2019 represents approximately 40% and 31% of our total assets and liabilities measured at fair value, respectively. See Note 7 of the Notes to Consolidated Condensed Financial Statements for further information related to our level 3 derivative assets and liabilities.

The change in fair value of our outstanding commodity and interest rate hedging instruments from January 1, 2019, through September 30, 2019, is summarized in the table below (in millions):

	Commodity Instruments	Interest Rate Hedging Instruments	Total
Fair value of contracts outstanding at January 1, 2019	$ (171)	$ 30	$ (141)
Items recognized or otherwise settled during the period[(1)(2)]	172	(18)	154
Fair value attributable to new contracts[(3)]	96	4	100
Changes in fair value attributable to price movements	40	(48)	(8)
Fair value of contracts outstanding at September 30, 2019[(4)]	$ 137	$ (32)	$ 105

(1) Commodity contract settlements consist of the realization of previously recognized losses on contracts not designated as hedging instruments of $(191) million (represents a portion of Commodity revenue and Commodity expense as reported on our Consolidated Condensed Statements of Operations) and $(19) million related to current period losses from other changes in derivative assets and liabilities not reflected in OCI or earnings.

(2) Interest rate settlements consist of $18 million related to realized gains from settlements of designated cash flow hedges and nil related to roll-off from settlements of undesignated interest rate hedging instruments (represents a portion of interest expense as reported on our Consolidated Condensed Statements of Operations).

(3) Fair value attributable to new contracts includes $(16) million and nil of fair value related to commodity contracts and interest rate hedging instruments, respectively, which are not reflected in OCI or earnings.

(4) We netted all amounts allowed under the derivative accounting guidance on our Consolidated Condensed Balance Sheet, which includes derivative transactions under enforceable master netting arrangements and related cash collateral. Net commodity and interest rate derivative assets and liabilities reported in Notes 7 and 8 of the Notes to Consolidated Condensed Financial Statements are shown net of collateral paid to and received from counterparties under legally enforceable master netting arrangements.

Commodity Price Risk — Commodity price risks result from exposure to changes in spot prices, forward prices, price volatilities and correlations between the price of power, steam and natural gas. We manage the commodity price risk and the variability in future cash flows from forecasted sales of power and purchases of natural gas of our entire portfolio of generating assets and contractual positions by entering into various derivative and non-derivative instruments.

The net fair value of outstanding derivative commodity instruments, net of allocated collateral, at September 30, 2019, based on price source and the period during which the instruments will mature, are summarized in the table below (in millions):

Fair Value Source	2019	2020-2021	2022-2023	After 2023	Total
Prices actively quoted	$ —	$ —	$ —	$ —	$ —
Prices provided by other external sources	2	(73)	1	—	(70)
Prices based on models and other valuation methods	22	79	56	50	207
Total fair value	$ 24	$ 6	$ 57	$ 50	$ 137

We measure the energy commodity price risk in our portfolio on a daily basis using a VAR model to estimate the potential one-day risk of loss based upon historical experience resulting from potential market movements. Our VAR is calculated for our entire portfolio comprising energy commodity derivatives, expected generation and natural gas consumption from our power plants, PPAs, and other physical and financial transactions. We measure VAR using a variance/covariance approach based on a confidence level of 95%, a one-day holding period and actual observed historical correlation. While we believe that our VAR assumptions and approximations are reasonable, different assumptions and/or approximations could produce materially different estimates.

The table below presents the high, low and average of our daily VAR for the three and nine months ended September 30, 2019 and 2018 (in millions):

	2019	2018
Three months ended September 30:		
High	$ 68	$ 54
Low	$ 31	$ 32
Average	$ 45	$ 41
Nine months ended September 30:		
High	$ 68	$ 54
Low	$ 22	$ 19
Average	$ 36	$ 34
As of September 30	$ 35	$ 47

Due to the inherent limitations of statistical measures such as VAR, the VAR calculation may not capture the full extent of our commodity price exposure. As a result, actual changes in the value of our energy commodity portfolio could be different from the calculated VAR, and could have a material effect on our financial results. In order to evaluate the risks of our portfolio on a comprehensive basis and augment our VAR analysis, we also measure the risk of the energy commodity portfolio using several analytical methods including sensitivity analysis, non-statistical scenario analysis, including stress testing, and daily position report analysis.

We utilize the forward commodity markets to hedge price risk associated with our power plant portfolio. Our ability to hedge relies in part on market liquidity and the number of counterparties with which to transact. If the number of counterparties in these markets were to decrease, it could decrease our ability to hedge our forward commodity price risk and create incremental volatility in our earnings. The effects of declining liquidity in the forward commodity markets is also mitigated by our retail subsidiaries which provides us with an additional outlet to transact hedging activities related to our wholesale power plant portfolio.

Liquidity Risk — Liquidity risk arises from the general funding requirements needed to manage our activities and assets and liabilities. Fluctuating natural gas prices or Market Heat Rates can cause our collateral requirements for our wholesale and retail activities to increase or decrease. Our liquidity management framework is intended to maximize liquidity access and minimize funding costs during times of rising prices. See further discussion regarding our uses of collateral as they relate to our commodity procurement and risk management activities in Note 9 of the Notes to Consolidated Condensed Financial Statements.

Credit Risk — Credit risk relates to the risk of loss resulting from nonperformance or non-payment by our counterparties or customers related to their contractual obligations with us. Risks surrounding counterparty and customer performance and credit could ultimately affect the amount and timing of expected cash flows. We also have credit risk if counterparties or customers are unable to provide collateral or post margin. We monitor and manage our credit risk through credit policies that include:

- credit approvals;
- routine monitoring of counterparties' and customer's credit limits and their overall credit ratings;
- limiting our marketing, hedging and optimization activities with high risk counterparties;
- margin, collateral, or prepayment arrangements; and
- payment netting arrangements, or master netting arrangements that allow for the netting of positive and negative exposures of various contracts associated with a single counterparty.

We have concentrations of credit risk with a few of our wholesale counterparties and retail customers relating to our sales of power and steam and our hedging, optimization and trading activities. For example, our wholesale business currently has contracts with investor owned California utilities, which could be affected should they be found liable for recent wildfires in California and, accordingly, incur substantial costs associated with the wildfires.

On January 29, 2019, PG&E and PG&E Corporation each filed voluntary petitions for relief under Chapter 11. We currently have several power plants that provide energy and energy-related products to PG&E under PPAs, many of which have PG&E collateral posting requirements. Since the bankruptcy filing, we have received all material payments under the PPAs, either directly or through the application of collateral. We also currently have numerous other agreements with PG&E related to the operation of our power plants in Northern California, under which PG&E has continued to provide service since its bankruptcy filing. We cannot predict the ultimate outcome of this matter and continue to monitor the bankruptcy proceedings. See Note 6 of the Notes to Consolidated Condensed Financial Statements for further information related to the event of default associated with our Russell City and Los Esteros project debt agreements in connection with the PG&E bankruptcy.

We believe that our credit policies and portfolio of transactions adequately monitor and diversify our credit risk, and currently our counterparties and customers are performing and financially settling timely according to their respective agreements. We monitor and manage our total comprehensive credit risk associated with all of our contracts irrespective of whether they are accounted for as an executory contract, a normal purchase normal sale or whether they are marked-to-market and included in our derivative assets and liabilities on our Consolidated Condensed Balance Sheets. Our counterparty and customer credit quality associated with the net fair value of outstanding derivative commodity instruments is included in our derivative assets and (liabilities), net of allocated collateral, at September 30, 2019, and the period during which the instruments will mature are summarized in the table below (in millions):

Credit Quality (Based on Credit Ratings as of September 30, 2019)	2019	2020-2021	2022-2023	After 2023	Total
Investment grade	$ 3	$ (81)	$ 12	$ 15	$ (51)
Non-investment grade	3	7	7	7	24
No external ratings[1]	18	80	38	28	164
Total fair value	$ 24	$ 6	$ 57	$ 50	$ 137

[1] Primarily comprised of the fair value of derivative instruments held with customers that are not rated by third-party credit agencies due to the nature and size of the customers.

Interest Rate Risk — Our variable rate financings are indexed to base rates, generally LIBOR. Interest rate risk represents the potential loss in earnings arising from adverse changes in market interest rates. The fair value of our interest rate hedging instruments are validated based upon external quotes. Our interest rate hedging instruments are with counterparties we believe are primarily high quality institutions, and we do not believe that our interest rate hedging instruments expose us to any significant credit risk. Holding all other factors constant, we estimate that a 10% decrease in interest rates would result in a change in the fair value of our interest rate hedging instruments hedging our variable rate debt of approximately $(13) million at September 30, 2019.

New Accounting Standards and Disclosure Requirements

See Note 1 of the Notes to Consolidated Condensed Financial Statements for a discussion of new accounting standards and disclosure requirements.

Item 3. *Quantitative and Qualitative Disclosures About Market Risk*

The information required to be disclosed under this Item 3 is set forth under Item 2 “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Risk Management and Commodity Accounting.” This information should be read in conjunction with the information disclosed in our 2018 Form 10-K.

Item 4. *Controls and Procedures*

Disclosure Controls and Procedures

As of the end of the period covered by this Report, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rule 13a-15(e) and Rule 15d-15(e) of the Exchange Act. Based upon, and as of the date of, this evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that our disclosure controls and procedures were effective such that the information required to be disclosed in our SEC reports is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

During the third quarter of 2019, there were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. *Legal Proceedings*

See Note 11 of the Notes to Consolidated Condensed Financial Statements for a description of our legal proceedings.

Item 1A. *Risk Factors*

There were no material changes to the description of the risk factors associated with our business previously disclosed in Part I, Item 1A "Risk Factors" of our 2018 Form 10-K.

Item 2. *Unregistered Sales of Equity Securities and Use of Proceeds*

None.

Item 3. *Defaults Upon Senior Securities*

None.

Item 4. *Mine Safety Disclosures*

Not applicable.

Item 5. *Other Information*

None.

Item 6. *Exhibits*

EXHIBIT INDEX

Exhibit Number	Description
10.1	Amendment No. 10 to the Credit Agreement, dated as of August 12, 2019, among Calpine Corporation, as borrower, the guarantors party thereto, MUFG Bank, Ltd, as administrative agent, MUFG Union Bank, N.A., as collateral agent, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on August 16, 2019).
10.2	Credit Agreement, dated August 12, 2019 among Calpine Corporation, as borrower, the lenders party thereto, Credit Suisse AG, Cayman Islands Branch, as administrative agent, and MUFG Union Bank, N.A., as collateral agent (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the SEC on August 16, 2019).
31.1	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of the Chief Executive Officer and the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. *
101.INS	XBRL Instance Document.
101.SCH	XBRL Taxonomy Extension Schema.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.
101.DEF	XBRL Taxonomy Extension Definition Linkbase.
101.LAB	XBRL Taxonomy Extension Label Linkbase.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.

* Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned thereunto duly authorized.

CALPINE CORPORATION
(Registrant)

By: /s/ ZAMIR RAUF

Zamir Rauf
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Date: November 8, 2019

EXHIBIT 31.1

CERTIFICATIONS

I, John B. (Thad) Hill III, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Calpine Corporation (the “registrant”);

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: November 8, 2019

/s/ JOHN B. (THAD) HILL III

John B. (Thad) Hill III
President, Chief Executive Officer and Director
Calpine Corporation

EXHIBIT 31.2

CERTIFICATIONS

I, Zamir Rauf, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Calpine Corporation (the "registrant");

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2019

/s/ ZAMIR RAUF

Zamir Rauf

Executive Vice President and
Chief Financial Officer

Calpine Corporation

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Calpine Corporation (the “Company”) on Form 10-Q for the period ended September 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), each of the undersigned does hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of his or her knowledge, based upon a review of the Report:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ JOHN B. (THAD) HILL III	/s/ ZAMIR RAUF
John B. (Thad) Hill III	Zamir Rauf
President,	Executive Vice President and
Chief Executive Officer and Director	Chief Financial Officer
Calpine Corporation	Calpine Corporation

Dated: November 8, 2019

A signed original of this written statement required by Section 906 has been provided to Calpine Corporation and will be retained by Calpine Corporation and furnished to the Securities and Exchange Commission or its staff upon request.

Consolidated Condensed Balance Sheets - USD ($) $ in Millions	**Sep. 30, 2019**	**Dec. 31, 2018**	
Current assets:			
Cash and cash equivalents ($47 and $43 attributable to VIEs)	$ 792	$ 205	
Accounts receivable, net of allowance of $9 and $9	882	1,022	
Inventories	571	525	
Margin deposits and other prepaid expense	301	315	
Restricted cash, current ($227 and $90 attributable to VIEs)	345	167	
Derivative assets, current	[1] 144	[2] 142	[3]
Current assets held for sale	6	0	
Other current assets	47	43	
Total current assets	3,088	2,419	
Property, plant and equipment, net ($3,509 and $3,919 attributable to VIEs)	12,002	12,442	
Restricted cash, net of current portion ($30 and $33 attributable to VIEs)	62	34	
Investments in unconsolidated subsidiaries	73	76	
Derivative Asset, Noncurrent	[1] 243	[2] 160	[3]
Goodwill	242	242	
Intangible assets, net	359	412	
Other assets ($60 and $30 attributable to VIEs)	449	277	
Total assets	16,518	16,062	
Current liabilities:			
Accounts payable	748	958	
Accrued interest payable	120	96	
Debt, current portion ($177 and $201 attributable to VIEs)	229	637	
Derivative Liability, Current	[1] 198	[2] 303	[3]
Other current liabilities ($149 and $36 attributable to VIEs)	629	489	
Total current liabilities	1,924	2,483	
Debt, net of current portion ($1,693 and $1,978 attributable to VIEs)	10,413	10,148	
Long-term derivative liabilities	[1] 84	[2] 140	[3]
Other long-term liabilities ($55 and $36 attributable to VIEs)	556	235	
Total liabilities	12,977	13,006	
Commitments and contingencies (see Note 11)			
Stockholder's equity:			
Common stock, $0.001 par value per share; authorized 5,000 shares, 105.2 shares issued and outstanding	0	0	
Additional paid-in capital	9,584	9,582	
Accumulated deficit	(6,017)	(6,542)	
Accumulated other comprehensive loss	(131)	(77)	
Total Calpine stockholder's equity	3,436	2,963	
Noncontrolling interest	105	93	
Total stockholder's equity	3,541	3,056	
Total liabilities and stockholder's equity	$ 16,518	$ 16,062	

[1] At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

[2] At September 30, 2019, current and long-term derivative assets are shown net of collateral of $(7) million and $(6) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $92 million and $11 million, respectively.

[3] At December 31, 2018, current and long-term derivative assets are shown net of collateral of $(58) million and $(8) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $49 million and $64 million, respectively.

Assets and Liabilities with Recurring Fair Value Measurements (Tables)	9 Months Ended Sep. 30, 2019
Fair Value Disclosures [Abstract]	
Fair Value, Measurement Inputs, Disclosure	The following tables present our assets and liabilities that were accounted for at fair value on a recurring basis as of September 30, 2019 and December 31, 2018, by level within the fair value hierarchy:

	Assets and Liabilities with Recurring Fair Value Measures as of September 30, 2019			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets:				
Cash equivalents[1]	$ 359	$ —	$ —	$ 359
Commodity instruments:				
Commodity exchange traded derivatives contracts	679	—	—	679
Commodity forward contracts[2]	—	343	318	661
Interest rate hedging instruments	—	6	—	6
Effect of netting and allocation of collateral[3][4]	(679)	(257)	(23)	(959)
Total assets	$ 359	$ 92	$ 295	$ 746
Liabilities:				
Commodity instruments:				
Commodity exchange traded derivatives contracts	$ 767	$ —	$ —	$ 767
Commodity forward contracts[2]	—	415	111	526
Interest rate hedging instruments	—	38	—	38
Effect of netting and allocation of collateral[3][4]	(767)	(259)	(23)	(1,049)
Total liabilities	$ —	$ 194	$ 88	$ 282

	Assets and Liabilities with Recurring Fair Value Measures as of December 31, 2018			
	Level 1	Level 2	Level 3	Total
	(in millions)			
Assets:				
Cash equivalents[1]	$ 168	$ —	$ —	$ 168
Commodity instruments:				
Commodity exchange traded derivatives contracts	933	—	—	933
Commodity forward contracts[2]	—	338	212	550
Interest rate hedging instruments	—	40	—	40
Effect of netting and allocation of collateral[3][4]	(933)	(262)	(26)	(1,221)
Total assets	$ 168	$ 116	$ 186	$ 470

Liabilities:				
Commodity instruments:				
Commodity exchange traded derivatives contracts	$ 932	$ —	$ —	$ 932
Commodity forward contracts[2]	—	549	220	769
Interest rate hedging instruments	—	10	—	10
Effect of netting and allocation of collateral[3][4]	(932)	(310)	(26)	(1,268)
Total liabilities	$ —	$ 249	$ 194	$ 443

[1] At September 30, 2019 and December 31, 2018, we had cash equivalents of $187 million and $23 million included in cash and cash equivalents and $172 million and $145 million included in restricted cash, respectively.

[2] Includes OTC swaps and options.

[3] We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

[4] Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $88 million, $2 million and nil, respectively, at September 30, 2019. Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $(1) million, $48 million and nil, respectively, at December 31, 2018.

Fair Value Inputs, Assets, Quantitative Information

The following table presents quantitative information for the unobservable inputs used in our most significant level 3 fair value measurements at September 30, 2019 and December 31, 2018:

Quantitative Information about Level 3 Fair Value Measurements

September 30, 2019

	Fair Value, Net Asset (Liability)	Valuation Technique	Significant Unobservable Input	Range
	(in millions)			
Power Contracts[1]	$ 165	Discounted cash flow	Market price (per MWh)	$ 3.68 — $182.70 /MWh
Power Congestion Products	$ 13	Discounted cash flow	Market price (per MWh)	$(13.19) — $12.51 /MWh
Natural Gas Contracts	$ 10	Discounted cash flow	Market price (per MMBtu)	$ 1.72 — $6.34 /MMBtu

December 31, 2018

	Fair Value, Net Asset (Liability)	Valuation Technique	Significant Unobservable Input	Range
	(in millions)			

Power Contracts[1]	$	36	Discounted cash flow	Market price (per MWh)	$ 2.12 — $227.98	/MWh
Power Congestion Products	$	26	Discounted cash flow	Market price (per MWh)	$(11.71) — $11.88	/MWh
Natural Gas Contracts	$	(73)	Discounted cash flow	Market price (per MMBtu)	$ 0.75 — $8.87	/MMBtu

[1] Power contracts include power and heat rate instruments classified as level 3 in the fair value hierarchy.

Fair Value, Assets Measured on Recurring Basis, Unobservable Input Reconciliation [Table Text Block]

The following table sets forth a reconciliation of changes in the fair value of our net derivative assets (liabilities) classified as level 3 in the fair value hierarchy for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Balance, beginning of period	$ 227	$ 131	$ (8)	$ 197
Realized and mark-to-market gains (losses):				
Included in net income:				
Included in operating revenues[1]	20	(99)	151	(84)
Included in fuel and purchased energy expense[2]	—	18	2	27
Change in collateral	(1)	—	—	—
Purchases, Issuances and settlements:				
Purchases	—	4	3	12
Issuances	—	—	(1)	—
Settlements	(23)	37	68	(56)
Transfers in and/or out of level 3[3]:				
Transfers into level 3[4]	7	(1)	10	—
Transfers out of level 3[5]	(23)	(2)	(18)	(8)
Balance, end of period	$ 207	$ 88	$ 207	$ 88
Change in unrealized gains (losses) relating to instruments still held at end of period	$ 20	$ (81)	$ 153	$ (57)

[1] For power contracts and other power-related products, included on our Consolidated Condensed Statements of Operations.

[2] For natural gas and power contracts, swaps and options, included on our Consolidated Condensed Statements of Operations.

[3] We transfer amounts among levels of the fair value hierarchy as of the end of each period. There were no transfers into or out of level 1 for each of the three and nine months ended September 30, 2019 and 2018.

[4] We had $7 million in gains and $(1) million in losses transferred out of level 2 into level 3 for the three months ended September 30, 2019 and 2018, respectively, and $10 million in

gains and nil transferred out of level 2 into level 3 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

(5) We had $23 million and $2 million in gains transferred out of level 3 into level 2 for the three months ended September 30, 2019 and 2018, respectively, and $18 million and $8 million in gains transferred out of level 3 into level 2 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

Basis of Presentation and Summary of Significant Accounting Policies	9 Months Ended Sep. 30, 2019
Accounting Policies [Abstract]	
Summary of significant accounting policies	**Basis of Presentation and Summary of Significant Accounting Policies** We are a power generation company engaged in the ownership and operation of primarily natural gas-fired and geothermal power plants in North America. We have a significant presence in major competitive wholesale and retail power markets in California, Texas and the Northeast and Mid-Atlantic regions of the U.S. We sell power, steam, capacity, renewable energy credits and ancillary services to our customers, which include utilities, independent electric system operators and industrial companies, retail power providers, municipalities and other governmental entities, power marketers as well as retail commercial, industrial, governmental and residential customers. We continue to focus on providing products and services that are beneficial to our wholesale and retail customers. We purchase primarily natural gas and some fuel oil as fuel for our power plants and engage in related natural gas transportation and storage transactions. We also purchase power and related products for sale to our customers and purchase electric transmission rights to deliver power to our customers. Additionally, consistent with our Risk Management Policy, we enter into natural gas, power, environmental product, fuel oil and other physical and financial commodity contracts to hedge certain business risks and optimize our portfolio of power plants. *Basis of Interim Presentation* — The accompanying unaudited, interim Consolidated Condensed Financial Statements of Calpine Corporation, a Delaware corporation, and consolidated subsidiaries have been prepared pursuant to the rules and regulations of the SEC. In the opinion of management, the Consolidated Condensed Financial Statements include the normal, recurring adjustments necessary for a fair statement of the information required to be set forth therein. Certain information and note disclosures, normally included in financial statements prepared in accordance with U.S. GAAP, have been condensed or omitted from these statements pursuant to such rules and regulations and, accordingly, these financial statements should be read in conjunction with our audited Consolidated Financial Statements for the year ended December 31, 2018, included in our 2018 Form 10-K. The results for interim periods are not indicative of the results for the entire year primarily due to acquisitions and disposals of assets, seasonal fluctuations in our revenues and expenses, timing of major maintenance expense, variations resulting from the application of the method to calculate the provision for income tax for interim periods, volatility of commodity prices and mark-to-market gains and losses from commodity and interest rate derivative contracts. *Use of Estimates in Preparation of Financial Statements* — The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures included in our Consolidated Condensed Financial Statements. Actual results could differ from those estimates. *Reclassifications* — We have reclassified certain prior period amounts for comparative purposes. These reclassifications did not have a material effect on our financial condition, results of operations or cash flows. *Cash and Cash Equivalents* — We consider all highly liquid investments with an original maturity of three months or less to be cash equivalents. We have cash and cash equivalents held in non-corporate accounts relating to certain project finance facilities and lease agreements that require us to establish and maintain segregated cash accounts. These accounts have been pledged as security in favor of the lenders under such project finance facilities, and the use of certain cash balances on deposit in such accounts is limited, at least temporarily, to the operations of the respective projects. *Restricted Cash* — Certain of our debt agreements, lease agreements or other operating agreements require us to establish and maintain segregated cash accounts, the use of which

is restricted, making these cash funds unavailable for general use. These amounts are held by depository banks in order to comply with the contractual provisions requiring reserves for payments such as for debt service, rent and major maintenance or with applicable regulatory requirements. Funds that can be used to satisfy obligations due during the next 12 months are classified as current restricted cash, with the remainder classified as non-current restricted cash. Restricted cash is generally invested in accounts earning market rates; therefore, the carrying value approximates fair value. Such cash is excluded from cash and cash equivalents on our Consolidated Condensed Balance Sheets.

The table below represents the components of our restricted cash as of September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019			December 31, 2018		
	Current	Non-Current	Total	Current	Non-Current	Total
Debt service	$ 84	$ 7	$ 91	$ 13	$ 8	$ 21
Construction/major maintenance	12	22	34	23	24	47
Security/project/ insurance	245	31	276	120	—	120
Other	4	2	6	11	2	13
Total	$ 345	$ 62	$ 407	$ 167	$ 34	$ 201

Business Interruption Proceeds — We record business interruption insurance proceeds in operating revenues when they are realizable. We recorded approximately nil and $14 million of business interruption proceeds for the three and nine months ended September 30, 2018. We have not recorded any business interruption insurance proceeds during the three and nine months ended September 30, 2019.

Property, Plant and Equipment, Net — At September 30, 2019 and December 31, 2018, the components of property, plant and equipment are stated at cost less accumulated depreciation as follows (in millions):

	September 30, 2019	December 31, 2018	Depreciable Lives
Buildings, machinery and equipment	$ 16,565	$ 16,400	1.5 – 50 Years
Geothermal properties	1,510	1,501	13 – 58 Years
Other	272	286	3 – 50 Years
	18,347	18,187	
Less: Accumulated depreciation	6,855	6,832	
	11,492	11,355	
Land	128	121	
Construction in progress	382	966	
Property, plant and equipment, net	$ 12,002	$ 12,442	

Capitalized Interest — The total amount of interest capitalized was $2 million and $7 million during the three months ended September 30, 2019 and 2018, respectively, and $10 million and $21 million during the nine months ended September 30, 2019 and 2018, respectively.

Goodwill — We have not recorded any impairment losses or changes in the carrying amount of our goodwill during the three and nine months ended September 30, 2019 and 2018.

New Accounting Standards and Disclosure Requirements

Leases — On January 1, 2019, we adopted Accounting Standards Update 2016-02, “Leases” (“Topic 842”). The comprehensive new lease standard superseded all existing lease guidance. The standard requires that a lessee should recognize a right-of-use asset and a lease liability for substantially all operating leases based on the present value of the minimum rental payments. For lessors, the accounting for leases under Topic 842 remained substantially unchanged. The standard also requires expanded disclosures surrounding leases. We adopted the standards under Topic 842 using the modified retrospective method and elected a number of the practical expedients in our implementation of Topic 842. The key change that affected us relates to our accounting for operating leases for which we are the lessee that were historically off-balance sheet. The impact of adopting the standards resulted in the recognition of a right-of-use asset and lease obligation liability of $191 million on our Consolidated Condensed Balance Sheet on January 1, 2019, exclusive of previously recognized lease balances. The implementation of Topic 842 did not have a material effect on our Consolidated Condensed Statement of Operations or Consolidated Condensed Statement of Cash Flows for the nine months ended September 30, 2019. See Note 3 for a discussion of the practical expedients we elected and additional disclosures required by Topic 842.

Derivatives and Hedging — In August 2017, the FASB issued Accounting Standards Update 2017-12, “Targeted Improvements to Accounting for Hedging Activities.” The standard better aligns an entity’s hedging activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results in the financial statements. The standard will prospectively make hedge accounting easier to apply to hedging activities and also enhances disclosure requirements for how hedge transactions are reflected in the financial statements when hedge accounting is elected. We adopted Accounting Standards Update 2017-12 in the first quarter of 2019 which did not have a material effect on our financial condition, results of operations or cash flows.

Fair Value Measurements — In August 2018, the FASB issued Accounting Standards Update 2018-13, “Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.” The standard removes, modifies and adds disclosures about fair value measurements and is effective for fiscal years beginning after December 15, 2019. The changes required by this standard to remove or modify disclosures may be early adopted with adoption of the additional disclosures required by this standard delayed until their effective date. We do not anticipate a material effect on our financial condition, results of operations or cash flows as a result of adopting this standard.

Revenue From Contracts with Customers (Tables)	9 Months Ended Sep. 30, 2019
Revenue from Contract with Customer [Abstract]	
Disaggregation of Revenue [Table Text Block]	The following tables represent a disaggregation of our revenue for the three and nine months ended September 30, 2019 and 2018 by reportable segment (in millions). See Note 13 for a description of our segments.

	Three Months Ended September 30, 2019					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 238	$ 490	$ 169	$ 491	$ —	$ 1,388
Capacity	52	31	115	—	—	198
Revenues relating to physical or executory contracts – third party	$ 290	$ 521	$ 284	$ 491	$ —	$ 1,586
Affiliate[(1)]*:*	$ 11	$ 14	$ 21	$ 2	$ (48)	$ —
Revenues relating to leases and derivative instruments[(2)]						$ 1,206
Total operating revenues						$ 2,792

	Three Months Ended September 30, 2018					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 369	$ 470	$ 221	$ 543	$ —	$ 1,603
Capacity	51	23	190	—	—	264
Revenues relating to physical or executory contracts – third party	$ 420	$ 493	$ 411	$ 543	$ —	$ 1,867
Affiliate[(1)]*:*	$ 9	$ 11	$ 20	$ —	$ (40)	$ —
Revenues relating to leases and derivative instruments[(2)]						$ 1,023
Total operating revenues						$ 2,890

	Nine Months Ended September 30, 2019					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 675	$ 1,110	$ 496	$ 1,316	$ —	$ 3,597

Capacity	123	96	446	—	—	665
Revenues relating to physical or executory contracts – third party	$ 798	$ 1,206	$ 942	$ 1,316	$ —	$ 4,262
Affiliate[1]*:*	$ 28	$ 42	$ 78	$ 6	$ (154)	$ —
Revenues relating to leases and derivative instruments[2]						$ 3,728
Total operating revenues						$ 7,990

	Nine Months Ended September 30, 2018					
	Wholesale					
	West	**Texas**	**East**	**Retail**	**Elimination**	**Total**
Third Party:						
Energy & other products	$ 744	$ 1,100	$ 473	$ 1,437	$ —	$ 3,754
Capacity	105	72	479	—	—	656
Revenues relating to physical or executory contracts – third party	$ 849	$ 1,172	$ 952	$ 1,437	$ —	$ 4,410
Affiliate[1]*:*	$ 22	$ 24	$ 62	$ 2	$ (110)	$ —
Revenues relating to leases and derivative instruments[2]						$ 2,748
Total operating revenues						$ 7,158

[1] Affiliate energy, other and capacity revenues reflect revenues on transactions between wholesale and retail affiliates excluding affiliate activity related to leases and derivative instruments. All such activity supports retail supply needs from the wholesale business and/or allows for collateral margin netting efficiencies at Calpine.

[2] Revenues relating to contracts accounted for as leases and derivatives include energy and capacity revenues relating to PPAs that we are required to account for as operating leases and physical and financial commodity derivative contracts, primarily relating to power, natural gas and environmental products. Revenue related to derivative instruments includes revenue recorded in Commodity revenue and mark-to-market gain (loss) within our operating revenues on our Consolidated Condensed Statements of Operations.

Leases Schedule of Future Minimum Rental Payments for Operating Leases (Details) $ in Millions	Dec. 31, 2018 USD ($)
Schedule of Future Minimum Rental Payments for Operating Leases [Abstract]	
Operating Leases, Future Minimum Payments Receivable, Current	$ 342
Operating Leases, Future Minimum Payments Receivable, in Two Years	261
Operating Leases, Future Minimum Payments Receivable, in Three Years	257
Operating Leases, Future Minimum Payments Receivable, in Four Years	224
Operating Leases, Future Minimum Payments Receivable, in Five Years	141
Operating Leases, Future Minimum Payments Receivable, Thereafter	239
Operating Leases, Future Minimum Payments Receivable	$ 1,464

Divestitures (Details) $ in Millions	3 Months Ended			9 Months Ended		
	Sep. 30, 2019 USD ($)	Sep. 30, 2018 USD ($)	Mar. 31, 2018 USD ($)	Sep. 30, 2019 USD ($)	Sep. 30, 2018 USD ($)	Jul. 10, 2019 MW
Business Acquisition [Line Items]						
Dividends paid(2)	$ (401)		$ (20)			
Impairment losses	0	$ 0		$ 55	$ 0	
Garrison Energy Center and RockGen Energy LLC [Member]						
Business Acquisition [Line Items]						
Ownership percentage of acquiree						100.00%
Proceeds from Sale of Productive Assets	360					
Garrison Energy Center LLC [Member]						
Business Acquisition [Line Items]						
Power generation capacity | MW						309
RockGen Energy LLC [Member]						
Business Acquisition [Line Items]						
Power generation capacity | MW						503
Dividend Paid [Member]						
Business Acquisition [Line Items]						
Dividends paid(2)	$ 400					
Commodity Contract [Member]						
Business Acquisition [Line Items]						
Proceeds from Hedge, Financing Activities				$ 52		

Derivative Instruments (Textuals) (Details) - USD ($)	3 Months Ended		9 Months Ended		
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018	Dec. 31, 2018
Derivatives, Fair Value [Line Items]					
Derivative Instruments, Gain (Loss) Recognized in Income, Ineffective Portion and Amount Excluded from Effectiveness Testing, Net		$ 0		$ 1,000,000	
Current Derivatives Assets, net of Collateral	$ (7,000,000)		$ (7,000,000)		$ (58,000,000)
Long-Term Derivative Assets, net of Collateral	(6,000,000)		(6,000,000)		(8,000,000)
Current Derivative Liabilities, net of Collateral	92,000,000		92,000,000		49,000,000
Long-term Derivative Liabilities, net of Collateral	11,000,000		11,000,000		64,000,000
Derivative, Collateral, Right to Reclaim Cash	116,000,000		116,000,000		244,000,000
Other Comprehensive Income (Loss), Derivatives Qualifying as Hedges, Tax	(1,000,000)	(1,000,000)	$ (2,000,000)	(3,000,000)	
Summary of Derivative Instruments [Abstract]					
Maximum length of time hedging using interest rate derivative instruments			6 years		
Derivative, Net Liability Position, Aggregate Fair Value	136,000,000		$ 136,000,000		
Collateral Already Posted, Aggregate Fair Value	89,000,000		89,000,000		
Gain (Loss) on Discontinuation of Cash Flow Hedge Due to Forecasted Transaction Probable of Not Occurring, Net	0	$ 0	2,000,000	$ 0	
Cash Flow Hedge Gain (Loss) to be Reclassified within Twelve Months			25,000,000		
Parent [Member]					
Derivatives, Fair Value [Line Items]					
Accumulated Other Comprehensive Income (Loss), Cumulative Changes in Net Gain (Loss) from Cash Flow Hedges, Effect Net of Tax	90,000,000		90,000,000		34,000,000
Noncontrolling Interest [Member]					
Derivatives, Fair Value [Line Items]					
Accumulated Other Comprehensive Income (Loss), Cumulative Changes in Net Gain (Loss) from Cash Flow Hedges, Effect Net of Tax	$ 4,000,000		$ 4,000,000		$ 3,000,000

Derivative Instruments (Details 2) (Details) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Derivatives, Fair Value [Line Items]		
Derivative Asset	[1] $ 387	$ 302
Derivative Liability	[1] 282	443
Designated as Hedging Instrument [Member]		
Derivatives, Fair Value [Line Items]		
Derivative Asset	4	40
Derivative Liability	34	10
Not Designated as Hedging Instrument [Member]		
Derivatives, Fair Value [Line Items]		
Derivative Asset	383	262
Derivative Liability	248	433
Interest Rate Hedging Instruments		
Derivatives, Fair Value [Line Items]		
Derivative Asset	6	40
Derivative Liability	38	10
Interest Rate Hedging Instruments | Designated as Hedging Instrument [Member]		
Derivatives, Fair Value [Line Items]		
Derivative Asset	4	40
Derivative Liability	34	10
Interest Rate Hedging Instruments | Not Designated as Hedging Instrument [Member]		
Derivatives, Fair Value [Line Items]		
Derivative Asset	0	0
Derivative Liability	2	0
Energy Related Derivative [Member] | Not Designated as Hedging Instrument [Member]		
Derivatives, Fair Value [Line Items]		
Derivative Asset	383	262
Derivative Liability	$ 246	$ 433

[1] At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

Related Party Transactions (Details) - USD ($) $ in Millions	3 Months Ended		9 Months Ended		
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018	Dec. 31, 2018
Related Party Transactions [Abstract]					
Continuing Involvement with Derecognized Transferred Financial Assets, Amount Outstanding	$ 269		$ 269		$ 238
Notes Receivable, Related Parties, Current	53		53		$ 34
Trade Receivables Sold			1,800	$ 1,800	
Cash Flows Between Transferor and Transferee, Proceeds from New Transfers			1,800	1,800	
Revenue from Related Parties	16	$ 17	53	55	
Related Party Transaction, Purchases from Related Party	$ 4	$ 5	$ 11	$ 11	

Assets and Liabilities with Recurring Fair Value Measurements Fair Value Hierarchy (Details) - USD ($) $ in Millions		Sep. 30, 2019	Dec. 31, 2018
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Cash equivalents	[1]	$ 359	$ 168
Derivative Asset	[2]	387	302
Effect of Netting and Allocation of Collateral	[3],[4]	(959)	(1,221)
Total assets		746	470
Derivative Liability	[2]	282	443
Effect of Netting and Allocation of Collateral, Liability	[3],[4]	(1,049)	(1,268)
Total Liabilities		282	443
Fair Value, Inputs, Level 1 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Cash equivalents	[1]	359	168
Effect of Netting and Allocation of Collateral	[3],[4]	(679)	(933)
Total assets		359	168
Effect of Netting and Allocation of Collateral, Liability	[3],[4]	(767)	(932)
Total Liabilities		0	0
Fair Value, Inputs, Level 2 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Cash equivalents	[1]	0	0
Effect of Netting and Allocation of Collateral	[3],[4]	(257)	(262)
Total assets		92	116
Effect of Netting and Allocation of Collateral, Liability	[3],[4]	(259)	(310)
Total Liabilities		194	249
Fair Value, Inputs, Level 3 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Cash equivalents	[1]	0	0
Effect of Netting and Allocation of Collateral	[3],[4]	(23)	(26)
Total assets		295	186
Effect of Netting and Allocation of Collateral, Liability	[3],[4]	(23)	(26)
Total Liabilities		88	194
Future [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			

Derivative Asset		679	933
Derivative Liability		767	932
Future [Member] | Fair Value, Inputs, Level 1 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset		679	933
Derivative Liability		767	932
Future [Member] | Fair Value, Inputs, Level 2 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset		0	0
Derivative Liability		0	0
Future [Member] | Fair Value, Inputs, Level 3 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset		0	0
Derivative Liability		0	0
Forward Contracts [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset	[5]	661	550
Derivative Liability	[5]	526	769
Forward Contracts [Member] | Fair Value, Inputs, Level 1 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset	[5]	0	0
Derivative Liability	[5]	0	0
Forward Contracts [Member] | Fair Value, Inputs, Level 2 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset	[5]	343	338
Derivative Liability	[5]	415	549
Forward Contracts [Member] | Fair Value, Inputs, Level 3 [Member]			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset	[5]	318	212
Derivative Liability	[5]	111	220
Interest Rate Hedging Instruments			
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]			
Derivative Asset		6	40
Derivative Liability		38	10
Interest Rate Hedging Instruments | Fair Value, Inputs, Level 1 [Member]			

Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]		
Derivative Asset	0	0
Derivative Liability	0	0
Interest Rate Hedging Instruments | Fair Value, Inputs, Level 2 [Member]		
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]		
Derivative Asset	6	40
Derivative Liability	38	10
Interest Rate Hedging Instruments | Fair Value, Inputs, Level 3 [Member]		
Fair Value, Assets and Liabilities Measured on Recurring and Nonrecurring Basis [Line Items]		
Derivative Asset	0	0
Derivative Liability	$ 0	$ 0

[1] At September 30, 2019 and December 31, 2018, we had cash equivalents of $187 million and $23 million included in cash and cash equivalents and $172 million and $145 million included in restricted cash, respectively.

[2] At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

[3] Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $88 million, $2 million and nil, respectively, at September 30, 2019. Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $(1) million, $48 million and nil, respectively, at December 31, 2018.

[4] We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

[5] Includes OTC swaps and options.

Debt (First Lien Notes) (Details) - USD ($) $ in Millions		Sep. 30, 2019	Dec. 31, 2018
Debt Instrument [Line Items]			
Long-term Debt		$ 10,709	$ 10,156
2022 First Lien Notes [Member]			
Debt Instrument [Line Items]			
Long-term Debt	[1]	745	743
2024 First Lien Notes [Member]			
Debt Instrument [Line Items]			
Long-term Debt	[1]	487	486
2026 First Lien Notes [Member]			
Debt Instrument [Line Items]			
Long-term Debt		1,172	1,171
Corporate Debt Securities [Member]			
Debt Instrument [Line Items]			
Long-term Debt		$ 2,404	$ 2,400

[1] On October 23, 2019, we announced the commencement of cash tender offers (the “Offers”) for any and all of our outstanding 2022 First Lien Notes and 2024 First Lien Notes. The Offers are being made exclusively pursuant to the Offer to Purchase, which sets forth the terms and conditions of the Offers. Consummation of the Offers is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the Offers at any time as described in the Offer to Purchase.

Segment Information (Details) - USD ($) $ in Millions	3 Months Ended		9 Months Ended	
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
Revenues from External Customers and Long-Lived Assets [Line Items]				
Total operating revenues(1)	$ 2,792 [1]	$ 2,890 [1]	$ 7,990 [2]	$ 7,158 [2]
Commodity Margin	1,127	974	2,658	2,280
Add: Mark-to-market commodity activity, net and other(2)	34 [3]	70 [3]	286 [4]	(107) [4]
Operating and maintenance expense	255	248	739	765
Depreciation and amortization expense	173	179	522	566
General and other administrative expense	39	31	105	122
Other operating expenses	15	23	53	79
Impairment losses	0	0	55	0
(Income) loss from unconsolidated investments in power plants	(3)	(5)	(14)	(16)
Income from operations	682	568	1,484	657
Interest expense	153	158	459	466
Debt Extinguishment Costs and Other (Income) Expense, Net	17	4	44	73
Income before income taxes	512	406	981	118
Lease levelization	31	30	(4)	(5)
West [Member]				
Revenues from External Customers and Long-Lived Assets [Line Items]				
Total operating revenues(1)	856 [1]	701 [1]	2,187 [2]	1,536 [2]
Commodity Margin	393	356	908	782
Add: Mark-to-market commodity activity, net and other(2)	110 [3]	(13) [3]	224 [4]	(23) [4]
Operating and maintenance expense	82	85	247	255
Depreciation and amortization expense	61	70	194	204
General and other administrative expense	10	7	22	28
Other operating expenses	9	11	25	33
Impairment losses			0	
(Income) loss from unconsolidated investments in power plants	0	0	0	0
Income from operations	341	170	644	239
Texas [Member]				
Revenues from External Customers and Long-Lived Assets [Line Items]				
Total operating revenues(1)	867 [1]	1,022 [1]	2,509 [2]	2,155 [2]
Commodity Margin	369	187	704	504
Add: Mark-to-market commodity activity, net and other(2)	(107) [3]	137 [3]	177 [4]	(109) [4]
Operating and maintenance expense	71	63	202	208
Depreciation and amortization expense	47	57	146	190
General and other administrative expense	13	12	40	50
Other operating expenses	2	3	5	22

Impairment losses					0			
(Income) loss from unconsolidated investments in power plants	0		0		0		0	
Income from operations	129		189		488		(75)	
East [Member]								
Revenues from External Customers and Long-Lived Assets [Line Items]								
Total operating revenues(1)	348	[1]	460	[1]	1,683	[2]	1,415	[2]
Commodity Margin	265		320		765		729	
Add: Mark-to-market commodity activity, net and other(2)	(69)	[3]	(26)	[3]	38	[4]	7	[4]
Operating and maintenance expense	69		72		208		208	
Depreciation and amortization expense	51		39		142		133	
General and other administrative expense	12		7		31		30	
Other operating expenses	4		9		23		24	
Impairment losses					55			
(Income) loss from unconsolidated investments in power plants	(3)		(5)		(15)		(17)	
Income from operations	63		172		359		358	
Retail [Member]								
Revenues from External Customers and Long-Lived Assets [Line Items]								
Total operating revenues(1)	1,096	[1]	1,125	[1]	3,176	[2]	2,998	[2]
Commodity Margin	100		111		281		265	
Add: Mark-to-market commodity activity, net and other(2)	108	[3]	(20)	[3]	(127)	[4]	41	[4]
Operating and maintenance expense	41		36		108		117	
Depreciation and amortization expense	14		13		40		39	
General and other administrative expense	4		5		12		14	
Other operating expenses	0		0		0		0	
Impairment losses					0			
(Income) loss from unconsolidated investments in power plants	0		0		1		1	
Income from operations	149		37		(7)		135	
Consolidation, Eliminations [Member]								
Revenues from External Customers and Long-Lived Assets [Line Items]								
Total operating revenues(1)	(375)	[1]	(418)	[1]	(1,565)	[2]	(946)	[2]
Commodity Margin	0		0		0		0	
Add: Mark-to-market commodity activity, net and other(2)	(8)	[3]	(8)	[3]	(26)	[4]	(23)	[4]
Operating and maintenance expense	(8)		(8)		(26)		(23)	
Depreciation and amortization expense	0		0		0		0	
General and other administrative expense	0		0		0		0	
Other operating expenses	0		0		0		0	
Impairment losses					0			
(Income) loss from unconsolidated investments in power plants	0		0		0		0	
Income from operations	0		0		0		0	
Intersegment Eliminations [Member] | West [Member]								

Revenues from External Customers and Long-Lived Assets [Line Items]				
Total operating revenues(1)	133	160	395	344
Intersegment Eliminations [Member] | Texas [Member]				
Revenues from External Customers and Long-Lived Assets [Line Items]				
Total operating revenues(1)	225	238	784	447
Intersegment Eliminations [Member] | East [Member]				
Revenues from External Customers and Long-Lived Assets [Line Items]				
Total operating revenues(1)	13	19	378	152
Intersegment Eliminations [Member] | Retail [Member]				
Revenues from External Customers and Long-Lived Assets [Line Items]				
Total operating revenues(1)	4	1	8	3
Other Assets [Member]				
Revenues from External Customers and Long-Lived Assets [Line Items]				
Amortization of Intangible Assets	$ 20	$ 26	$ 59	$ 79

[1] Includes intersegment revenues of $133 million and $160 million in the West, $225 million and $238 million in Texas, $13 million and $19 million in the East and $4 million and $1 million in Retail for the three months ended September 30, 2019 and 2018, respectively.

[2] Includes intersegment revenues of $395 million and $344 million in the West, $784 million and $447 million in Texas, $378 million and $152 million in the East and $8 million and $3 million in Retail for the nine months ended September 30, 2019 and 2018, respectively.

[3] Includes $31 million and $30 million of lease levelization and $20 million and $26 million of amortization expense for the three months ended September 30, 2019 and 2018, respectively.

[4] Includes $(4) million and $(5) million of lease levelization and $59 million and $79 million of amortization expense for the nine months ended September 30, 2019 and 2018, respectively.

Derivative Instruments	9 Months Ended Sep. 30, 2019
Derivative Instruments and Hedging Activities Disclosure [Abstract]	
Derivative Instruments	

Derivative Instruments

Types of Derivative Instruments and Volumetric Information

Commodity Instruments — We are exposed to changes in prices for the purchase and sale of power, natural gas, fuel oil, environmental products and other energy commodities. We use derivatives, which include physical commodity contracts and financial commodity instruments such as OTC and exchange traded swaps, futures, options, forward agreements and instruments that settle on the power price to natural gas price relationships (Heat Rate swaps and options) or instruments that settle on power or natural gas price relationships between delivery points for the purchase and sale of power and natural gas to attempt to maximize the risk-adjusted returns by economically hedging a portion of the commodity price risk associated with our assets. By entering into these transactions, we are able to economically hedge a portion of our Spark Spread at estimated generation and prevailing price levels.

We also engage in limited trading activities related to our commodity derivative portfolio as authorized by our Board of Directors and monitored by our Chief Risk Officer and Risk Management Committee of senior management. These transactions are executed primarily for the purpose of providing improved price and price volatility discovery, greater market access, and profiting from our market knowledge, all of which benefit our asset hedging activities. Our trading results were not material for each of the three and nine months ended September 30, 2019 and 2018.

Interest Rate Hedging Instruments — A portion of our debt is indexed to base rates, primarily LIBOR. We have historically used interest rate hedging instruments to adjust the mix between fixed and variable rate debt to hedge our interest rate risk for potential adverse changes in interest rates. As of September 30, 2019, the maximum length of time over which we were hedging using interest rate hedging instruments designated as cash flow hedges was 6 years.

As of September 30, 2019 and December 31, 2018, the net forward notional buy (sell) position of our outstanding commodity derivative instruments that did not qualify or were not designated under the normal purchase normal sale exemption and our interest rate hedging instruments were as follows:

	Notional Amounts		
Derivative Instruments	September 30, 2019	December 31, 2018	Unit of Measure
Power	(161)	(161)	Million MWh
Natural gas	1,030	1,045	Million MMBtu
Environmental credits	20	13	Million Tonnes
Interest rate hedging instruments	$ 4.9	$ 4.5	Billion U.S. dollars

Certain of our derivative instruments contain credit risk-related contingent provisions that require us to maintain collateral balances consistent with our credit ratings. If our credit rating were to be downgraded, it could require us to post additional collateral or could potentially allow our counterparty to request immediate, full settlement on certain derivative instruments in liability positions. The aggregate fair value of our derivative liabilities with credit risk-related contingent provisions as of September 30, 2019, was $136 million for which we have posted collateral of $89 million by posting margin deposits, letters of credit or granting additional first priority liens on the assets currently subject to first priority liens under our First Lien Notes, First Lien Term Loans and Corporate Revolving Facility. However, if our credit rating were downgraded by one notch from its current level, we estimate that an immaterial amount of collateral would be required and that no counterparty could request immediate, full settlement.

Accounting for Derivative Instruments

We recognize all derivative instruments that qualify for derivative accounting treatment as either assets or liabilities and measure those instruments at fair value unless they qualify for, and we elect, the normal purchase normal sale exemption. For transactions in which we elect the normal purchase normal sale exemption, gains and losses are not reflected on our Consolidated Condensed Statements of Operations until the period of delivery. Revenues and expenses derived from instruments that qualified for hedge accounting or represent an economic hedge are recorded in the same financial statement line item as the item being hedged. Hedge accounting requires us to formally document, designate and assess the effectiveness of transactions that receive hedge accounting. We present the cash flows from our derivatives in the same category as the item being hedged (or economically hedged) within operating activities on our Consolidated Condensed Statements of Cash Flows unless they contain an other-than-insignificant financing element in which case their cash flows are classified within financing activities.

Cash Flow Hedges — We currently apply hedge accounting to our interest rate hedging instruments. We report the mark-to-market gain or loss on our interest rate hedging instruments designated and qualifying as a cash flow hedging instrument as a component of OCI and reclassify such gains and losses into earnings in the same period during which the hedged forecasted transaction affects earnings. Prior to January 1, 2019, gains and losses due to ineffectiveness on interest rate hedging instruments were recognized in earnings as a component of interest expense. Upon the adoption of Accounting Standards Update 2017-12 on January 1, 2019, hedge ineffectiveness is no longer separately measured and recorded in earnings. If it is determined that the forecasted transaction is no longer probable of occurring, then hedge accounting will be discontinued prospectively and future changes in fair value will be recorded in earnings. If the hedging instrument is terminated or de-designated prior to the occurrence of the hedged forecasted transaction, the net accumulated gain or loss associated with the changes in fair value of the hedge instrument remains deferred in AOCI until such time as the forecasted transaction affects earnings or until it is determined that the forecasted transaction is probable of not occurring.

Derivatives Not Designated as Hedging Instruments — We enter into power, natural gas, interest rate, environmental product and fuel oil transactions that primarily act as economic hedges to our asset and interest rate portfolio, but either do not qualify as hedges under the hedge accounting guidelines or qualify under the hedge accounting guidelines and the hedge accounting designation has not been elected. Changes in fair value of commodity derivatives not designated as hedging instruments are recognized currently in earnings and are separately stated on our Consolidated Condensed Statements of Operations in mark-to-market gain/loss as a component of operating revenues (for physical and financial power and Heat Rate and commodity option activity) and fuel and purchased energy expense (for physical and financial natural gas, power, environmental product and fuel oil activity). Changes in fair value of interest rate derivatives not designated as hedging instruments are recognized currently in earnings as interest expense.

Derivatives Included on Our Consolidated Condensed Balance Sheets

We offset fair value amounts associated with our derivative instruments and related cash collateral and margin deposits on our Consolidated Condensed Balance Sheets that are executed with the same counterparty under master netting arrangements. Our netting arrangements include a right to set off or net together purchases and sales of similar products in the margining or settlement process. In some instances, we have also negotiated cross commodity netting rights which allow for the net presentation of activity with a given counterparty regardless of product purchased or sold. We also post and/or receive cash collateral in support of our derivative instruments which may also be subject to a master netting arrangement with the same counterparty.

The following tables present the fair values of our derivative instruments and our net exposure after offsetting amounts subject to a master netting arrangement with the same counterparty to our derivative instruments recorded on our Consolidated Condensed Balance Sheets by location and hedge type at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019		
	Gross Amounts of Assets and (Liabilities)	Gross Amounts Offset on the Consolidated Condensed Balance Sheets	Net Amount Presented on the Consolidated Condensed Balance Sheets[1]
Derivative assets:			
Commodity exchange traded derivatives contracts	$ 492	$ (492)	$ —
Commodity forward contracts	333	(190)	143
Interest rate hedging instruments	3	(2)	1
Total current derivative assets[2]	$ 828	$ (684)	$ 144
Commodity exchange traded derivatives contracts	187	(187)	—
Commodity forward contracts	328	(88)	240
Interest rate hedging instruments	3	—	3
Total long-term derivative assets[2]	$ 518	$ (275)	$ 243
Total derivative assets	$ 1,346	$ (959)	$ 387
Derivative (liabilities):			
Commodity exchange traded derivatives contracts	$ (571)	$ 571	$ —
Commodity forward contracts	(383)	195	(188)
Interest rate hedging instruments	(12)	2	(10)
Total current derivative (liabilities)[2]	$ (966)	$ 768	$ (198)
Commodity exchange traded derivatives contracts	(196)	196	—
Commodity forward contracts	(143)	85	(58)
Interest rate hedging instruments	(26)	—	(26)
Total long-term derivative (liabilities)[2]	$ (365)	$ 281	$ (84)
Total derivative liabilities	$ (1,331)	$ 1,049	$ (282)
Net derivative assets (liabilities)	$ 15	$ 90	$ 105

	December 31, 2018		
	Gross Amounts of Assets and (Liabilities)	Gross Amounts Offset on the Consolidated Condensed Balance Sheets	Net Amount Presented on the Consolidated Condensed Balance Sheets[1]
Derivative assets:			
Commodity exchange traded derivatives contracts	$ 820	$ (820)	$ —
Commodity forward contracts	341	(229)	112
Interest rate hedging instruments	30	—	30
Total current derivative assets[3]	$ 1,191	$ (1,049)	$ 142
Commodity exchange traded derivatives contracts	113	(113)	—

Commodity forward contracts	209	(59)	150
Interest rate hedging instruments	10	—	10
Total long-term derivative assets[3]	$ 332	$ (172)	$ 160
Total derivative assets	$ 1,523	$ (1,221)	$ 302
Derivative (liabilities):			
Commodity exchange traded derivatives contracts	$ (764)	$ 764	$ —
Commodity forward contracts	(576)	277	(299)
Interest rate hedging instruments	(4)	—	(4)
Total current derivative (liabilities)[3]	$ (1,344)	$ 1,041	$ (303)
Commodity exchange traded derivatives contracts	(168)	168	—
Commodity forward contracts	(193)	59	(134)
Interest rate hedging instruments	(6)	—	(6)
Total long-term derivative (liabilities)[3]	$ (367)	$ 227	$ (140)
Total derivative liabilities	$ (1,711)	$ 1,268	$ (443)
Net derivative assets (liabilities)	$ (188)	$ 47	$ (141)

[1] At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

[2] At September 30, 2019, current and long-term derivative assets are shown net of collateral of $(7) million and $(6) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $92 million and $11 million, respectively.

[3] At December 31, 2018, current and long-term derivative assets are shown net of collateral of $(58) million and $(8) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $49 million and $64 million, respectively.

	September 30, 2019		December 31, 2018	
	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities
Derivatives designated as cash flow hedging instruments:				
Interest rate hedging instruments	$ 4	$ 34	$ 40	$ 10
Total derivatives designated as cash flow hedging instruments	$ 4	$ 34	$ 40	$ 10
Derivatives not designated as hedging instruments:				
Commodity instruments	$ 383	$ 246	$ 262	$ 433
Interest rate hedging instruments	—	2	—	—
Total derivatives not designated as hedging instruments	$ 383	$ 248	$ 262	$ 433
Total derivatives	$ 387	$ 282	$ 302	$ 443

Derivatives Included on Our Consolidated Condensed Statements of Operations

Changes in the fair values of our derivative instruments are reflected either in cash for option premiums paid or collected, in OCI, net of tax, for derivative instruments which qualify for and we have elected cash flow hedge accounting treatment, or on our Consolidated Condensed Statements of Operations as a component of mark-to-market activity within our earnings.

The following tables detail the components of our total activity for both the net realized gain (loss) and the net mark-to-market gain (loss) recognized from our derivative instruments in earnings and where these components were recorded on our Consolidated Condensed Statements of Operations for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Realized gain (loss)[1][2]				
Commodity derivative instruments	$ 92	$ 45	$ 261	$ 111
Total realized gain (loss)	$ 92	$ 45	$ 261	$ 111
Mark-to-market gain (loss)[3]				
Commodity derivative instruments	$ 67	$ 106	$ 300	$ (77)
Interest rate hedging instruments	(1)	1	(3)	4
Total mark-to-market gain (loss)	$ 66	$ 107	$ 297	$ (73)
Total activity, net	$ 158	$ 152	$ 558	$ 38

[1] Does not include the realized value associated with derivative instruments that settle through physical delivery.

[2] Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

[3] In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Realized and mark-to-market gain (loss)[1]				
Derivatives contracts included in operating revenues[2][3]	$ 213	$ 34	$ 791	$ (142)
Derivatives contracts included in fuel and purchased energy expense[2][3]	(54)	117	(230)	176
Interest rate hedging instruments included in interest expense	(1)	1	(3)	4
Total activity, net	$ 158	$ 152	$ 558	$ 38

[1] In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

(2) Does not include the realized value associated with derivative instruments that settle through physical delivery.

(3) Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

Derivatives Included in OCI and AOCI

The following table details the effect of our net derivative instruments that qualified for hedge accounting treatment and are included in OCI and AOCI for the periods indicated (in millions):

	Three Months Ended September 30,		Three Months Ended September 30,		
	Gain (Loss) Recognized in OCI		Gain (Loss) Reclassified from AOCI into Income[3][4]		
	2019	2018	2019	2018	Affected Line Item on the Consolidated Condensed Statements of Operations
Interest rate hedging instruments[1][2]	$ (3)	$ 13	$ (2)	$ —	Interest expense
Interest rate hedging instruments[1][2]	1	—	(1)	—	Depreciation and amortization expense
Total	$ (2)	$ 13	$ (3)	$ —	

	Nine Months Ended September 30,		Nine Months Ended September 30,		
	Gain (Loss) Recognized in OCI		Gain (Loss) Reclassified from AOCI into Income[3][4]		
	2019	2018	2019	2018	Affected Line Item on the Consolidated Condensed Statements of Operations
Interest rate hedging instruments[1][2]	$ (60)	$ 82	$ 3	$ (6)	Interest expense
Interest rate hedging instruments[1][2]	1	1	(1)	(1)	Depreciation and amortization expense
Total	$ (59)	$ 83	$ 2	$ (7)	

[1] We recorded nil and $1 million in gains on hedge ineffectiveness related to our interest rate hedging instruments designated as cash flow hedges during the three and nine months ended September 30, 2018. Upon the adoption of Accounting Standards Update 2017-12 on January 1, 2019, hedge ineffectiveness is no longer separately measured and recorded in earnings.

[2] We recorded an income tax benefit of $1 million for each of the three months ended September 30, 2019 and 2018, respectively, and income tax benefit of $2 million and income tax expense of $3 million for the nine months ended September 30, 2019 and 2018, respectively, in AOCI related to our cash flow hedging activities.

[3] Cumulative cash flow hedge losses attributable to Calpine, net of tax, remaining in AOCI were $90 million and $34 million at September 30, 2019 and December 31, 2018, respectively. Cumulative cash flow hedge losses attributable to the noncontrolling interest, net of tax, remaining in AOCI were $4 million and $3 million at September 30, 2019 and December 31, 2018, respectively.

(4) Includes losses (gains) of nil that were reclassified from AOCI to interest expense for the three months ended September 30, 2019 and 2018, and losses of $2 million and nil that were reclassified from AOCI to interest expense for the nine months ended September 30, 2019 and 2018, respectively, where the hedged transactions became probable of not occurring.

We estimate that pre-tax net losses of $25 million would be reclassified from AOCI into interest expense during the next 12 months as the hedged transactions settle; however, the actual amounts that will be reclassified will likely vary based on changes in interest rates. Therefore, we are unable to predict what the actual reclassification from AOCI into earnings (positive or negative) will be for the next 12 months.

Divestitures (Notes)	9 Months Ended Sep. 30, 2019
Business Combinations [Abstract]	
Mergers, Acquisitions and Dispositions Disclosures [Text Block]	*Sale of Garrison Energy Center and RockGen Energy Center*

On July 10, 2019, we, through our indirect, wholly owned subsidiaries Calpine Holdings, LLC and Calpine Northbrook Project Holdings, LLC, completed the sale of 100% of our ownership interests in Garrison Energy Center LLC (“Garrison”) and RockGen Energy LLC (“RockGen”) to Cobalt Power, L.L.C. for approximately $360 million, subject to certain immaterial working capital adjustments and the execution of financial commodity contracts. Upon closing, we recognized a liability of $52 million for the fair value of the financial commodity contracts on our Consolidated Condensed Balance Sheet, and the related proceeds are reflected within the financing section on our Consolidated Condensed Statement of Cash Flows. Garrison owns the Garrison Energy Center, a 309 MW natural gas-fired, combined-cycle power plant located in Dover, Delaware, and RockGen owns the RockGen Energy Center, a 503 MW natural gas-fired, simple-cycle power plant located in Christiana, Wisconsin. We used the sale proceeds, together with cash on hand, to fund a dividend of $400 million to our parent, CPN Management.

We recorded an immaterial gain on the sale during the third quarter of 2019 and an impairment loss of $55 million during the nine months ended September 30, 2019, to adjust the carrying value of the assets to reflect fair value less cost to sell.

Related Party Transactions	9 Months Ended Sep. 30, 2019
Related Party Transactions [Abstract]	
Related Party Transactions Disclosure [Text Block]	**Related Party Transactions** We have entered into various agreements with related parties associated with the operation of our business. A description of these related party transactions is provided below: *Calpine Receivables* — Under the Accounts Receivable Sales Program, at September 30, 2019 and December 31, 2018, we had $269 million and $238 million, respectively, in trade accounts receivable outstanding that were sold to Calpine Receivables and $53 million and $34 million, respectively, in notes receivable from Calpine Receivables which were recorded on our Consolidated Condensed Balance Sheets. During the nine months ended September 30, 2019 and 2018, we sold an aggregate of $1.8 billion and $1.8 billion, respectively, in trade accounts receivable and recorded $1.8 billion and $1.8 billion, respectively, in proceeds. For a further discussion of the Accounts Receivable Sales Program and Calpine Receivables, see Notes 7 and 17 in our 2018 Form 10-K. *Lyondell* — We have a ground lease agreement with Houston Refining LP ("Houston Refining"), a subsidiary of Lyondell, for our Channel Energy Center site from which we sell power, capacity and steam to Houston Refining under a PPA. We purchase refinery gas and raw water from Houston Refining under a facilities services agreement. One of the entities which obtained an ownership interest in Calpine through the Merger also has an ownership interest in Lyondell whereby they may significantly influence the management and operating policies of Lyondell. The terms of the PPA with Lyondell were negotiated prior to the Merger closing. We recorded $16 million and $17 million in Commodity revenue during the three months ended September 30, 2019 and 2018, respectively, and $53 million and $55 million in Commodity revenue during the nine months ended September 30, 2019 and 2018, associated with this contract with Lyondell. We recorded $4 million and $5 million in Commodity expense during the three months ended September 30, 2019 and 2018, respectively, and $11 million and $11 million in Commodity expense during the nine months ended September 30, 2019 and 2018, associated with this contract with Lyondell. At September 30, 2019 and December 31, 2018, the related party receivable and payable associated with this contract with Lyondell were immaterial. *Other* — Following the Merger, we have identified other related party contracts for the sale of power, capacity, steam and RECs which are entered into in the ordinary course of our business. Most of these contracts relate to the sale of commodities and capacity for varying tenors. We have also entered into a long-term land lease agreement with a related party. As of September 30, 2019 and December 31, 2018, the related party revenues, expenses, receivables and payables associated with these transactions were immaterial.

Basis of Presentation and Summary of Significant Accounting Policies (Details) - USD ($) $ in Millions	3 Months Ended		9 Months Ended			
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018	Jan. 01, 2019	Dec. 31, 2018
Accounting Policies [Line Items]						
Gain on Business Interruption Insurance Recovery	$ 0	$ 0	$ 0	$ 14		
Operating Lease, Right-of-Use Asset	[1] 175		175			
Interest costs capitalized	2	$ 7	10	$ 21		
Current	345		345			$ 167
Non-current	62		62			34
Total	407		407			201
Debt service						
Accounting Policies [Line Items]						
Current	84		84			13
Non-current	7		7			8
Total	91		91			21
Construction major maintenance						
Accounting Policies [Line Items]						
Current	12		12			23
Non-current	22		22			24
Total	34		34			47
Security project insurance						
Accounting Policies [Line Items]						
Current	245		245			120
Non-current	31		31			0
Total	276		276			120
Other						
Accounting Policies [Line Items]						
Current	4		4			11
Non-current	2		2			2
Total	$ 6		$ 6			$ 13
Accounting Standards Update 2016-02 [Member]						
Accounting Policies [Line Items]						
Operating Lease, Right-of-Use Asset					$ 191	

[1] The right-of-use assets associated with our operating leases as of September 30, 2019 are included in other assets on our Consolidated Condensed Balance Sheet.

Revenue From Contracts with Customers Performance Obligations and Contract Balances (Details) - Environmental Credits [Member] - USD ($) $ in Millions	3 Months Ended		9 Months Ended		
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018	Dec. 31, 2018
Disaggregation of Revenue [Line Items]					
Deferred Revenue, Current	$ 10		$ 10		$ 14
Contract with Customer, Liability, Revenue Recognized	$ 19	$ 18	$ 14	$ 17	

Debt (Debt Textuals) (Details) - USD ($) $ in Millions	3 Months Ended			9 Months Ended			
	Sep. 30, 2019	Jun. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018	Aug. 12, 2019	Apr. 05, 2019
Line of Credit Facility [Line Items]							
Gain (Loss) on Extinguishment of Debt	$ (12)		$ (1)	$ (11)	$ (1)		
Repayments of Other Long-term Debt				$ 311	$ 89		
Debt Instruments [Abstract]							
Debt Instrument, Interest Rate, Effective Percentage	5.90%		5.70%	5.90%	5.70%		
CDHI [Member]							
Line of Credit Facility [Line Items]							
Future Line of Credit Facility Maximum Borrowing Capacity	$ 125			$ 125			
Other Corporate Facilities [Member]							
Line of Credit Facility [Line Items]							
Line of Credit Facility, Maximum Borrowing Capacity	300			300			
OMEC [Member]							
Line of Credit Facility [Line Items]							
Repayments of Other Long-term Debt	$ 198						
New 2026 First Lien Term Loan [Member]							
Line of Credit Facility [Line Items]							
Debt Instrument, Face Amount						$ 750	
Percentage of principal amount of Term Loan to be paid quarterly	0.25%						
Debt Instrument Unamortized Discount Percent						0.50%	
Debt Issuance Costs, Net						$ 11	
2023 First Lien Term Loan and OMEC Project Debt [Member]							
Line of Credit Facility [Line Items]							
Gain (Loss) on Extinguishment of Debt	$ (12)						
2026 First Lien Term Loan [Member]							
Line of Credit Facility [Line Items]							
Debt Instrument, Face Amount							$ 950
Percentage of principal amount of Term Loan to be paid quarterly	0.25%						
Debt Instrument Unamortized Discount Percent							1.00%
Debt Issuance Costs, Net							$ 7
Russell City and Los Esteros Project Debt [Member]							
Line of Credit Facility [Line Items]							
Long-term Debt, Excluding Current Maturities	$ 354			354			
2019 and 2023 First Lien Term Loans [Member]							
Line of Credit Facility [Line Items]							
Gain (Loss) on Extinguishment of Debt	(3)						

Amendment No. 6 [Member] | Revolving Credit Facility [Member]					
Line of Credit Facility [Line Items]					
Line of Credit Facility, Increase (Decrease), Net		$ 330			
Line of Credit Facility, Maximum Borrowing Capacity					$ 2,020
Amendment No. 8 [Member] | Revolving Credit Facility [Member]					
Line of Credit Facility [Line Items]					
Line of Credit Facility, Maximum Borrowing Capacity	1,690		$ 1,690		
Amendment No. 10 [Member] | Revolving Credit Facility [Member]					
Line of Credit Facility [Line Items]					
Line of Credit Facility, Increase (Decrease), Net	$ 20				
Line of Credit Facility, Maximum Borrowing Capacity				2,000	
Total Letter of Credit Sub-limit				$ 150	
Federal Funds Effective Rate [Member] | New 2026 First Lien Term Loan [Member]					
Line of Credit Facility [Line Items]					
Debt Instrument, Basis Spread on Variable Rate	0.50%				
Federal Funds Effective Rate [Member] | 2026 First Lien Term Loan [Member]					
Line of Credit Facility [Line Items]					
Debt Instrument, Basis Spread on Variable Rate	0.50%				
Eurodollar Rate For A One-Month Interest Period [Member] | New 2026 First Lien Term Loan [Member]					
Line of Credit Facility [Line Items]					
Debt Instrument, Basis Spread on Variable Rate	1.00%				
Eurodollar Rate For A One-Month Interest Period [Member] | 2026 First Lien Term Loan [Member]					
Line of Credit Facility [Line Items]					
Debt Instrument, Basis Spread on Variable Rate	1.00%				
Prime Rate or The Eurodollar Rate For A One-Month Interest Period [Member] | New 2026 First Lien Term Loan [Member]					
Line of Credit Facility [Line Items]					
Debt Instrument, Basis Spread on Variable Rate	1.50%				
Prime Rate or The Eurodollar Rate For A One-Month Interest Period [Member] | 2026 First Lien Term Loan [Member]					
Line of Credit Facility [Line Items]					
Debt Instrument, Basis Spread on Variable Rate	1.75%				
London Interbank Offered Rate (LIBOR) [Member] | New 2026 First Lien Term Loan [Member]					
Line of Credit Facility [Line Items]					
Debt Instrument, Basis Spread on Variable Rate	2.50%				

London Interbank Offered Rate (LIBOR) [Member] | 2026 First Lien Term Loan [Member]			
Line of Credit Facility [Line Items]			
Debt Instrument, Basis Spread on Variable Rate	2.75%		
Minimum [Member] | London Interbank Offered Rate (LIBOR) [Member] | New 2026 First Lien Term Loan [Member]			
Line of Credit Facility [Line Items]			
Debt Instrument, Interest Rate, Stated Percentage		0.00%	
Minimum [Member] | London Interbank Offered Rate (LIBOR) [Member] | 2026 First Lien Term Loan [Member]			
Line of Credit Facility [Line Items]			
Debt Instrument, Interest Rate, Stated Percentage			0.00%

Debt (First Lien Term Loans) (Details) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Debt Instrument [Line Items]		
Long-term Debt	$ 10,709	$ 10,156
New 2019 First Lien Term Loan [Member]		
Debt Instrument [Line Items]		
Long-term Debt	0	389
2023 First Lien Term Loan [Member]		
Debt Instrument [Line Items]		
Long-term Debt	0	1,059
2024 First Lien Term Loan [Member]		
Debt Instrument [Line Items]		
Long-term Debt	1,519	1,528
2026 First Lien Term Loans [Member]		
Debt Instrument [Line Items]		
Long-term Debt	1,656	0
First Lien Term Loans [Member]		
Debt Instrument [Line Items]		
Long-term Debt	$ 3,175	$ 2,976

Commitments and Contingencies	9 Months Ended Sep. 30, 2019
Commitments and Contingencies Disclosure [Abstract]	
Commitments and Contingencies	**Commitments and Contingencies** ***Litigation*** We are party to various litigation matters, including regulatory and administrative proceedings arising out of the normal course of business. At the present time, we do not expect that the outcome of any of these proceedings, individually or in the aggregate, will have a material adverse effect on our financial condition, results of operations or cash flows. On a quarterly basis, we review our litigation activities and determine if an unfavorable outcome to us is considered “remote,” “reasonably possible” or “probable” as defined by U.S. GAAP. Where we determine an unfavorable outcome is probable and is reasonably estimable, we accrue for potential litigation losses. The liability we may ultimately incur with respect to such litigation matters, in the event of a negative outcome, may be in excess of amounts currently accrued, if any; however, we do not expect that the reasonably possible outcome of these litigation matters would, individually or in the aggregate, have a material adverse effect on our financial condition, results of operations or cash flows. Where we determine an unfavorable outcome is not probable or reasonably estimable, we do not accrue for any potential litigation loss. The ultimate outcome of these litigation matters cannot presently be determined, nor can the liability that could potentially result from a negative outcome be reasonably estimated. As a result, we give no assurance that such litigation matters would, individually or in the aggregate, not have a material adverse effect on our financial condition, results of operations or cash flows. ***Environmental Matters*** We are subject to complex and stringent environmental laws and regulations related to the operation of our power plants. On occasion, we may incur environmental fees, penalties and fines associated with the operation of our power plants. At the present time, we do not have environmental violations or other matters that would have a material effect on our financial condition, results of operations or cash flows or that would significantly change our operations. ***Guarantees and Indemnifications*** Our potential exposure under guarantee and indemnification obligations can range from a specified amount to an unlimited dollar amount, depending on the nature of the claim and the particular transaction. Our total maximum exposure under our guarantee and indemnification obligations is not estimable due to uncertainty as to whether claims will be made or how any potential claim will be resolved. As of September 30, 2019, there are no material outstanding claims related to our guarantee and indemnification obligations and we do not anticipate that we will be required to make any material payments under our guarantee and indemnification obligations. There have been no material changes to our guarantees and indemnifications from those disclosed in Note 16 of our 2018 Form 10-K.

Assets and Liabilities with Recurring Fair Value Measurements	9 Months Ended
	Sep. 30, 2019
Fair Value Disclosures [Abstract]	
Assets and Liabilities with Recurring Fair Value Measurements	

Assets and Liabilities with Recurring Fair Value Measurements

Cash Equivalents — Highly liquid investments which meet the definition of cash equivalents, primarily investments in money market accounts and other interest-bearing accounts, are included in both our cash and cash equivalents and our restricted cash on our Consolidated Condensed Balance Sheets. Certain of our money market accounts invest in U.S. Treasury securities or other obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities. We do not have any cash equivalents invested in institutional prime money market funds which require use of a floating net asset value and are subject to liquidity fees and redemption restrictions. Certain of our cash equivalents are classified within level 1 of the fair value hierarchy.

Derivatives — The primary factors affecting the fair value of our derivative instruments at any point in time are the volume of open derivative positions (MMBtu, MWh and $ notional amounts); changing commodity market prices, primarily for power and natural gas; our credit standing and that of our counterparties and customers for energy commodity derivatives; and prevailing interest rates for our interest rate hedging instruments. Prices for power and natural gas and interest rates are volatile, which can result in material changes in the fair value measurements reported in our financial statements in the future.

We utilize market data, such as pricing services and broker quotes, and assumptions that we believe market participants would use in pricing our assets or liabilities including assumptions about the risks inherent to the inputs in the valuation technique. These inputs can be either readily observable, market corroborated or generally unobservable. The market data obtained from broker pricing services is evaluated to determine the nature of the quotes obtained and, where accepted as a reliable quote, used to validate our assessment of fair value. We use other qualitative assessments to determine the level of activity in any given market. We primarily apply the market approach and income approach for recurring fair value measurements and utilize what we believe to be the best available information. We utilize valuation techniques that seek to maximize the use of observable inputs and minimize the use of unobservable inputs. We classify fair value balances based on the observability of those inputs.

The fair value of our derivatives includes consideration of our credit standing, the credit standing of our counterparties and customers and the effect of credit enhancements, if any. We have also recorded credit reserves in the determination of fair value based on our expectation of how market participants would determine fair value. Such valuation adjustments are generally based on market evidence, if available, or our best estimate.

Our level 1 fair value derivative instruments primarily consist of power and natural gas swaps, futures and options traded on the NYMEX or Intercontinental Exchange.

Our level 2 fair value derivative instruments primarily consist of interest rate hedging instruments and OTC power and natural gas forwards for which market-based pricing inputs in the principal or most advantageous market are representative of executable prices for market participants. These inputs are observable at commonly quoted intervals for substantially the full term of the instruments. In certain instances, our level 2 derivative instruments may utilize models to measure fair value. These models are industry-standard models, including the Black-Scholes option-pricing model, that incorporate various assumptions, including quoted interest rates, correlation, volatility, as well as other relevant economic measures. Substantially all of these assumptions are observable in the marketplace throughout the full term of the instrument, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Our level 3 fair value derivative instruments may consist of OTC power and natural gas forwards and options where pricing inputs are unobservable, as well as other complex and structured transactions primarily for the sale and purchase of power and natural gas to both wholesale counterparties and retail customers. Complex or structured transactions are tailored to our customers' needs and can introduce the need for internally-developed model inputs which might not be observable in or corroborated by the market. When such inputs have a significant effect on the measurement of fair value, the instrument is categorized in level 3. Our valuation models may incorporate historical correlation information and extrapolate available broker and other information to future periods.

Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement at period end. Our assessment of the significance of a particular input to the fair value measurement requires judgment and may affect our estimate of the fair value of our assets and liabilities and their placement within the fair value hierarchy levels. The following tables present our assets and liabilities that were accounted for at fair value on a recurring basis as of September 30, 2019 and December 31, 2018, by level within the fair value hierarchy:

	Assets and Liabilities with Recurring Fair Value Measures as of September 30, 2019			
	Level 1	**Level 2**	**Level 3**	**Total**
	(in millions)			
Assets:				
Cash equivalents[1]	$ 359	$ —	$ —	$ 359
Commodity instruments:				
Commodity exchange traded derivatives contracts	679	—	—	679
Commodity forward contracts[2]	—	343	318	661
Interest rate hedging instruments	—	6	—	6
Effect of netting and allocation of collateral[3][4]	(679)	(257)	(23)	(959)
Total assets	$ 359	$ 92	$ 295	$ 746
Liabilities:				
Commodity instruments:				
Commodity exchange traded derivatives contracts	$ 767	$ —	$ —	$ 767
Commodity forward contracts[2]	—	415	111	526
Interest rate hedging instruments	—	38	—	38
Effect of netting and allocation of collateral[3][4]	(767)	(259)	(23)	(1,049)
Total liabilities	$ —	$ 194	$ 88	$ 282

	Assets and Liabilities with Recurring Fair Value Measures as of December 31, 2018			
	Level 1	**Level 2**	**Level 3**	**Total**
	(in millions)			
Assets:				
Cash equivalents[1]	$ 168	$ —	$ —	$ 168
Commodity instruments:				
Commodity exchange traded derivatives contracts	933	—	—	933

Commodity forward contracts[2]	—	338	212	550
Interest rate hedging instruments	—	40	—	40
Effect of netting and allocation of collateral[3][4]	(933)	(262)	(26)	(1,221)
Total assets	$ 168	$ 116	$ 186	$ 470
Liabilities:				
Commodity instruments:				
Commodity exchange traded derivatives contracts	$ 932	$ —	$ —	$ 932
Commodity forward contracts[2]	—	549	220	769
Interest rate hedging instruments	—	10	—	10
Effect of netting and allocation of collateral[3][4]	(932)	(310)	(26)	(1,268)
Total liabilities	$ —	$ 249	$ 194	$ 443

[1] At September 30, 2019 and December 31, 2018, we had cash equivalents of $187 million and $23 million included in cash and cash equivalents and $172 million and $145 million included in restricted cash, respectively.

[2] Includes OTC swaps and options.

[3] We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

[4] Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $88 million, $2 million and nil, respectively, at September 30, 2019. Cash collateral posted with (received from) counterparties allocated to level 1, level 2 and level 3 derivative instruments totaled $(1) million, $48 million and nil, respectively, at December 31, 2018.

At September 30, 2019 and December 31, 2018, the derivative instruments classified as level 3 primarily included commodity contracts, which are classified as level 3 because the contract terms relate to a delivery location or tenor for which observable market rate information is not available. The fair value of the net derivative position classified as level 3 is predominantly driven by market commodity prices. The following table presents quantitative information for the unobservable inputs used in our most significant level 3 fair value measurements at September 30, 2019 and December 31, 2018:

Quantitative Information about Level 3 Fair Value Measurements

	September 30, 2019			
	Fair Value, Net Asset (Liability)	**Valuation Technique**	**Significant Unobservable Input**	**Range**
	(in millions)			
Power Contracts[1]	$ 165	Discounted cash flow	Market price (per MWh)	$ 3.68 — $182.70 /MWh
Power Congestion Products	$ 13	Discounted cash flow	Market price (per MWh)	$(13.19) — $12.51 /MWh

Natural Gas Contracts	$ 10	Discounted cash flow	Market price (per MMBtu)	$ 1.72 — $6.34 /MMBtu

	December 31, 2018			
	Fair Value, Net Asset (Liability)	Valuation Technique	Significant Unobservable Input	Range
	(in millions)			
Power Contracts[1]	$ 36	Discounted cash flow	Market price (per MWh)	$ 2.12 — $227.98 /MWh
Power Congestion Products	$ 26	Discounted cash flow	Market price (per MWh)	$(11.71) — $11.88 /MWh
Natural Gas Contracts	$ (73)	Discounted cash flow	Market price (per MMBtu)	$ 0.75 — $8.87 /MMBtu

[1] Power contracts include power and heat rate instruments classified as level 3 in the fair value hierarchy.

The following table sets forth a reconciliation of changes in the fair value of our net derivative assets (liabilities) classified as level 3 in the fair value hierarchy for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Balance, beginning of period	$ 227	$ 131	$ (8)	$ 197
Realized and mark-to-market gains (losses):				
Included in net income:				
Included in operating revenues[1]	20	(99)	151	(84)
Included in fuel and purchased energy expense[2]	—	18	2	27
Change in collateral	(1)	—	—	—
Purchases, Issuances and settlements:				
Purchases	—	4	3	12
Issuances	—	—	(1)	—
Settlements	(23)	37	68	(56)
Transfers in and/or out of level 3[3]:				
Transfers into level 3[4]	7	(1)	10	—
Transfers out of level 3[5]	(23)	(2)	(18)	(8)
Balance, end of period	$ 207	$ 88	$ 207	$ 88
Change in unrealized gains (losses) relating to instruments still held at end of period	$ 20	$ (81)	$ 153	$ (57)

(1) For power contracts and other power-related products, included on our Consolidated Condensed Statements of Operations.

(2) For natural gas and power contracts, swaps and options, included on our Consolidated Condensed Statements of Operations.

(3) We transfer amounts among levels of the fair value hierarchy as of the end of each period. There were no transfers into or out of level 1 for each of the three and nine months ended September 30, 2019 and 2018.

(4) We had $7 million in gains and $(1) million in losses transferred out of level 2 into level 3 for the three months ended September 30, 2019 and 2018, respectively, and $10 million in gains and nil transferred out of level 2 into level 3 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

(5) We had $23 million and $2 million in gains transferred out of level 3 into level 2 for the three months ended September 30, 2019 and 2018, respectively, and $18 million and $8 million in gains transferred out of level 3 into level 2 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

Leases (Notes)

9 Months Ended
Sep. 30, 2019

Leases [Abstract]

LesseeandLessorLeases [Text Block]

Leases

Accounting for Leases – Lessee

We evaluate contracts for lease accounting at contract inception and assess lease classification at the lease commencement date. For our leases, we recognize a right-of-use asset and corresponding lease obligation liability at the lease commencement date where the lease obligation liability is measured at the present value of the minimum lease payments. For our operating leases, the amortization of the right-of-use asset and the accretion of our lease obligation liability result in a single straight-line expense recognized over the lease term.

We determine the discount rate associated with our operating and finance leases using our incremental borrowing rate at lease commencement. For our operating leases, we use an interest rate commensurate with the interest rate to borrow on a collateralized basis over a similar term with an amount equal to the lease payments. Factors management considers in the calculation of the discount rate include the amount of the borrowing, the lease term including options that are reasonably certain of exercise, the current interest rate environment and the credit rating of the entity. For our finance leases, we use the interest rate commensurate with the interest rate for a project finance borrowing arrangement with a similar collateral package, repayment terms, restrictive covenants and guarantees.

Our operating leases are primarily related to office space for our corporate and regional offices as well as land and operating related leases for our power plants. Additionally, one of our power plants is accounted for as an operating lease. Payments made by Calpine on this lease are recognized on a straight-line basis with capital improvements associated with our leased power plant deemed leasehold improvements that are amortized over the shorter of the term of the lease or the economic life of the capital improvement. Several of our leases contain renewal options held by us to extend the lease term. The inclusion of these renewal periods in the lease term and in the minimum lease payments included in our lease liabilities is dependent on specific facts and circumstances for each lease and whether it is determined to be reasonably certain that we will exercise our option to extend the term. Our office, land and other operating leases do not contain any material restrictive covenants or residual value guarantees.

We have entered into finance leases for certain power plants and related equipment with terms that range up to 30 years (including lease renewal options). The finance leases generally provide for the lessee to pay taxes, maintenance, insurance, and certain other operating costs of the leased property.

In connection with our adoption of Topic 842 on January 1, 2019, we elected certain practical expedients that were available under the new lease standards including:

- we elected not to separate lease and nonlease components for our current classes of underlying leased assets as the lessee;
- we did not evaluate existing and expired land easements that were not previously accounted for as leases prior to January 1, 2019; and
- we did not reassess the classification of leases, the accounting for initial direct costs or whether contractual arrangements contained a lease for all contracts that expired or commenced prior to January 1, 2019.

Further, upon the adoption of Topic 842, we made an accounting policy election to not recognize lease assets and liabilities for leases with a term of 12 months or less. We do not have any material subleases associated with our operating and finance leases.

The components of our operating and finance lease expense are as follows for the three and nine months ended September 30, 2019 (in millions):

	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Operating Leases		
Operating lease expense	$ 11	$ 34
Finance Leases		
Amortization of the right-of-use assets	$ 2	$ 6
Interest expense	2	6
Finance lease expense	$ 4	$ 12
Variable lease expense	$ 3	$ 8
Total lease expense	$ 18	$ 54

The following is a schedule by year of future minimum lease payments associated with our operating and finance leases together with the present value of the net minimum lease payments as of September 30, 2019 (in millions):

	Operating Leases[1]	Finance Leases[2]
2019	$ 34	$ 7
2020	20	16
2021	21	16
2022	19	16
2023	18	19
Thereafter	201	33
Total minimum lease payments	313	107
Less: Amount representing interest	105	29
Total lease obligation	208	78
Less: current lease obligation	39	10
Long-term lease obligation	$ 169	$ 68

[1] The lease liabilities associated with our operating leases as of September 30, 2019 are included in other current liabilities and other long-term liabilities on our Consolidated Condensed Balance Sheet.

(2) The lease liabilities associated with our finance leases as of September 30, 2019 are included in debt, current portion and debt, net of current portion on our Consolidated Condensed Balance Sheet.

Supplemental balance sheet information related to our operating and finance leases is as follows as of September 30, 2019 (in millions, except lease term and discount rate):

	September 30, 2019
Operating leases[1]	
Right-of-use assets associated with operating leases	$ 175
Finance leases[2]	
Property, plant and equipment, gross	$ 212
Accumulated amortization	(104)
Property, plant and equipment, net	$ 108
Weighted average remaining lease term (in years)	
Operating leases	15.6
Finance leases	7.2
Weighted average discount rate	
Operating leases	5.3%
Finance leases	8.0%

[1] The right-of-use assets associated with our operating leases as of September 30, 2019 are included in other assets on our Consolidated Condensed Balance Sheet.

[2] The right-of-use assets associated with our finance leases as of September 30, 2019 are included in property, plant and equipment, net on our Consolidated Condensed Balance Sheet.

Supplemental cash flow information related to our operating and finance leases is as follows for the period presented (in millions):

	Nine Months Ended September 30, 2019
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	$ 19
Operating cash flows from finance leases	$ 5
Financing cash flows from finance leases	$ 6
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases	$ 9
Finance leases	$ —

As of September 30, 2019, we have executed agreements that contain a lease with a future lease commencement date and future lease commitments of $5 million primarily related to office leases scheduled to commence in the fourth quarter of 2019.

Accounting for Leases – Lessor

We apply lease accounting to PPAs that meet the definition of a lease and determine lease classification treatment at commencement of the agreement. We currently do not have any contracts which are accounted for as sales-type leases or direct financing leases and all of our leases as the lessor are classified as operating leases. As part of the implementation of Topic 842, we elected the practical expedient to not reassess leases that have commenced prior to January 1, 2019.

Revenue from contracts accounted for as operating leases, such as certain tolling agreements, with minimum lease rentals (capacity payments) which vary over time must be levelized. Generally, we levelize these contract revenues on a straight-line basis over the term of the contract. Our operating leases that have commenced contain terms extending through December 2034. These contracts also generally contain variable payment components based on generation volumes or operating efficiency over a period of time. Revenues associated with the variable payments are recognized over time as the goods or services are provided to the lessee. Our operating leases generally do not contain renewal or purchase options or residual value guarantees. We have elected to not separate our lease and non-lease components as the lease components reflect the predominant characteristics of these agreements.

Revenue recognized related to fixed lease payments on our operating leases for the periods presented is as follows (in millions):

	Three Months Ended September 30,	Nine Months Ended September 30,
	2019	2019
Operating Leases[1]		
Fixed lease payments	$ 130	$ 269

[1] Revenues associated with our operating leases are included in Commodity revenue and other revenue on our Consolidated Condensed Statement of Operations.

The total contractual future minimum lease rentals for our contracts that have commenced and are accounted for as operating leases at September 30, 2019, are as follows (in millions):

2019	$ 74
2020	286
2021	261
2022	226
2023	144
Thereafter	277
Total	$ 1,268

We do not recognize lease receivables associated with our operating leases as the long-lived assets subject to the lease contracts are recorded on our Consolidated Condensed Balance

Sheet and are being depreciated over their estimated useful lives. Amounts recorded on our Consolidated Condensed Balance Sheet associated with the long-lived assets subject to our operating leases as of September 30, 2019 are as follows (in millions):

	September 30, 2019
Assets subject to contracts accounted for as operating leases	
Property, plant and equipment, gross	$ 3,085
Accumulated depreciation	(911)
Property, plant and equipment, net[1]	$ 2,174

[1] Our assets subject to contracts that are accounted for as operating leases primarily consist of our power plants subject to tolling contracts.

We also record lease levelization assets and liabilities for any difference between the timing of the contractual payments made related to our operating lease contracts and revenue recognized on a straight-line basis. These balances are included in current and long-term assets and liabilities on our Consolidated Condensed Balance Sheet.

Disclosures for periods prior to the adoption of Topic 842

Lessee

The following is a schedule by year of future minimum lease payments under operating and capital leases as of December 31, 2018 (in millions):

	Operating Leases	Capital Leases[1]
2019	$ 50	$ 40
2020	19	40
2021	20	38
2022	18	33
2023	17	27
Thereafter	192	92
Total minimum lease payments	$ 316	270
Less: Amount representing interest		89
Present value of net minimum lease payments		$ 181

[1] Includes a failed sale-leaseback transaction related to our Pasadena Power Plant.

At December 31, 2018, the asset balance for our assets under capital leases totaled approximately $715 million with accumulated amortization of $353 million.

Lessor

The total contractual future minimum lease rentals for our contracts accounted for as operating leases at December 31, 2018, are as follows (in millions):

2019	$ 342
2020	261
2021	257
2022	224
2023	141

Thereafter	239
Total	$ 1,464

Basis of Presentation and Summary of Significant Accounting Policies Property, Plant and Equipment, Net (Details) - USD ($) $ in Millions	9 Months Ended	
	Sep. 30, 2019	Dec. 31, 2018
Property, Plant and Equipment [Line Items]		
Buildings, machinery and equipment	$ 16,565	$ 16,400
Geothermal properties	1,510	1,501
Other	272	286
Property, plant and equipment, gross	18,347	18,187
Less: Accumulated depreciation	6,855	6,832
Property, plant and equipment, gross, less accumulated depreciation, depletion and amortization	11,492	11,355
Land	128	121
Construction in progress	382	966
Property, plant and equipment, net	$ 12,002	$ 12,442
Minimum [Member] | Building, Machinery and Equipment, Gross [Member]		
Property, Plant and Equipment [Line Items]		
Property, plant and equipment, estimated useful lives	1 year 6 months	
Minimum [Member] | Geothermal Properties, Gross [Member]		
Property, Plant and Equipment [Line Items]		
Property, plant and equipment, estimated useful lives	13 years	
Minimum [Member] | Property, Plant and Equipment, Other Types [Member]		
Property, Plant and Equipment [Line Items]		
Property, plant and equipment, estimated useful lives	3 years	
Maximum [Member] | Building, Machinery and Equipment, Gross [Member]		
Property, Plant and Equipment [Line Items]		
Property, plant and equipment, estimated useful lives	50 years	
Maximum [Member] | Geothermal Properties, Gross [Member]		
Property, Plant and Equipment [Line Items]		
Property, plant and equipment, estimated useful lives	58 years	
Maximum [Member] | Property, Plant and Equipment, Other Types [Member]		
Property, Plant and Equipment [Line Items]		
Property, plant and equipment, estimated useful lives	50 years	

Leases (Details) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Operating Lease, Right-of-Use Asset	[1] $ 175	
Operating Lease, Liability	[2] 208	
Capital Leased Assets, Gross		$ 715
Accumulated Depreciation, Depletion and Amortization, Property, Plant, and Equipment	6,855	6,832
Lesse Operating Lease, Lease Not yet Commenced	$ 5	
Lessee, Finance Lease, Term of Contract	30 years	
Finance Lease, Liability	[3] $ 78	
Assets Held under Capital Leases [Member]		
Accumulated Depreciation, Depletion and Amortization, Property, Plant, and Equipment		$ 353

[1] The right-of-use assets associated with our operating leases as of September 30, 2019 are included in other assets on our Consolidated Condensed Balance Sheet.

[2] The lease liabilities associated with our operating leases as of September 30, 2019 are included in other current liabilities and other long-term liabilities on our Consolidated Condensed Balance Sheet.

[3] The lease liabilities associated with our finance leases as of September 30, 2019 are included in debt, current portion and debt, net of current portion on our Consolidated Condensed Balance Sheet.

Debt (Tables)	9 Months Ended Sep. 30, 2019

Debt Disclosure [Abstract]

Schedule of long-term debt instruments

Our debt at September 30, 2019 and December 31, 2018, was as follows (in millions):

	September 30, 2019	December 31, 2018
First Lien Term Loans	$ 3,175	$ 2,976
Senior Unsecured Notes	2,991	3,036
First Lien Notes	2,404	2,400
Project financing, notes payable and other	965	1,264
CCFC Term Loan	969	974
Finance lease obligations	78	105
Revolving facilities	60	30
Subtotal	10,642	10,785
Less: Current maturities	229	637
Total long-term debt	$ 10,413	$ 10,148

Senior Unsecured Notes

The amounts outstanding under our Senior Unsecured Notes are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2023 Senior Unsecured Notes[(1)]	$ 1,229	$ 1,227
2024 Senior Unsecured Notes	589	599
2025 Senior Unsecured Notes	1,173	1,210
Total Senior Unsecured Notes	$ 2,991	$ 3,036

[(1)] On October 23, 2019, we announced the commencement of a cash tender offer (the “2023 Offer”) for any and all of our outstanding 2023 Senior Unsecured Notes. The 2023 Offer is being made exclusively pursuant to an offer to purchase dated October 23, 2019 (the “Offer to Purchase”), which sets forth the terms and conditions of the 2023 Offer. Consummation of the 2023 Offer is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the 2023 Offer at any time as described in the Offer to Purchase.

First Lien Term Loans

The amounts outstanding under our senior secured First Lien Term Loans are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2019 First Lien Term Loan	$ —	$ 389
2023 First Lien Term Loans	—	1,059
2024 First Lien Term Loan	1,519	1,528
2026 First Lien Term Loans	1,656	—
Total First Lien Term Loans	$ 3,175	$ 2,976

First Lien Notes

The amounts outstanding under our senior secured First Lien Notes are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2022 First Lien Notes[1]	$ 745	$ 743
2024 First Lien Notes[1]	487	486
2026 First Lien Notes	1,172	1,171
Total First Lien Notes	$ 2,404	$ 2,400

(1) On October 23, 2019, we announced the commencement of cash tender offers (the "Offers") for any and all of our outstanding 2022 First Lien Notes and 2024 First Lien Notes. The Offers are being made exclusively pursuant to the Offer to Purchase, which sets forth the terms and conditions of the Offers. Consummation of the Offers is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the Offers at any time as described in the Offer to Purchase.

Schedule of line of credit facilities

The table below represents amounts issued under our letter of credit facilities at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Corporate Revolving Facility[1]	$ 602	$ 693
CDHI[2]	20	251
Various project financing facilities	199	228
Other corporate facilities[3]	294	193
Total	$ 1,115	$ 1,365

(1) The Corporate Revolving Facility represents our primary revolving facility. On April 5, 2019, we amended our Corporate Revolving Facility to increase the capacity by approximately $330 million from $1.69 billion to approximately $2.02 billion. On August 12, 2019, we amended our Corporate Revolving Facility to extend the maturity of $150 million in revolving commitments from June 27, 2020 to March 8, 2023, and to reduce the commitments outstanding by $20 million to approximately $2.0 billion. The entire Corporate Revolving Facility now matures on March 8, 2023.

(2) Pursuant to the terms and conditions of the CDHI credit agreement, the capacity under the CDHI revolving facility was reduced to $125 million on June 28, 2019. The decrease in capacity did not have a material effect on our liquidity as alternative sources of liquidity are available.

(3) We have three unsecured letter of credit facilities with two third-party financial institutions totaling approximately $300 million at September 30, 2019.

Schedule of carrying values and estimated fair values of debt instruments

The following table details the fair values and carrying values of our debt instruments at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019		December 31, 2018	
	Fair Value	Carrying Value	Fair Value	Carrying Value
First Lien Term Loans	$ 3,232	$ 3,175	$ 2,877	$ 2,976

Senior Unsecured Notes	3,062	2,991	2,803	3,036
First Lien Notes	2,477	2,404	2,299	2,400
Project financing, notes payable and other[1]	895	889	1,209	1,188
CCFC Term Loan	983	969	938	974
Revolving facilities	60	60	30	30
Total	$ 10,709	$ 10,488	$ 10,156	$ 10,604

[1] Excludes an agreement that is accounted for as a failed sale-leaseback transaction under U.S. GAAP.

Revenue From Contracts with Customers (Notes)	9 Months Ended Sep. 30, 2019
Revenue from Contract with Customer [Abstract]	
Revenue from Contract with Customer [Text Block]	

Revenue from Contracts with Customers

Disaggregation of Revenues with Customers

The following tables represent a disaggregation of our revenue for the three and nine months ended September 30, 2019 and 2018 by reportable segment (in millions). See Note 13 for a description of our segments.

	Three Months Ended September 30, 2019					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 238	$ 490	$ 169	$ 491	$ —	$ 1,388
Capacity	52	31	115	—	—	198
Revenues relating to physical or executory contracts – third party	$ 290	$ 521	$ 284	$ 491	$ —	$ 1,586
Affiliate[(1)]:	$ 11	$ 14	$ 21	$ 2	$ (48)	$ —
Revenues relating to leases and derivative instruments[(2)]						$ 1,206
Total operating revenues						$ 2,792

	Three Months Ended September 30, 2018					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 369	$ 470	$ 221	$ 543	$ —	$ 1,603
Capacity	51	23	190	—	—	264
Revenues relating to physical or executory contracts – third party	$ 420	$ 493	$ 411	$ 543	$ —	$ 1,867
Affiliate[(1)]:	$ 9	$ 11	$ 20	$ —	$ (40)	$ —
Revenues relating to leases and derivative instruments[(2)]						$ 1,023
Total operating revenues						$ 2,890

	Nine Months Ended September 30, 2019					
	Wholesale					

	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 675	$ 1,110	$ 496	$ 1,316	$ —	$ 3,597
Capacity	123	96	446	—	—	665
Revenues relating to physical or executory contracts – third party	$ 798	$ 1,206	$ 942	$ 1,316	$ —	$ 4,262
Affiliate[(1)]*:*	$ 28	$ 42	$ 78	$ 6	$ (154)	$ —
Revenues relating to leases and derivative instruments[(2)]						$ 3,728
Total operating revenues						$ 7,990

	Nine Months Ended September 30, 2018					
	Wholesale					
	West	Texas	East	Retail	Elimination	Total
Third Party:						
Energy & other products	$ 744	$ 1,100	$ 473	$ 1,437	$ —	$ 3,754
Capacity	105	72	479	—	—	656
Revenues relating to physical or executory contracts – third party	$ 849	$ 1,172	$ 952	$ 1,437	$ —	$ 4,410
Affiliate[(1)]*:*	$ 22	$ 24	$ 62	$ 2	$ (110)	$ —
Revenues relating to leases and derivative instruments[(2)]						$ 2,748
Total operating revenues						$ 7,158

[(1)] Affiliate energy, other and capacity revenues reflect revenues on transactions between wholesale and retail affiliates excluding affiliate activity related to leases and derivative instruments. All such activity supports retail supply needs from the wholesale business and/or allows for collateral margin netting efficiencies at Calpine.

[(2)] Revenues relating to contracts accounted for as leases and derivatives include energy and capacity revenues relating to PPAs that we are required to account for as operating leases and physical and financial commodity derivative contracts, primarily relating to power, natural gas and environmental products. Revenue related to derivative instruments includes revenue recorded in Commodity revenue and mark-to-market gain (loss) within our operating revenues on our Consolidated Condensed Statements of Operations.

Performance Obligations and Contract Balances

At September 30, 2019 and December 31, 2018, deferred revenue balances relating to contracts with our customers were included in other current liabilities on our Consolidated Condensed Balance Sheets and primarily relate to sales of environmental products and capacity. We classify deferred revenue as current or long-term based on the timing of when we expect to recognize revenue. The balance outstanding at September 30, 2019 and December 31, 2018 was

$10 million and $14 million, respectively. Revenue recognized during the three months ended September 30, 2019 and 2018, relating to the deferred revenue balance at the beginning of each period was $19 million and $18 million, respectively. Revenue recognized during the nine months ended September 30, 2019 and 2018, relating to the deferred revenue balance at the beginning of each period was $14 million and $17 million, respectively. Revenue recognized each period relating to deferred revenue balances resulted from our performance under the customer contracts. The change in the deferred revenue balance during the three and nine months ended September 30, 2019 and 2018 was primarily due to the timing difference of when consideration was received and when the related good or service was transferred.

Performance Obligations not yet Satisfied

As of September 30, 2019, we have entered into certain contracts for fixed and determinable amounts with customers under which we have not yet completed our performance obligations which primarily includes agreements for which we are providing capacity from our generating facilities. We have revenues related to the sale of capacity through participation in various ISO capacity auctions estimated based upon cleared volumes and the sale of capacity to our customers of $136 million that will be recognized during the remainder of 2019, and $611 million, $603 million, $371 million and $125 million that will be recognized during the years ending December 31, 2020, 2021, 2022 and 2023, respectively, and $112 million thereafter. Revenues under these contracts will be recognized as we transfer control of the commodities to our customers.

Basis of Presentation and Summary of Significant Accounting Policies (Tables)

9 Months Ended Sep. 30, 2019

Accounting Policies [Abstract]

Schedule of components of restricted cash

The table below represents the components of our restricted cash as of September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019			December 31, 2018		
	Current	Non-Current	Total	Current	Non-Current	Total
Debt service	$ 84	$ 7	$ 91	$ 13	$ 8	$ 21
Construction/major maintenance	12	22	34	23	24	47
Security/project/ insurance	245	31	276	120	—	120
Other	4	2	6	11	2	13
Total	$ 345	$ 62	$ 407	$ 167	$ 34	$ 201

Schedule of property, plant and equipment

Property, Plant and Equipment, Net — At September 30, 2019 and December 31, 2018, the components of property, plant and equipment are stated at cost less accumulated depreciation as follows (in millions):

	September 30, 2019	December 31, 2018	Depreciable Lives
Buildings, machinery and equipment	$ 16,565	$ 16,400	1.5 – 50 Years
Geothermal properties	1,510	1,501	13 – 58 Years
Other	272	286	3 – 50 Years
	18,347	18,187	
Less: Accumulated depreciation	6,855	6,832	
	11,492	11,355	
Land	128	121	
Construction in progress	382	966	
Property, plant and equipment, net	$ 12,002	$ 12,442	

Consolidated Condensed Balance Sheets (Parenthetical) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Cash and cash equivalents ($47 and $43 attributable to VIEs)	$ 792	$ 205
Accounts receivable, net of allowance of $9 and $9	9	9
Restricted cash, current ($227 and $90 attributable to VIEs)	345	167
Property, plant and equipment, net ($3,509 and $3,919 attributable to VIEs)	12,002	12,442
Restricted cash, net of current portion ($30 and $33 attributable to VIEs)	62	34
Other assets ($60 and $30 attributable to VIEs)	449	277
Debt, current portion ($177 and $201 attributable to VIEs)	229	637
Other current liabilities ($149 and $36 attributable to VIEs)	629	489
Debt, net of current portion ($1,693 and $1,978 attributable to VIEs)	10,413	10,148
Other long-term liabilities ($55 and $36 attributable to VIEs)	$ 556	$ 235
Common Stock, Par or Stated Value Per Share	$ 0.001	$ 0.001
Common Stock, Shares Authorized	5,000	5,000
Common Stock, Shares, Issued	105.2	105.2
Common Stock, Shares, Outstanding	105.2	105.2
Variable Interest Entity, Primary Beneficiary [Member]		
Cash and cash equivalents ($47 and $43 attributable to VIEs)	$ 47	$ 43
Restricted cash, current ($227 and $90 attributable to VIEs)	227	90
Property, plant and equipment, net ($3,509 and $3,919 attributable to VIEs)	3,509	3,919
Restricted cash, net of current portion ($30 and $33 attributable to VIEs)	30	33
Other assets ($60 and $30 attributable to VIEs)	60	30
Debt, current portion ($177 and $201 attributable to VIEs)	177	201
Other current liabilities ($149 and $36 attributable to VIEs)	149	36
Debt, net of current portion ($1,693 and $1,978 attributable to VIEs)	1,693	1,978
Other long-term liabilities ($55 and $36 attributable to VIEs)	$ 55	$ 36

Document and Entity Information - shares	9 Months Ended Sep. 30, 2019	Nov. 08, 2019
Entity Information [Line Items]		
Entity Registrant Name	CALPINE CORP	
Entity Central Index Key	0000916457	
Current Fiscal Year End Date	--12-31	
Entity Filer Category	Non-accelerated Filer	
Document Type	10-Q	
Document Period End Date	Sep. 30, 2019	
Document Fiscal Year Focus	2019	
Document Fiscal Period Focus	Q3	
Amendment Flag	false	
Entity Small Business	false	
Entity Emerging Growth Company	false	
Entity Shell Company	false	
Entity Current Reporting Status	No	
Entity Common Stock, Shares Outstanding		105.2

Leases Maturity of Operating Lease Liabilities (Details) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Maturity of Operating Lease Liabilities [Abstract]		
Operating Leases, Future Minimum Payments Due, Next Twelve Months		$ 50
Capital Leases, Future Minimum Payments Due, Next Twelve Months	[1]	40
Lessee, Operating Lease, Liability, Payments, Remainder of Fiscal Year	[2] $ 34	
Finance Lease, Liability, Payments, Remainder of Fiscal Year	[3] 7	
Lessee, Operating Lease, Liability, Payments, Due Year Two		19
Capital Leases, Future Minimum Payments Due in Two Years	[1]	40
Finance Lease, Liability, Payments, Due Year Two	[3] 16	
Operating Leases, Future Minimum Payments, Due in Three Years		20
Capital Leases, Future Minimum Payments Due in Three Years	[1]	38
Lessee, Operating Lease, Liability, Payments, Due Year Three	[2] 21	
Finance Lease, Liability, Payments, Due Year Three	[3] 16	
Operating Leases, Future Minimum Payments, Due in Four Years		18
Capital Leases, Future Minimum Payments Due in Four Years	[1]	33
Lessee, Operating Lease, Liability, Payments, Due Year Four	[2] 19	
Finance Lease, Liability, Payments, Due Year Four	[3] 16	
Operating Leases, Future Minimum Payments, Due in Five Years		17
Capital Leases, Future Minimum Payments Due in Five Years	[1]	27
Lessee, Operating Lease, Liability, Payments, Due Year Five	[2] 18	
Finance Lease, Liability, Payments, Due Year Five	[3] 19	
Operating Leases, Future Minimum Payments, Due Thereafter		192
Capital Leases, Future Minimum Payments Due Thereafter	[1]	92
Lessee, Operating Lease, Liability, Payments, Due after Year Five	[2] 201	
Finance Lease, Liability, Payments, Due after Year Five	[3] 33	
Operating Leases, Future Minimum Payments Due		316
Lessee, Operating Lease, Liability, Payments, Due	[2] 313	
Finance Lease, Liability, Payment, Due	[3] 107	
Finance Lease, Liability, Undiscounted Excess Amount	[3] 29	
Finance Lease, Liability	[3] $ 78	
Capital Leases, Future Minimum Payments Due	[1]	270
Capital Leases, Future Minimum Payments, Interest Included in Payments	[1]	89
Capital Leases, Future Minimum Payments, Present Value of Net Minimum Payments	[1]	$ 181

[1] Includes a failed sale-leaseback transaction related to our Pasadena Power Plant.

[2] The lease liabilities associated with our operating leases as of September 30, 2019 are included in other current liabilities and other long-term liabilities on our Consolidated Condensed Balance Sheet.

[3] The lease liabilities associated with our finance leases as of September 30, 2019 are included in debt, current portion and debt, net of current portion on our Consolidated Condensed Balance Sheet.

Variable Interest Entities and Unconsolidated Investments in Power Plants (Unconsolidated VIEs) (Details) - USD ($) $ in Millions		Sep. 30, 2019	Dec. 31, 2018
Schedule of Equity Method Investments [Line Items]			
Equity method investments		$ 73	$ 76
Equity method investment, ownership percentage		50.00%	
Greenfield [Member]			
Schedule of Equity Method Investments [Line Items]			
Equity method investments	[1]	$ 59	55
Equity method investment, ownership percentage		50.00%	
Whitby [Member]			
Schedule of Equity Method Investments [Line Items]			
Equity method investments		$ 9	15
Equity method investment, ownership percentage		50.00%	
Calpine Receivables [Member]			
Schedule of Equity Method Investments [Line Items]			
Equity method investments		$ 5	$ 6
Equity method investment, ownership percentage		100.00%	

[1] Includes our share of accumulated other comprehensive income/loss related to interest rate hedging instruments associated with our unconsolidated subsidiary Greenfield LP’s debt.

Commitments and Contingencies Commitments and Contingencies (Details) $ in Millions	Sep. 30, 2019 USD ($)
Other Commitments [Line Items]	
Guarantor Obligations, Current Carrying Value	$ 0

Derivative Instruments (Details 5) (Details) - USD ($) $ in Millions		3 Months Ended		9 Months Ended	
		Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
Derivative Instruments, Gain (Loss) [Line Items]					
Other Comprehensive Income (Loss), Derivatives Qualifying as Hedges, before Tax		$ (2)	$ 13	$ (59)	$ 83
Reclassification adjustment for loss on cash flow hedges realized in net income (loss)	[1],[2]	(3)	0	2	(7)
Depreciation expense [Member]					
Derivative Instruments, Gain (Loss) [Line Items]					
Other Comprehensive Income (Loss), Derivatives Qualifying as Hedges, before Tax	[3],[4]			1	1
Reclassification adjustment for loss on cash flow hedges realized in net income (loss)	[1],[2],[3],[4]			(1)	(1)
Interest Rate Hedging Instruments					
Derivative Instruments, Gain (Loss) [Line Items]					
Other Comprehensive Income (Loss), Derivatives Qualifying as Hedges, before Tax	[3],[4]	(3)	13	(60)	82
Reclassification adjustment for loss on cash flow hedges realized in net income (loss)	[1],[2],[3],[4]	$ (2)	$ 0	$ 3	$ (6)

[1] Cumulative cash flow hedge losses attributable to Calpine, net of tax, remaining in AOCI were $90 million and $34 million at September 30, 2019 and December 31, 2018, respectively. Cumulative cash flow hedge losses attributable to the noncontrolling interest, net of tax, remaining in AOCI were $4 million and $3 million at September 30, 2019 and December 31, 2018, respectively.

[2] Includes losses (gains) of nil that were reclassified from AOCI to interest expense for the three months ended September 30, 2019 and 2018, and losses of $2 million and nil that were reclassified from AOCI to interest expense for the nine months ended September 30, 2019 and 2018, respectively, where the hedged transactions became probable of not occurring.

[3] We recorded an income tax benefit of $1 million for each of the three months ended September 30, 2019 and 2018, respectively, and income tax benefit of $2 million and income tax expense of $3 million for the nine months ended September 30, 2019 and 2018, respectively, in AOCI related to our cash flow hedging activities.

[4] We recorded nil and $1 million in gains on hedge ineffectiveness related to our interest rate hedging instruments designated as cash flow hedges during the three and nine months ended September 30, 2018. Upon the adoption of Accounting Standards Update 2017-12 on January 1, 2019, hedge ineffectiveness is no longer separately measured and recorded in earnings.

Derivative Instruments (Details) $ in Billions	9 Months Ended Sep. 30, 2019 USD ($) MMBTU MWh t	12 Months Ended Dec. 31, 2018 USD ($) MMBTU MWh t
Power [Member]		
Derivative [Line Items]		
Derivative, Nonmonetary Notional Amount, Energy Measure | MWh	161	161
Natural Gas [Member]		
Derivative [Line Items]		
Derivative, Nonmonetary Notional Amount, Energy Measure | MMBTU	1,030	1,045
Environmental Credits [Member]		
Derivative [Line Items]		
Derivative, Nonmonetary Notional Amount, Mass | t	20	13
Interest Rate Hedging Instruments		
Derivative [Line Items]		
Derivative, Notional Amount | $	$ 4.9	$ 4.5

Debt (Letter of Credit) (Details) - USD ($) $ in Millions		Sep. 30, 2019	Dec. 31, 2018
Line of Credit Facility [Line Items]			
Letters of Credit Outstanding, Amount		$ 1,115	$ 1,365
Revolving Credit Facility [Member]			
Line of Credit Facility [Line Items]			
Letters of Credit Outstanding, Amount	[1]	602	693
CDH [Member]			
Line of Credit Facility [Line Items]			
Letters of Credit Outstanding, Amount	[2]	20	251
Various Project Financing Facilities [Member]			
Line of Credit Facility [Line Items]			
Letters of Credit Outstanding, Amount		199	228
Other Corporate Facilities [Member]			
Line of Credit Facility [Line Items]			
Letters of Credit Outstanding, Amount	[3]	$ 294	$ 193

[1] The Corporate Revolving Facility represents our primary revolving facility. On April 5, 2019, we amended our Corporate Revolving Facility to increase the capacity by approximately $330 million from $1.69 billion to approximately $2.02 billion. On August 12, 2019, we amended our Corporate Revolving Facility to extend the maturity of $150 million in revolving commitments from June 27, 2020 to March 8, 2023, and to reduce the commitments outstanding by $20 million to approximately $2.0 billion. The entire Corporate Revolving Facility now matures on March 8, 2023.

[2] Pursuant to the terms and conditions of the CDHI credit agreement, the capacity under the CDHI revolving facility was reduced to $125 million on June 28, 2019. The decrease in capacity did not have a material effect on our liquidity as alternative sources of liquidity are available.

[3] We have three unsecured letter of credit facilities with two third-party financial institutions totaling approximately $300 million at September 30, 2019.

Debt (Debt) (Details) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Debt Instrument [Line Items]		
Debt and Lease Obligation	$ 10,642	$ 10,785
Debt, Current	229	637
Long-term Debt, Excluding Current Maturities	10,413	10,148
Unsecured Debt [Member]		
Debt Instrument [Line Items]		
Debt and Lease Obligation	2,991	3,036
Loans Payable [Member]		
Debt Instrument [Line Items]		
Debt and Lease Obligation	3,175	2,976
Corporate Debt Securities [Member]		
Debt Instrument [Line Items]		
Debt and Lease Obligation	2,404	2,400
Notes Payable, Other Payables [Member]		
Debt Instrument [Line Items]		
Debt and Lease Obligation	965	1,264
Secured Debt [Member]		
Debt Instrument [Line Items]		
Debt and Lease Obligation	969	974
Finance Lease Obligations [Member]		
Debt Instrument [Line Items]		
Debt and Lease Obligation	78	105
Revolving Credit Facility [Member]		
Debt Instrument [Line Items]		
Debt and Lease Obligation	$ 60	$ 30

Assets and Liabilities with Recurring Fair Value Measurements Quantitative Info on Level 3 (Details) - USD ($)		Sep. 30, 2019	Dec. 31, 2018
Fair Value Measurements Inputs and Valuation Techniques			
Derivative, Fair Value, Net	[1]	$ 105,000,000	$ (141,000,000)
Power Contracts [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Derivative, Fair Value, Net	[2]	165,000,000	36,000,000
Power Contracts [Member] | Minimum [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Fair Value Inputs Quantitative Information		3.68	2.12
Power Contracts [Member] | Maximum [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Fair Value Inputs Quantitative Information		182.70	227.98
Natural Gas [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Derivative, Fair Value, Net		10,000,000	(73,000,000)
Natural Gas [Member] | Minimum [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Fair Value Inputs Quantitative Information		1.72	0.75
Natural Gas [Member] | Maximum [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Fair Value Inputs Quantitative Information		6.34	8.87
Power Congestion Products [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Derivative, Fair Value, Net		13,000,000	26,000,000
Power Congestion Products [Member] | Minimum [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Fair Value Inputs Quantitative Information		(13.19)	(11.71)
Power Congestion Products [Member] | Maximum [Member]			
Fair Value Measurements Inputs and Valuation Techniques			
Fair Value Inputs Quantitative Information		$ 12.51	$ 11.88

[1] At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

[2] Power contracts include power and heat rate instruments classified as level 3 in the fair value hierarchy.

Leases Supplemental balance sheet information (Details) - USD ($) $ in Millions		Sep. 30, 2019	Dec. 31, 2018
Property, Plant and Equipment, Gross		$ 18,347	$ 18,187
Accumulated Depreciation		(6,855)	(6,832)
Property, plant and equipment, net		12,002	$ 12,442
Operating Lease, Right-of-Use Asset	[1]	$ 175	
Operating Lease, Weighted Average Remaining Lease Term		15 years 7 months 6 days	
Finance Lease, Weighted Average Remaining Lease Term		7 years 2 months 12 days	
Operating Lease, Weighted Average Discount Rate, Percent		5.30%	
Finance Lease, Weighted Average Discount Rate, Percent		8.00%	
Property Subject to Finance Lease [Member]			
Property, Plant and Equipment, Gross	[2]	$ 212	
Accumulated Depreciation	[2]	(104)	
Property, plant and equipment, net	[2]	$ 108	

[1] The right-of-use assets associated with our operating leases as of September 30, 2019 are included in other assets on our Consolidated Condensed Balance Sheet.

[2] The right-of-use assets associated with our finance leases as of September 30, 2019 are included in property, plant and equipment, net on our Consolidated Condensed Balance Sheet.

Segment Information (Tables)	9 Months Ended Sep. 30, 2019
Segment Reporting [Abstract]	
Schedule of Financial Data for Segments	The tables below show financial data for our segments (including a reconciliation of our Commodity Margin to income (loss) from operations by segment) for the periods indicated (in millions):

	Three Months Ended September 30, 2019					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[1]	$ 856	$ 867	$ 348	$ 1,096	$ (375)	$ 2,792
Commodity Margin	$ 393	$ 369	$ 265	$ 100	$ —	$ 1,127
Add: Mark-to-market commodity activity, net and other[2]	110	(107)	(69)	108	(8)	34
Less:						
Operating and maintenance expense	82	71	69	41	(8)	255
Depreciation and amortization expense	61	47	51	14	—	173
General and other administrative expense	10	13	12	4	—	39
Other operating expenses	9	2	4	—	—	15
(Income) from unconsolidated subsidiaries	—	—	(3)	—	—	(3)
Income from operations	341	129	63	149	—	682
Interest expense						153
Loss on extinguishment of debt and other (income) expense, net						17
Income before income taxes						$ 512

	Three Months Ended September 30, 2018					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[1]	$ 701	$ 1,022	$ 460	$ 1,125	$ (418)	$ 2,890
Commodity Margin	$ 356	$ 187	$ 320	$ 111	$ —	$ 974
Add: Mark-to-market commodity activity, net and other[2]	(13)	137	(26)	(20)	(8)	70
Less:						

Operating and maintenance expense	85	63	72	36	(8)	248
Depreciation and amortization expense	70	57	39	13	—	179
General and other administrative expense	7	12	7	5	—	31
Other operating expenses	11	3	9	—	—	23
(Income) from unconsolidated subsidiaries	—	—	(5)	—	—	(5)
Income from operations	170	189	172	37	—	568
Interest expense						158
Loss on extinguishment of debt and other (income) expense, net						4
Income before income taxes						$ 406

	Nine Months Ended September 30, 2019					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[3]	$ 2,187	$ 2,509	$ 1,683	$ 3,176	$ (1,565)	$ 7,990
Commodity Margin	$ 908	$ 704	$ 765	$ 281	$ —	$ 2,658
Add: Mark-to-market commodity activity, net and other[4]	224	177	38	(127)	(26)	286
Less:						
Operating and maintenance expense	247	202	208	108	(26)	739
Depreciation and amortization expense	194	146	142	40	—	522
General and other administrative expense	22	40	31	12	—	105
Other operating expenses	25	5	23	—	—	53
Impairment losses	—	—	55	—	—	55
(Income) from unconsolidated subsidiaries	—	—	(15)	1	—	(14)
Income (loss) from operations	644	488	359	(7)	—	1,484
Interest expense						459
Loss on extinguishment of debt and other (income) expense, net						44
Income before income taxes						$ 981

	Nine Months Ended September 30, 2018					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[3]	$ 1,536	$ 2,155	$ 1,415	$ 2,998	$ (946)	$ 7,158
Commodity Margin	$ 782	$ 504	$ 729	$ 265	$ —	$ 2,280
Add: Mark-to-market commodity activity, net and other[4]	(23)	(109)	7	41	(23)	(107)
Less:						
Operating and maintenance expense	255	208	208	117	(23)	765
Depreciation and amortization expense	204	190	133	39	—	566
General and other administrative expense	28	50	30	14	—	122
Other operating expenses	33	22	24	—	—	79
(Income) from unconsolidated subsidiaries	—	—	(17)	1	—	(16)
Income (loss) from operations	239	(75)	358	135	—	657
Interest expense						466
Loss on extinguishment of debt and other (income) expense, net						73
Income before income taxes						$ 118

[1] Includes intersegment revenues of $133 million and $160 million in the West, $225 million and $238 million in Texas, $13 million and $19 million in the East and $4 million and $1 million in Retail for the three months ended September 30, 2019 and 2018, respectively.

[2] Includes $31 million and $30 million of lease levelization and $20 million and $26 million of amortization expense for the three months ended September 30, 2019 and 2018, respectively.

[3] Includes intersegment revenues of $395 million and $344 million in the West, $784 million and $447 million in Texas, $378 million and $152 million in the East and $8 million and $3 million in Retail for the nine months ended September 30, 2019 and 2018, respectively.

[4] Includes $(4) million and $(5) million of lease levelization and $59 million and $79 million of amortization expense for the nine months ended September 30, 2019 and 2018, respectively.

Revenue From Contracts with Customers Performance Obligations Not Yet Satisfied (Details) - Capacity Revenue [Member] $ in Millions	Sep. 30, 2019 USD ($)
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Start Date [Axis]: 2019-10-01	
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction [Line Items]	
Revenue, Remaining Performance Obligation, Amount	$ 136
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Period	3 months
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Start Date [Axis]: 2020-01-01	
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction [Line Items]	
Revenue, Remaining Performance Obligation, Amount	$ 611
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Period	1 year
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Start Date [Axis]: 2021-01-01	
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction [Line Items]	
Revenue, Remaining Performance Obligation, Amount	$ 603
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Period	1 year
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Start Date [Axis]: 2022-01-01	
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction [Line Items]	
Revenue, Remaining Performance Obligation, Amount	$ 371
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Period	1 year
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Start Date [Axis]: 2023-01-01	
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction [Line Items]	
Revenue, Remaining Performance Obligation, Amount	$ 125
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Period	1 year
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Start Date [Axis]: 2024-01-01	
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction [Line Items]	
Revenue, Remaining Performance Obligation, Amount	$ 112
Revenue, Remaining Performance Obligation, Expected Timing of Satisfaction, Period	

Use of Collateral	9 Months Ended Sep. 30, 2019

Use of Collateral [Abstract]

Use of Collateral [Text Block]

Use of Collateral

We use margin deposits, prepayments and letters of credit as credit support with and from our counterparties for commodity procurement and risk management activities. In addition, we have granted additional first priority liens on the assets currently subject to first priority liens under various debt agreements as collateral under certain of our power and natural gas agreements and certain of our interest rate hedging instruments in order to reduce the cash collateral and letters of credit that we would otherwise be required to provide to the counterparties under such agreements. The counterparties under such agreements share the benefits of the collateral subject to such first priority liens pro rata with the lenders under our various debt agreements.

The table below summarizes the balances outstanding under margin deposits, natural gas and power prepayments, and exposure under letters of credit and first priority liens for commodity procurement and risk management activities as of September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Margin deposits[1]	$ 331	$ 343
Natural gas and power prepayments	38	31
Total margin deposits and natural gas and power prepayments with our counterparties[2]	$ 369	$ 374
Letters of credit issued	$ 902	$ 1,166
First priority liens under power and natural gas agreements	46	92
First priority liens under interest rate hedging instruments	38	10
Total letters of credit and first priority liens with our counterparties	$ 986	$ 1,268
Margin deposits posted with us by our counterparties[1][3]	$ 125	$ 52
Letters of credit posted with us by our counterparties	35	27
Total margin deposits and letters of credit posted with us by our counterparties	$ 160	$ 79

[1] We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

[2] At September 30, 2019 and December 31, 2018, $92 million and $79 million, respectively, were included in current and long-term derivative assets and liabilities, $269 million and $286 million, respectively, were included in margin deposits and other prepaid expense and $8 million and $9 million, respectively, were included in other assets on our Consolidated Condensed Balance Sheets.

[3] At September 30, 2019 and December 31, 2018, $2 million and $32 million, respectively, were included in current and long-term derivative assets and liabilities, $92 million and $20 million, respectively, were included in other current liabilities and $31 million and nil,

respectively, were included in other long-term liabilities on our Consolidated Condensed Balance Sheets.

Future collateral requirements for cash, first priority liens and letters of credit may increase or decrease based on the extent of our involvement in hedging and optimization contracts, movements in commodity prices, and also based on our credit ratings and general perception of creditworthiness in our market.

Variable Interest Entities and Unconsolidated Investments in Power Plants	9 Months Ended Sep. 30, 2019
Variable Interest Entities and Unconsolidated Investments [Abstract]	
Variable interest entities and unconsolidated investments in power plants	See below

Variable Interest Entities and Unconsolidated Investments

We consolidate all of our VIEs where we have determined that we are the primary beneficiary. There were no changes to our determination of whether we are the primary beneficiary of our VIEs for the nine months ended September 30, 2019. See Note 7 in our 2018 Form 10-K for further information regarding our VIEs.

VIE Disclosures

Our consolidated VIEs include natural gas-fired power plants with an aggregate capacity of 6,769 MW and 7,880 MW at September 30, 2019 and December 31, 2018, respectively. For these VIEs, we may provide other operational and administrative support through various affiliate contractual arrangements among the VIEs, Calpine Corporation and its other wholly owned subsidiaries whereby we support the VIE through the reimbursement of costs and/or the purchase and sale of energy. On August 14, 2019, we repaid the OMEC project debt outstanding balance utilizing proceeds from our New 2026 First Lien Term Loan and cash on hand. See below for further discussion of OMEC. Other than amounts contractually required, we provided no additional material support to our VIEs in the form of cash and other contributions during each of the three and nine months ended September 30, 2019 and 2018.

OMEC — OMEC had a ten-year tolling agreement with SDG&E, which commenced on October 3, 2009 and expired on October 2, 2019. Under a ground lease agreement, OMEC held a put option to sell the Otay Mesa Energy Center for $280 million to SDG&E, pursuant to the terms and conditions of the agreement, which was exercisable until April 1, 2019 and SDG&E held a call option to purchase the Otay Mesa Energy Center for $377 million, which was exercisable through October 3, 2018. The call option held by SDG&E expired unexercised.

OMEC has executed a new 59-month Resource Adequacy (“RA”) contract with SDG&E. The RA contract received initial regulatory approval by the CPUC on February 21, 2019. This approval was subject to a 30 day appeal period from the date of the issuance of the CPUC decision. On March 27, 2019, an appeal of the CPUC decision was filed with the CPUC. Accordingly, on March 28, 2019, we provided notice of our exercise of the put option, which we subsequently rescinded by agreement following the CPUC’s denial of all appeals of the new RA contract on August 1, 2019. On October 3, 2019, the RA contract with SDG&E commenced. As a result, we will retain the 608 MW Otay Mesa Energy Center, which plays an integral role in electric reliability in Southern California.

As the call and put options have terminated and the project debt has been fully repaid, we determined that OMEC no longer meets the definition of a VIE as of September 30, 2019.

Unconsolidated VIEs and Investments in Unconsolidated Subsidiaries

We have a 50% partnership interest in Greenfield LP and in Whitby. Greenfield LP and Whitby are VIEs; however, we do not have the power to direct the most significant activities of these entities and therefore do not consolidate them. Greenfield LP is a limited partnership between certain subsidiaries of ours and of Mitsui & Co., Ltd., which operates the Greenfield Energy Centre, a 1,038 MW natural gas-fired, combined-cycle power plant located in Ontario, Canada. We and Mitsui & Co., Ltd. each hold a 50% interest in Greenfield LP. Whitby is a limited partnership between certain of our subsidiaries and Atlantic Packaging Ltd., which operates the Whitby facility, a 50 MW natural gas-fired, simple-cycle cogeneration power plant located in Ontario, Canada. We and Atlantic Packaging Ltd. each hold a 50% partnership interest in Whitby.

Calpine Receivables is a VIE and a bankruptcy remote entity created for the special purpose of purchasing trade accounts receivable from Calpine Solutions under the Accounts Receivable Sales Program. We have determined that we do not have the power to direct the activities of the VIE that most significantly affect the VIE's economic performance nor the obligation to absorb losses or receive benefits from the VIE. Accordingly, we have determined that we are not the primary beneficiary of Calpine Receivables because we do not have the power to affect its financial performance as the unaffiliated financial institutions that purchase the receivables from Calpine Receivables control the selection criteria of the receivables sold and appoint the servicer of the receivables which controls management of default. Thus, we do not consolidate Calpine Receivables in our Consolidated Condensed Financial Statements and use the equity method of accounting to record our net interest in Calpine Receivables.

We account for these entities under the equity method of accounting and include our net equity interest in investments in unconsolidated subsidiaries on our Consolidated Condensed Balance Sheets. At September 30, 2019 and December 31, 2018, our equity method investments included on our Consolidated Condensed Balance Sheets were comprised of the following (in millions):

	Ownership Interest as of September 30, 2019	September 30, 2019	December 31, 2018
Greenfield LP[1]	50%	$ 59	$ 55
Whitby	50%	9	15
Calpine Receivables	100%	5	6
Total investments in unconsolidated subsidiaries		$ 73	$ 76

[1] Includes our share of accumulated other comprehensive income/loss related to interest rate hedging instruments associated with our unconsolidated subsidiary Greenfield LP's debt.

Our risk of loss related to our investments in Greenfield LP and Whitby is limited to our investment balance. Our risk of loss related to our investment in Calpine Receivables is $63 million which consists of our notes receivable from Calpine Receivables at September 30, 2019 and our initial investment associated with Calpine Receivables. See Note 12 for further information associated with our related party activity with Calpine Receivables.

Holders of the debt of our unconsolidated investments do not have recourse to Calpine Corporation and its other subsidiaries; therefore, the debt of our unconsolidated investments is not reflected on our Consolidated Condensed Balance Sheets. At September 30, 2019 and December 31, 2018, Greenfield LP's debt was approximately $297 million and $301 million, respectively, and based on our pro rata share of our investment in Greenfield LP, our share of such debt would be approximately $149 million and $151 million at September 30, 2019 and December 31, 2018, respectively.

Our equity interest in the net income from our investments in unconsolidated subsidiaries for the three and nine months ended September 30, 2019 and 2018, is recorded in (income) from unconsolidated subsidiaries. The following table sets forth details of our (income) from unconsolidated subsidiaries for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Greenfield LP	$ (4)	$ (2)	$ (10)	$ (6)
Whitby	1	(3)	(5)	(11)
Calpine Receivables	—	—	1	1

Total	$ (3)	$ (5)	$ (14)	$ (16)

Distributions from Greenfield LP were nil during each of the three and nine months ended September 30, 2019 and 2018. Distributions from Whitby were nil and $11 million during the three and nine months ended September 30, 2019, respectively, and nil and $5 million during the three and nine months ended September 30, 2018, respectively. We did not have material distributions from our investment in Calpine Receivables for the three and nine months ended September 30, 2019 and 2018.

Inland Empire Energy Center Put and Call Options — We held a call option to purchase the Inland Empire Energy Center (a 775 MW natural gas-fired power plant located in California) at predetermined prices from GE that could be exercised between years 2017 and 2024. GE held a put option whereby they could require us to purchase the power plant, if certain plant performance criteria were met by 2025. On February 1, 2019, we entered into an agreement with GE, which among other things, terminated our call option and GE's put option related to the Inland Empire Energy Center. As per this agreement, we will take ownership of the facility site and certain remaining site infrastructure and equipment after closure and decommissioning of the facility at a future date, until such time GE continues to own, operate and maintain the power plant, including directing any closure activities. As GE continues to direct all such significant activities of the power plant, we have determined that we no longer hold any variable interests in the Inland Empire Energy Center and it is not a VIE to Calpine.

Leases (Tables)	9 Months Ended Sep. 30, 2019

Leases [Abstract]

Lease, Cost [Table Text Block]

The components of our operating and finance lease expense are as follows for the three and nine months ended September 30, 2019 (in millions):

	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Operating Leases		
Operating lease expense	$ 11	$ 34
Finance Leases		
Amortization of the right-of-use assets	$ 2	$ 6
Interest expense	2	6
Finance lease expense	$ 4	$ 12
Variable lease expense	$ 3	$ 8
Total lease expense	$ 18	$ 54

Lessee, Operating Lease, Liability, Maturity [Table Text Block]

The following is a schedule by year of future minimum lease payments associated with our operating and finance leases together with the present value of the net minimum lease payments as of September 30, 2019 (in millions):

	Operating Leases[1]	Finance Leases[2]
2019	$ 34	$ 7
2020	20	16
2021	21	16
2022	19	16
2023	18	19
Thereafter	201	33
Total minimum lease payments	313	107
Less: Amount representing interest	105	29
Total lease obligation	208	78
Less: current lease obligation	39	10
Long-term lease obligation	$ 169	$ 68

[1] The lease liabilities associated with our operating leases as of September 30, 2019 are included in other current liabilities and other long-term liabilities on our Consolidated Condensed Balance Sheet.

(2) The lease liabilities associated with our finance leases as of September 30, 2019 are included in debt, current portion and debt, net of current portion on our Consolidated Condensed Balance Sheet.

Finance Lease, Liability, Maturity [Table Text Block]

The following is a schedule by year of future minimum lease payments associated with our operating and finance leases together with the present value of the net minimum lease payments as of September 30, 2019 (in millions):

	Operating Leases[1]	Finance Leases[2]
2019	$ 34	$ 7
2020	20	16
2021	21	16
2022	19	16
2023	18	19
Thereafter	201	33
Total minimum lease payments	313	107
Less: Amount representing interest	105	29
Total lease obligation	208	78
Less: current lease obligation	39	10
Long-term lease obligation	$ 169	$ 68

(1) The lease liabilities associated with our operating leases as of September 30, 2019 are included in other current liabilities and other long-term liabilities on our Consolidated Condensed Balance Sheet.

(2) The lease liabilities associated with our finance leases as of September 30, 2019 are included in debt, current portion and debt, net of current portion on our Consolidated Condensed Balance Sheet.

Supplemental Balance Sheet Info Lessee [Table Text Block]

Supplemental balance sheet information related to our operating and finance leases is as follows as of September 30, 2019 (in millions, except lease term and discount rate):

	September 30, 2019
Operating leases[1]	
Right-of-use assets associated with operating leases	$ 175
Finance leases[2]	
Property, plant and equipment, gross	$ 212
Accumulated amortization	(104)
Property, plant and equipment, net	$ 108
Weighted average remaining lease term (in years)	
Operating leases	15.6
Finance leases	7.2
Weighted average discount rate	

Operating leases	5.3%
Finance leases	8.0%

[1] The right-of-use assets associated with our operating leases as of September 30, 2019 are included in other assets on our Consolidated Condensed Balance Sheet.

[2] The right-of-use assets associated with our finance leases as of September 30, 2019 are included in property, plant and equipment, net on our Consolidated Condensed Balance Sheet.

Supplemental Cash Flow Lessee [Table Text Block]

Supplemental cash flow information related to our operating and finance leases is as follows for the period presented (in millions):

	Nine Months Ended September 30, 2019
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	$ 19
Operating cash flows from finance leases	$ 5
Financing cash flows from finance leases	$ 6
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases	$ 9
Finance leases	$ —

Lease Cost - Lessor [Table Text Block]

	September 30, 2019
Assets subject to contracts accounted for as operating leases	
Property, plant and equipment, gross	$ 3,085
Accumulated depreciation	(911)
Property, plant and equipment, net[1]	$ 2,174

[1] Our assets subject to contracts that are accounted for as operating leases primarily consist of our power plants subject to tolling contracts.

Revenue recognized related to fixed lease payments on our operating leases for the periods presented is as follows (in millions):

	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Operating Leases[1]		
Fixed lease payments	$ 130	$ 269

[1] Revenues associated with our operating leases are included in Commodity revenue and other revenue on our Consolidated Condensed Statement of Operations.

Lessor, Operating Lease, Payments to be Received, Maturity [Table Text Block]

The total contractual future minimum lease rentals for our contracts that have commenced and are accounted for as operating leases at September 30, 2019, are as follows (in millions):

2019	$ 74
2020	286
2021	261
2022	226
2023	144
Thereafter	277
Total	$ 1,268

Schedule of Future Minimum Lease Payments for Capital Leases [Table Text Block]

The following is a schedule by year of future minimum lease payments under operating and capital leases as of December 31, 2018 (in millions):

	Operating Leases	Capital Leases[1]
2019	$ 50	$ 40
2020	19	40
2021	20	38
2022	18	33
2023	17	27
Thereafter	192	92
Total minimum lease payments	$ 316	270
Less: Amount representing interest		89
Present value of net minimum lease payments		$ 181

(1) Includes a failed sale-leaseback transaction related to our Pasadena Power Plant.

Schedule of Future Minimum Rental Payments for Operating Leases [Table Text Block]

The total contractual future minimum lease rentals for our contracts accounted for as operating leases at December 31, 2018, are as follows (in millions):

2019	$ 342
2020	261
2021	257
2022	224
2023	141
Thereafter	239
Total	$ 1,464

The following is a schedule by year of future minimum lease payments under operating and capital leases as of December 31, 2018 (in millions):

	Operating Leases	Capital Leases[1]
2019	$ 50	$ 40
2020	19	40
2021	20	38
2022	18	33

2023	17	27
Thereafter	192	92
Total minimum lease payments	$ 316	270
Less: Amount representing interest		89
Present value of net minimum lease payments		$ 181

(1) Includes a failed sale-leaseback transaction related to our Pasadena Power Plant.

Segment Information	9 Months Ended Sep. 30, 2019
Segment Reporting [Abstract]	
Segment Information	**Segment Information**

Segment Information

We assess our business on a regional basis due to the effect on our financial performance of the differing characteristics of these regions, particularly with respect to competition, regulation and other factors affecting supply and demand. At September 30, 2019, our geographic reportable segments for our wholesale business are West (including geothermal), Texas and East (including Canada) and we have a separate reportable segment for our retail business. We continue to evaluate the optimal manner in which we assess our performance including our segments and future changes may result in changes to the composition of our geographic segments.

Commodity Margin is a key operational measure of profit reviewed by our chief operating decision maker to assess the performance of our segments. The tables below show financial data for our segments (including a reconciliation of our Commodity Margin to income (loss) from operations by segment) for the periods indicated (in millions):

	Three Months Ended September 30, 2019					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[1]	$ 856	$ 867	$ 348	$ 1,096	$ (375)	$ 2,792
Commodity Margin	$ 393	$ 369	$ 265	$ 100	$ —	$ 1,127
Add: Mark-to-market commodity activity, net and other[2]	110	(107)	(69)	108	(8)	34
Less:						
Operating and maintenance expense	82	71	69	41	(8)	255
Depreciation and amortization expense	61	47	51	14	—	173
General and other administrative expense	10	13	12	4	—	39
Other operating expenses	9	2	4	—	—	15
(Income) from unconsolidated subsidiaries	—	—	(3)	—	—	(3)
Income from operations	341	129	63	149	—	682
Interest expense						153
Loss on extinguishment of debt and other (income) expense, net						17
Income before income taxes						$ 512

	Three Months Ended September 30, 2018					
	Wholesale				Consolidation	

	West	Texas	East	Retail	Elimination	Total
Total operating revenues[1]	$ 701	$ 1,022	$ 460	$ 1,125	$ (418)	$ 2,890
Commodity Margin	$ 356	$ 187	$ 320	$ 111	$ —	$ 974
Add: Mark-to-market commodity activity, net and other[2]	(13)	137	(26)	(20)	(8)	70
Less:						
Operating and maintenance expense	85	63	72	36	(8)	248
Depreciation and amortization expense	70	57	39	13	—	179
General and other administrative expense	7	12	7	5	—	31
Other operating expenses	11	3	9	—	—	23
(Income) from unconsolidated subsidiaries	—	—	(5)	—	—	(5)
Income from operations	170	189	172	37	—	568
Interest expense						158
Loss on extinguishment of debt and other (income) expense, net						4
Income before income taxes						$ 406

	Nine Months Ended September 30, 2019					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[3]	$ 2,187	$ 2,509	$ 1,683	$ 3,176	$ (1,565)	$ 7,990
Commodity Margin	$ 908	$ 704	$ 765	$ 281	$ —	$ 2,658
Add: Mark-to-market commodity activity, net and other[4]	224	177	38	(127)	(26)	286
Less:						
Operating and maintenance expense	247	202	208	108	(26)	739
Depreciation and amortization expense	194	146	142	40	—	522
General and other administrative expense	22	40	31	12	—	105
Other operating expenses	25	5	23	—	—	53
Impairment losses	—	—	55	—	—	55
(Income) from unconsolidated subsidiaries	—	—	(15)	1	—	(14)

	West	Texas	East	Retail	Consolidation Elimination	Total
Income (loss) from operations	644	488	359	(7)	—	1,484
Interest expense						459
Loss on extinguishment of debt and other (income) expense, net						44
Income before income taxes						$ 981

	Nine Months Ended September 30, 2018					
	Wholesale				Consolidation	
	West	Texas	East	Retail	Elimination	Total
Total operating revenues[3]	$ 1,536	$ 2,155	$ 1,415	$ 2,998	$ (946)	$ 7,158
Commodity Margin	$ 782	$ 504	$ 729	$ 265	$ —	$ 2,280
Add: Mark-to-market commodity activity, net and other[4]	(23)	(109)	7	41	(23)	(107)
Less:						
Operating and maintenance expense	255	208	208	117	(23)	765
Depreciation and amortization expense	204	190	133	39	—	566
General and other administrative expense	28	50	30	14	—	122
Other operating expenses	33	22	24	—	—	79
(Income) from unconsolidated subsidiaries	—	—	(17)	1	—	(16)
Income (loss) from operations	239	(75)	358	135	—	657
Interest expense						466
Loss on extinguishment of debt and other (income) expense, net						73
Income before income taxes						$ 118

(1) Includes intersegment revenues of $133 million and $160 million in the West, $225 million and $238 million in Texas, $13 million and $19 million in the East and $4 million and $1 million in Retail for the three months ended September 30, 2019 and 2018, respectively.

(2) Includes $31 million and $30 million of lease levelization and $20 million and $26 million of amortization expense for the three months ended September 30, 2019 and 2018, respectively.

(3) Includes intersegment revenues of $395 million and $344 million in the West, $784 million and $447 million in Texas, $378 million and $152 million in the East and $8 million and $3 million in Retail for the nine months ended September 30, 2019 and 2018, respectively.

(4) Includes $(4) million and $(5) million of lease levelization and $59 million and $79 million of amortization expense for the nine months ended September 30, 2019 and 2018, respectively.

Consolidated Condensed Statements of Cash Flows - USD ($) $ in Millions	9 Months Ended	
	Sep. 30, 2019	Sep. 30, 2018
Cash flows from operating activities:		
Net income	$ 941	$ 40
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization(1)	[1] 585	642
Deferred income taxes	33	69
Impairment losses	55	0
Mark-to-market activity, net	[2] (297)	73
(Income) from unconsolidated subsidiaries	(14)	(16)
Return on investments from unconsolidated subsidiaries	11	5
Stock-based compensation expense	0	57
Other	12	17
Change in operating assets and liabilities:		
Accounts receivable	138	35
Accounts payable	(217)	(35)
Margin deposits and other prepaid expense	14	(43)
Other assets and liabilities, net	169	(32)
Derivative instruments, net	1	61
Net cash provided by operating activities	1,431	873
Cash flows from investing activities:		
Purchases of property, plant and equipment	(435)	(314)
Proceeds from Sale of Property, Plant, and Equipment	303	10
Other	(5)	(9)
Net cash used in investing activities	(137)	(313)
Cash flows from financing activities:		
Borrowings under First Lien Term Loans	1,687	0
Repayment of CCFC Term Loan and First Lien Term Loans	(1,496)	(31)
Repurchases of Senior Unsecured Notes	(44)	0
Borrowings under revolving facilities	280	525
Repayments of revolving facilities	(250)	(525)
Repayments of project financing, notes payable and other	(311)	(89)
Distribution to noncontrolling interest holder	0	(6)
Financing costs	(20)	(12)
Stock repurchases	0	(79)
Shares repurchased for tax withholding on stock-based awards	0	(7)
Dividends paid(2)	[3] (401)	(20)
Proceeds from (Payments for) Other Financing Activities	54	4
Net cash used in financing activities	(501)	(240)
Net increase in cash, cash equivalents and restricted cash	793	320

Cash, cash equivalents and restricted cash, beginning of period	406	443
Cash, cash equivalents and restricted cash, end of period(3)	[4] 1,199	763
Cash paid during the period for:		
Interest, net of amounts capitalized	402	401
Income taxes	8	10
Supplemental disclosure of non-cash investing and financing activities:		
Change in capital expenditures included in accounts payable	6	(12)
Plant tax settlement offset in prepaid assets	(4)	0
Asset retirement obligation adjustment offset in operating activities	(10)	0
Merger Related Costs [Member]		
Cash flows from financing activities:		
Dividends paid(2)	[3] $ 1	$ 20

[1] Includes amortization recorded in Commodity revenue and Commodity expense associated with intangible assets and amortization recorded in interest expense associated with debt issuance costs and discounts.

[2] In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

[3] Dividends paid during the nine months ended September 30, 2019 and 2018, includes approximately $1 million and $20 million, respectively, in certain Merger-related costs incurred by CPN Management, our parent.

[4] Our cash and cash equivalents, restricted cash, current and restricted cash, net of current portion are stated as separate line items on our Consolidated Condensed Balance Sheets.

Derivative Instruments (Tables)	9 Months Ended Sep. 30, 2019

Derivative Instruments and Hedging Activities Disclosure [Abstract]

Schedule of Notional Amounts of Outstanding Derivative Positions

As of September 30, 2019 and December 31, 2018, the net forward notional buy (sell) position of our outstanding commodity derivative instruments that did not qualify or were not designated under the normal purchase normal sale exemption and our interest rate hedging instruments were as follows:

	Notional Amounts		
Derivative Instruments	September 30, 2019	December 31, 2018	Unit of Measure
Power	(161)	(161)	Million MWh
Natural gas	1,030	1,045	Million MMBtu
Environmental credits	20	13	Million Tonnes
Interest rate hedging instruments	$ 4.9	$ 4.5	Billion U.S. dollars

Derivative Instruments Subject to Master Netting Arrangements [Table Text Block]

The following tables present the fair values of our derivative instruments and our net exposure after offsetting amounts subject to a master netting arrangement with the same counterparty to our derivative instruments recorded on our Consolidated Condensed Balance Sheets by location and hedge type at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019		
	Gross Amounts of Assets and (Liabilities)	Gross Amounts Offset on the Consolidated Condensed Balance Sheets	Net Amount Presented on the Consolidated Condensed Balance Sheets[1]
Derivative assets:			
Commodity exchange traded derivatives contracts	$ 492	$ (492)	$ —
Commodity forward contracts	333	(190)	143
Interest rate hedging instruments	3	(2)	1
Total current derivative assets[2]	$ 828	$ (684)	$ 144
Commodity exchange traded derivatives contracts	187	(187)	—
Commodity forward contracts	328	(88)	240
Interest rate hedging instruments	3	—	3
Total long-term derivative assets[2]	$ 518	$ (275)	$ 243
Total derivative assets	$ 1,346	$ (959)	$ 387
Derivative (liabilities):			
Commodity exchange traded derivatives contracts	$ (571)	$ 571	$ —

Commodity forward contracts	(383)	195	(188)
Interest rate hedging instruments	(12)	2	(10)
Total current derivative (liabilities)[2]	$ (966)	$ 768	$ (198)
Commodity exchange traded derivatives contracts	(196)	196	—
Commodity forward contracts	(143)	85	(58)
Interest rate hedging instruments	(26)	—	(26)
Total long-term derivative (liabilities)[2]	$ (365)	$ 281	$ (84)
Total derivative liabilities	$ (1,331)	$ 1,049	$ (282)
Net derivative assets (liabilities)	$ 15	$ 90	$ 105

	December 31, 2018		
	Gross Amounts of Assets and (Liabilities)	Gross Amounts Offset on the Consolidated Condensed Balance Sheets	Net Amount Presented on the Consolidated Condensed Balance Sheets[1]
Derivative assets:			
Commodity exchange traded derivatives contracts	$ 820	$ (820)	$ —
Commodity forward contracts	341	(229)	112
Interest rate hedging instruments	30	—	30
Total current derivative assets[3]	$ 1,191	$ (1,049)	$ 142
Commodity exchange traded derivatives contracts	113	(113)	—
Commodity forward contracts	209	(59)	150
Interest rate hedging instruments	10	—	10
Total long-term derivative assets[3]	$ 332	$ (172)	$ 160
Total derivative assets	$ 1,523	$ (1,221)	$ 302
Derivative (liabilities):			
Commodity exchange traded derivatives contracts	$ (764)	$ 764	$ —
Commodity forward contracts	(576)	277	(299)
Interest rate hedging instruments	(4)	—	(4)
Total current derivative (liabilities)[3]	$ (1,344)	$ 1,041	$ (303)
Commodity exchange traded derivatives contracts	(168)	168	—
Commodity forward contracts	(193)	59	(134)
Interest rate hedging instruments	(6)	—	(6)
Total long-term derivative (liabilities)[3]	$ (367)	$ 227	$ (140)
Total derivative liabilities	$ (1,711)	$ 1,268	$ (443)
Net derivative assets (liabilities)	$ (188)	$ 47	$ (141)

(1) At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

(2) At September 30, 2019, current and long-term derivative assets are shown net of collateral of $(7) million and $(6) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $92 million and $11 million, respectively.

(3) At December 31, 2018, current and long-term derivative assets are shown net of collateral of $(58) million and $(8) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $49 million and $64 million, respectively.

Schedule of Derivative Instruments in Statement of Financial Position, Fair Value

	September 30, 2019		December 31, 2018	
	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities	Fair Value of Derivative Assets	Fair Value of Derivative Liabilities
Derivatives designated as cash flow hedging instruments:				
Interest rate hedging instruments	$ 4	$ 34	$ 40	$ 10
Total derivatives designated as cash flow hedging instruments	$ 4	$ 34	$ 40	$ 10
Derivatives not designated as hedging instruments:				
Commodity instruments	$ 383	$ 246	$ 262	$ 433
Interest rate hedging instruments	—	2	—	—
Total derivatives not designated as hedging instruments	$ 383	$ 248	$ 262	$ 433
Total derivatives	$ 387	$ 282	$ 302	$ 443

Realized Unrealized Gain Loss by Instrument

The following tables detail the components of our total activity for both the net realized gain (loss) and the net mark-to-market gain (loss) recognized from our derivative instruments in earnings and where these components were recorded on our Consolidated Condensed Statements of Operations for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Realized gain (loss)[1][2]				
Commodity derivative instruments	$ 92	$ 45	$ 261	$ 111
Total realized gain (loss)	$ 92	$ 45	$ 261	$ 111
Mark-to-market gain (loss)[3]				
Commodity derivative instruments	$ 67	$ 106	$ 300	$ (77)
Interest rate hedging instruments	(1)	1	(3)	4
Total mark-to-market gain (loss)	$ 66	$ 107	$ 297	$ (73)
Total activity, net	$ 158	$ 152	$ 558	$ 38

(1) Does not include the realized value associated with derivative instruments that settle through physical delivery.

(2) Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

(3) In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

Schedule of Other Derivatives Not Designated as Hedging Instruments, Statements of Financial Performance and Financial Position, Location

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Realized and mark-to-market gain (loss)[1]				
Derivatives contracts included in operating revenues[2][3]	$ 213	$ 34	$ 791	$ (142)
Derivatives contracts included in fuel and purchased energy expense[2][3]	(54)	117	(230)	176
Interest rate hedging instruments included in interest expense	(1)	1	(3)	4
Total activity, net	$ 158	$ 152	$ 558	$ 38

(1) In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

(2) Does not include the realized value associated with derivative instruments that settle through physical delivery.

(3) Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

Derivatives Designated as Hedges

The following table details the effect of our net derivative instruments that qualified for hedge accounting treatment and are included in OCI and AOCI for the periods indicated (in millions):

	Three Months Ended September 30,		Three Months Ended September 30,		
	Gain (Loss) Recognized in OCI		Gain (Loss) Reclassified from AOCI into Income[3][4]		
	2019	2018	2019	2018	Affected Line Item on the Consolidated Condensed Statements of Operations
Interest rate hedging instruments[1][2]	$ (3)	$ 13	$ (2)	$ —	Interest expense
Interest rate hedging instruments[1][2]	1	—	(1)	—	Depreciation and amortization expense
Total	$ (2)	$ 13	$ (3)	$ —	

	Nine Months Ended September 30,	Nine Months Ended September 30,

	Gain (Loss) Recognized in OCI		Gain (Loss) Reclassified from AOCI into Income[3][4]		
	2019	2018	2019	2018	Affected Line Item on the Consolidated Condensed Statements of Operations
Interest rate hedging instruments[1][2]	$ (60)	$ 82	$ 3	$ (6)	Interest expense
Interest rate hedging instruments[1][2]	1	1	(1)	(1)	Depreciation and amortization expense
Total	$ (59)	$ 83	$ 2	$ (7)	

[1] We recorded nil and $1 million in gains on hedge ineffectiveness related to our interest rate hedging instruments designated as cash flow hedges during the three and nine months ended September 30, 2018. Upon the adoption of Accounting Standards Update 2017-12 on January 1, 2019, hedge ineffectiveness is no longer separately measured and recorded in earnings.

[2] We recorded an income tax benefit of $1 million for each of the three months ended September 30, 2019 and 2018, respectively, and income tax benefit of $2 million and income tax expense of $3 million for the nine months ended September 30, 2019 and 2018, respectively, in AOCI related to our cash flow hedging activities.

[3] Cumulative cash flow hedge losses attributable to Calpine, net of tax, remaining in AOCI were $90 million and $34 million at September 30, 2019 and December 31, 2018, respectively. Cumulative cash flow hedge losses attributable to the noncontrolling interest, net of tax, remaining in AOCI were $4 million and $3 million at September 30, 2019 and December 31, 2018, respectively.

[4] Includes losses (gains) of nil that were reclassified from AOCI to interest expense for the three months ended September 30, 2019 and 2018, and losses of $2 million and nil that were reclassified from AOCI to interest expense for the nine months ended September 30, 2019 and 2018, respectively, where the hedged transactions became probable of not occurring.

Consolidated Condensed Statements of Comprehensive Income - USD ($) $ in Millions		3 Months Ended		9 Months Ended	
		Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
Statement of Comprehensive Income [Abstract]					
Net income		$ 491	$ 278	$ 941	$ 40
Cash flow hedging activities:					
Gain (loss) on cash flow hedges before reclassification adjustment for cash flow hedges realized in net income		(5)	13	(57)	76
Reclassification adjustment for (gain) loss on cash flow hedges realized in net income	[1],[2]	3	0	(2)	7
Foreign currency translation gain (loss)		(1)	1	2	(7)
Income tax benefit (expense)		1	1	2	(3)
Other comprehensive income (loss)		(2)	15	(55)	73
Comprehensive income		489	293	886	113
Comprehensive (income) attributable to the noncontrolling interest		(6)	(7)	(14)	(17)
Comprehensive income attributable to Calpine		$ 483	$ 286	$ 872	$ 96

[1] Cumulative cash flow hedge losses attributable to Calpine, net of tax, remaining in AOCI were $90 million and $34 million at September 30, 2019 and December 31, 2018, respectively. Cumulative cash flow hedge losses attributable to the noncontrolling interest, net of tax, remaining in AOCI were $4 million and $3 million at September 30, 2019 and December 31, 2018, respectively.

[2] Includes losses (gains) of nil that were reclassified from AOCI to interest expense for the three months ended September 30, 2019 and 2018, and losses of $2 million and nil that were reclassified from AOCI to interest expense for the nine months ended September 30, 2019 and 2018, respectively, where the hedged transactions became probable of not occurring.

Use of Collateral (Details) - USD ($) $ in Millions		Sep. 30, 2019	Dec. 31, 2018
Financial Instruments Owned and Pledged as Collateral [Line Items]			
Margin deposits	[1]	$ 331	$ 343
Natural gas and power prepayments		38	31
Total margin deposits and natural gas and power prepayments with our counterparties	[2]	369	374
Letters of credit issued		902	1,166
First priority liens under power and natural gas agreements		46	92
First priority liens under interest rate hedging instruments		38	10
Total letters of credit and first priority liens with our counterparties		986	1,268
Margin deposits held by us posted by our counterparties	[1],[3]	125	52
Letters of credit posted with us by our counterparties		35	27
Total margin deposits and letters of credit posted with us by our counterparties		160	79
Current and Non-current Derivative Assets and Liabilities [Member]			
Financial Instruments Owned and Pledged as Collateral [Line Items]			
Total margin deposits and natural gas and power prepayments with our counterparties	[2]	92	79
Margin deposits held by us posted by our counterparties		2	32
Other Current Liabilities [Member]			
Financial Instruments Owned and Pledged as Collateral [Line Items]			
Margin deposits held by us posted by our counterparties		92	20
Prepaid Expenses and Other Current Assets [Member]			
Financial Instruments Owned and Pledged as Collateral [Line Items]			
Total margin deposits and natural gas and power prepayments with our counterparties	[2]	269	286
Other Assets [Member]			
Financial Instruments Owned and Pledged as Collateral [Line Items]			
Total margin deposits and natural gas and power prepayments with our counterparties	[2]	8	9
Other Noncurrent Liabilities [Member]			
Financial Instruments Owned and Pledged as Collateral [Line Items]			
Margin deposits held by us posted by our counterparties		$ 31	$ 0

[1] We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

[2] At September 30, 2019 and December 31, 2018, $92 million and $79 million, respectively, were included in current and long-term derivative assets and liabilities, $269 million and $286 million, respectively, were included in margin deposits and other prepaid expense and $8 million and $9 million, respectively, were included in other assets on our Consolidated Condensed Balance Sheets.

[3] At September 30, 2019 and December 31, 2018, $2 million and $32 million, respectively, were included in current and long-term derivative assets and liabilities, $92 million and $20 million, respectively, were included in other current liabilities and $31 million and nil, respectively, were included in other long-term liabilities on our Consolidated Condensed Balance Sheets.

Derivative Instruments (Detail 3) (Details) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative assets, current	[1] $ 144	[2] $ 142 [3]
Derivative Asset, Noncurrent	[1] 243	[2] 160 [3]
Long-term derivative liabilities	[1] (84)	[2] (140) [3]
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	15	188
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	90	47
Derivative Liability, Current	[1] (198)	[2] (303) [3]
Derivative Liability	[1] (282)	(443)
Derivative, Collateral, Right to Reclaim Cash	116	244
Derivative, Fair Value, Net	[1] 105	(141)
Derivative Asset	[1] 387	302
Derivative Financial Instruments, Assets [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	1,346	1,523
Derivative Asset, Collateral, Obligation to Return Cash, Offset	(959)	(1,221)
Future [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative assets, current	[1] 0	0
Derivative Asset, Noncurrent	[1] 0	0
Long-term derivative liabilities	[1] 0	0
Derivative Liability, Current	[1] 0	0
Derivative Liability	(767)	(932)
Derivative Asset	679	933
Forward Contracts [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative assets, current	[1] 143	112
Derivative Asset, Noncurrent	[1] 240	150
Long-term derivative liabilities	[1] (58)	(134)
Derivative Liability, Current	[1] (188)	(299)
Derivative Liability	[4] (526)	(769)
Derivative Asset	[4] 661	550
Interest Rate Hedging Instruments		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative assets, current	[1] 1	30
Derivative Asset, Noncurrent	[1] 3	10

Long-term derivative liabilities	[1] (26)	(6)
Derivative Liability, Current	[1] (10)	(4)
Derivative Liability	(38)	(10)
Derivative Asset	6	40
Fair Value, Inputs, Level 3 [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Margin/Cash (Received) Posted Subject to Master Netting Arrangement	0	0
Fair Value, Inputs, Level 3 [Member] | Future [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability	0	0
Derivative Asset	0	0
Fair Value, Inputs, Level 3 [Member] | Forward Contracts [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability	[4] (111)	(220)
Derivative Asset	[4] 318	212
Fair Value, Inputs, Level 3 [Member] | Interest Rate Hedging Instruments		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability	0	0
Derivative Asset	0	0
Derivative Assets, Current [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	828 [2]	1,191 [3]
Derivative Asset, Collateral, Obligation to Return Cash, Offset	(684) [2]	(1,049) [3]
Derivative Assets, Current [Member] | Future [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	492	820
Derivative Asset, Collateral, Obligation to Return Cash, Offset	(492)	(820)
Derivative Assets, Current [Member] | Forward Contracts [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	333	341
Derivative Asset, Collateral, Obligation to Return Cash, Offset	(190)	(229)
Derivative Assets, Current [Member] | Interest Rate Hedging Instruments		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	3	30
Derivative Asset, Collateral, Obligation to Return Cash, Offset	(2)	0
Derivative Assets, Non-current [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	518 [2]	332 [3]

Derivative Asset, Collateral, Obligation to Return Cash, Offset	(275) [2]	(172) [3]
Derivative Assets, Non-current [Member] | Future [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	187	113
Derivative Asset, Collateral, Obligation to Return Cash, Offset	(187)	(113)
Derivative Assets, Non-current [Member] | Forward Contracts [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	328	209
Derivative Asset, Collateral, Obligation to Return Cash, Offset	(88)	(59)
Derivative Assets, Non-current [Member] | Interest Rate Hedging Instruments		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Asset, Fair Value, Gross Asset Including Not Subject to Master Netting Arrangement	3	10
Derivative Asset, Collateral, Obligation to Return Cash, Offset	0	0
Derivative Liabilities, Current [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(966) [2]	(1,344) [3]
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	768 [2]	1,041 [3]
Derivative Liabilities, Current [Member] | Future [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(571)	(764)
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	571	764
Derivative Liabilities, Current [Member] | Forward Contracts [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(383)	(576)
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	195	277
Derivative Liabilities, Current [Member] | Interest Rate Hedging Instruments		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(12)	(4)
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	2	0
Derivative Liabilities, Non-current [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(365) [2]	(367) [3]
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	281 [2]	227 [3]
Derivative Liabilities, Non-current [Member] | Future [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		

Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(196)	(168)
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	196	168
Derivative Liabilities, Non-current [Member] | Forward Contracts [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(143)	(193)
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	85	59
Derivative Liabilities, Non-current [Member] | Interest Rate Hedging Instruments		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(26)	(6)
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	0	0
Derivative Financial Instruments, Liabilities [Member]		
Derivative Instruments Subject to Master Netting Arrangement [Line Items]		
Derivative Liability, Fair Value, Gross Liability Including Not Subject to Master Netting Arrangement	(1,331)	(1,711)
Derivative Liability, Collateral, Right to Reclaim Cash, Offset	$ 1,049	$ 1,268

[1] At September 30, 2019 and December 31, 2018, we had $116 million and $244 million, respectively, of collateral under master netting arrangements that were not offset against our derivative instruments on the Consolidated Condensed Balance Sheets primarily related to initial margin requirements.

[2] At September 30, 2019, current and long-term derivative assets are shown net of collateral of $(7) million and $(6) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $92 million and $11 million, respectively.

[3] At December 31, 2018, current and long-term derivative assets are shown net of collateral of $(58) million and $(8) million, respectively, and current and long-term derivative liabilities are shown net of collateral of $49 million and $64 million, respectively.

[4] Includes OTC swaps and options.

Variable Interest Entities and Unconsolidated Investments in Power Plants (VIE Texuals) (Details) $ in Millions	3 Months Ended		9 Months Ended		
	Sep. 30, 2019 USD ($) yr MW	Sep. 30, 2018 USD ($)	Sep. 30, 2019 USD ($) yr MW	Sep. 30, 2018 USD ($)	Dec. 31, 2018 USD ($) MW
Variable Interest Entity [Line Items]					
Variable interest entity, financial or other support, amount	$ 0	$ 0		$ 0	
Equity method investment, ownership percentage	50.00%		50.00%		
Equity method investment, summarized financial information, debt	$ 297		$ 297		$ 301
Prorata share of equity method investment, summarized financial information, debt	$ 149		149		$ 151
Return on investments from unconsolidated subsidiaries			11	5	
Proceeds from sale of property, plant and equipment			$ 303	10	
OMEC [Member]					
Variable Interest Entity [Line Items]					
Power generation capacity | MW	608		608		
Greenfield [Member]					
Variable Interest Entity [Line Items]					
Power generation capacity | MW	1,038		1,038		
Equity method investment, ownership percentage	50.00%		50.00%		
Return on investments from unconsolidated subsidiaries	$ 0	0	$ 0	0	
Whitby [Member]					
Variable Interest Entity [Line Items]					
Power generation capacity | MW	50		50		
Equity method investment, ownership percentage	50.00%		50.00%		
Return on investments from unconsolidated subsidiaries	$ 0	$ 0	$ 11	$ 5	
Calpine Receivables [Member]					
Variable Interest Entity [Line Items]					
Variable Interest Entity, Reporting Entity Involvement, Maximum Loss Exposure, Amount	$ 63		$ 63		
Equity method investment, ownership percentage	100.00%		100.00%		
Variable Interest Entity, Primary Beneficiary [Member]					
Variable Interest Entity [Line Items]					
Power generation capacity | MW	6,769		6,769		7,880
Put Option [Member]					
Variable Interest Entity [Line Items]					
Proceeds from sale of property, plant and equipment			$ 280		
Call Option [Member]					
Variable Interest Entity [Line Items]					
Proceeds from sale of property, plant and equipment			$ 377		
Inland Empire Energy Center [Member]					
Variable Interest Entity [Line Items]					

Power generation capacity | MW	775	775
Put Option Exercise Period | yr	2,025	2,025
Inland Empire Energy Center [Member] | Minimum [Member]		
Variable Interest Entity [Line Items]		
Call Option Exercise Period | yr	2,017	2,017
Inland Empire Energy Center [Member] | Maximum [Member]		
Variable Interest Entity [Line Items]		
Call Option Exercise Period | yr	2,024	2,024

Leases Power plants subject to tolling contracts (Details) - USD ($) $ in Millions		Sep. 30, 2019	Dec. 31, 2018
Property, Plant and Equipment, Gross		$ 18,347	$ 18,187
Accumulated Depreciation, Depletion and Amortization, Property, Plant, and Equipment		6,855	6,832
Property, plant and equipment, net		12,002	$ 12,442
Property Subject to Operating Lease [Member]			
Property, Plant and Equipment, Gross		3,085	
Accumulated Depreciation, Depletion and Amortization, Property, Plant, and Equipment		911	
Property, plant and equipment, net	[1]	$ 2,174	

[1] Our assets subject to contracts that are accounted for as operating leases primarily consist of our power plants subject to tolling contracts.

Leases Components of operating and finance lease expense (Details) - USD ($) $ in Millions	3 Months Ended Sep. 30, 2019	9 Months Ended Sep. 30, 2019
Components of our operating and finance lease expense [Abstract]		
Operating Lease, Cost	$ 11	$ 34
Finance Lease, Right-of-Use Asset, Amortization	2	6
Finance Lease, Interest Expense	2	6
Finance lease, expense, Total	4	12
Variable Lease, Cost	3	8
Lease, Cost	$ 18	$ 54

Consolidated Statements of Stockholders' Equity Statement - USD ($) $ in Millions	Total	Common Stock [Member]	Treasury Stock [Member]	Additional Paid-in Capital [Member]	Retained Earnings [Member]	AOCI Attributable to Parent [Member]	Noncontrolling Interest [Member]
Beginning Balance at Dec. 31, 2017	$ 3,067	$ 0	$ (15)	$ 9,661	$ (6,552)	$ (106)	$ 79
Treasury Stock, Value, Acquired, Cost Method	(7)	0	(7)	0	0	0	0
Stock-based compensation expense	41	0	0	41	0	0	0
Other	(78)	0	22	(100)	0	0	0
Dividends paid	(20)	0	0	(20)	0	0	0
Contribution from the noncontrolling interest	2	0	0	0	0	0	2
Distribution to the noncontrolling interest	(2)	0	0	0	0	0	(2)
Net income	(594)	0	0	0	(598)	0	4
Other comprehensive income (loss)	38	0	0	0	0	36	2
Ending Balance at Mar. 31, 2018	2,447	0	0	9,582	(7,150)	(70)	85
Beginning Balance at Dec. 31, 2017	3,067	0	(15)	9,661	(6,552)	(106)	79
Distribution to the noncontrolling interest	(6)						
Net income	40						
Other comprehensive income (loss)	73						
Ending Balance at Sep. 30, 2018	3,112	0	0	9,582	(6,526)	(36)	92
Beginning Balance at Mar. 31, 2018	2,447	0	0	9,582	(7,150)	(70)	85
Distribution to the noncontrolling interest	(1)	0	0	0	0	0	(1)
Net income	356	0	0	0	352	0	4
Other comprehensive income (loss)	20	0	0	0	0	20	0
Ending Balance at Jun. 30, 2018	2,822	0	0	9,582	(6,798)	(50)	88
Distribution to the noncontrolling interest	(3)	0	0	0	0	0	(3)
Net income	278	0	0	0	272	0	6
Other comprehensive income (loss)	15	0	0	0	0	14	1

Ending Balance at Sep. 30, 2018	3,112	0	0	9,582	(6,526)	(36)	92
Beginning Balance at Dec. 31, 2018	3,056	0	0	9,582	(6,542)	(77)	93
Other	0	0	0	2	0	0	(2)
Net income	180	0	0	0	175	0	5
Other comprehensive income (loss)	(23)	0	0	0	0	(23)	0
Ending Balance at Mar. 31, 2019	3,213	0	0	9,584	(6,367)	(100)	96
Beginning Balance at Dec. 31, 2018	3,056	0	0	9,582	(6,542)	(77)	93
Distribution to the noncontrolling interest	0						
Net income	941						
Other comprehensive income (loss)	(55)						
Ending Balance at Sep. 30, 2019	3,541	0	0	9,584	(6,017)	(131)	105
Beginning Balance at Mar. 31, 2019	3,213	0	0	9,584	(6,367)	(100)	96
Net income	270	0	0	0	266	0	4
Other comprehensive income (loss)	(30)	0	0	0	0	(29)	(1)
Ending Balance at Jun. 30, 2019	3,453	0	0	9,584	(6,101)	(129)	99
Dividends paid	(401)	0	0	0	(401)	0	0
Net income	491	0	0	0	485	0	6
Other comprehensive income (loss)	(2)	0	0	0	0	(2)	0
Ending Balance at Sep. 30, 2019	$ 3,541	$ 0	$ 0	$ 9,584	$ (6,017)	$ (131)	$ 105

Use of Collateral (Tables)	9 Months Ended Sep. 30, 2019
Use of Collateral [Abstract]	
Schedule of Collateral	The table below summarizes the balances outstanding under margin deposits, natural gas and power prepayments, and exposure under letters of credit and first priority liens for commodity procurement and risk management activities as of September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Margin deposits[1]	$ 331	$ 343
Natural gas and power prepayments	38	31
Total margin deposits and natural gas and power prepayments with our counterparties[2]	$ 369	$ 374
Letters of credit issued	$ 902	$ 1,166
First priority liens under power and natural gas agreements	46	92
First priority liens under interest rate hedging instruments	38	10
Total letters of credit and first priority liens with our counterparties	$ 986	$ 1,268
Margin deposits posted with us by our counterparties[1][3]	$ 125	$ 52
Letters of credit posted with us by our counterparties	35	27
Total margin deposits and letters of credit posted with us by our counterparties	$ 160	$ 79

[1] We offset fair value amounts recognized for derivative instruments executed with the same counterparty under a master netting arrangement for financial statement presentation; therefore, amounts recognized for the right to reclaim, or the obligation to return, cash collateral are presented net with the corresponding derivative instrument fair values. See Note 8 for further discussion of our derivative instruments subject to master netting arrangements.

[2] At September 30, 2019 and December 31, 2018, $92 million and $79 million, respectively, were included in current and long-term derivative assets and liabilities, $269 million and $286 million, respectively, were included in margin deposits and other prepaid expense and $8 million and $9 million, respectively, were included in other assets on our Consolidated Condensed Balance Sheets.

[3] At September 30, 2019 and December 31, 2018, $2 million and $32 million, respectively, were included in current and long-term derivative assets and liabilities, $92 million and $20 million, respectively, were included in other current liabilities and $31 million and nil, respectively, were included in other long-term liabilities on our Consolidated Condensed Balance Sheets.

Consolidated Condensed Statements of Operations - USD ($) $ in Millions	3 Months Ended		9 Months Ended	
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
Operating revenues:				
Commodity revenue	$ 2,710	$ 2,845	$ 7,376	$ 7,362
Mark-to-market gain (loss)	78	40	601	(220)
Other revenue	4	5	13	16
Operating revenues	2,792 [1]	2,890 [1]	7,990 [2]	7,158 [2]
Operating expenses:				
Commodity expense	1,620	1,912	4,745	5,128
Mark-to-market (gain) loss	11	(66)	301	(143)
Fuel and purchased energy expense	1,631	1,846	5,046	4,985
Operating and maintenance expense	255	248	739	765
Depreciation and amortization expense	173	179	522	566
General and other administrative expense	39	31	105	122
Other operating expenses	15	23	53	79
Total operating expenses	2,113	2,327	6,465	6,517
Impairment losses	0	0	55	0
(Income) from unconsolidated subsidiaries	(3)	(5)	(14)	(16)
Income from operations	682	568	1,484	657
Interest expense	153	158	459	466
Loss on extinguishment of debt	12	1	11	1
Other (income) expense, net	5	3	33	72
Income before income taxes	512	406	981	118
Income tax expense	21	128	40	78
Net income (loss)	491	278	941	40
Net income attributable to the noncontrolling interest	(6)	(6)	(15)	(14)
Net income attributable to Calpine	$ 485	$ 272	$ 926	$ 26

[1] Includes intersegment revenues of $133 million and $160 million in the West, $225 million and $238 million in Texas, $13 million and $19 million in the East and $4 million and $1 million in Retail for the three months ended September 30, 2019 and 2018, respectively.

[2] Includes intersegment revenues of $395 million and $344 million in the West, $784 million and $447 million in Texas, $378 million and $152 million in the East and $8 million and $3 million in Retail for the nine months ended September 30, 2019 and 2018, respectively.

Variable Interest Entities and Unconsolidated Investments in Power Plants (Tables)	9 Months Ended Sep. 30, 2019
Variable Interest Entities and Unconsolidated Investments [Abstract]	
Schedule of equity method investments	At September 30, 2019 and December 31, 2018, our equity method investments included on our Consolidated Condensed Balance Sheets were comprised of the following (in millions):

	Ownership Interest as of September 30, 2019	September 30, 2019	December 31, 2018
Greenfield LP[1]	50%	$ 59	$ 55
Whitby	50%	9	15
Calpine Receivables	100%	5	6
Total investments in unconsolidated subsidiaries		$ 73	$ 76

[1] Includes our share of accumulated other comprehensive income/loss related to interest rate hedging instruments associated with our unconsolidated subsidiary Greenfield LP's debt.

Income (loss) from unconsolidated investments in power plants	The following table sets forth details of our (income) from unconsolidated subsidiaries for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Greenfield LP	$ (4)	$ (2)	$ (10)	$ (6)
Whitby	1	(3)	(5)	(11)
Calpine Receivables	—	—	1	1
Total	$ (3)	$ (5)	$ (14)	$ (16)

Basis of Presentation and Summary of Significant Accounting Policies (Policies)	**9 Months Ended** **Sep. 30, 2019**
Accounting Policies [Abstract]	
Basis of interim presentation	*Basis of Interim Presentation* — The accompanying unaudited, interim Consolidated Condensed Financial Statements of Calpine Corporation, a Delaware corporation, and consolidated subsidiaries have been prepared pursuant to the rules and regulations of the SEC. In the opinion of management, the Consolidated Condensed Financial Statements include the normal, recurring adjustments necessary for a fair statement of the information required to be set forth therein. Certain information and note disclosures, normally included in financial statements prepared in accordance with U.S. GAAP, have been condensed or omitted from these statements pursuant to such rules and regulations and, accordingly, these financial statements should be read in conjunction with our audited Consolidated Financial Statements for the year ended December 31, 2018, included in our 2018 Form 10-K. The results for interim periods are not indicative of the results for the entire year primarily due to acquisitions and disposals of assets, seasonal fluctuations in our revenues and expenses, timing of major maintenance expense, variations resulting from the application of the method to calculate the provision for income tax for interim periods, volatility of commodity prices and mark-to-market gains and losses from commodity and interest rate derivative contracts.
Use of estimates in preparation of financial statements	*Use of Estimates in Preparation of Financial Statements* — The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures included in our Consolidated Condensed Financial Statements. Actual results could differ from those estimates.
Reclassification, Policy [Policy Text Block]	*Reclassifications* — We have reclassified certain prior period amounts for comparative purposes. These reclassifications did not have a material effect on our financial condition, results of operations or cash flows.
Cash and cash equivalents	*Cash and Cash Equivalents* — We consider all highly liquid investments with an original maturity of three months or less to be cash equivalents. We have cash and cash equivalents held in non-corporate accounts relating to certain project finance facilities and lease agreements that require us to establish and maintain segregated cash accounts. These accounts have been pledged as security in favor of the lenders under such project finance facilities, and the use of certain cash balances on deposit in such accounts is limited, at least temporarily, to the operations of the respective projects.
Restricted cash	*Restricted Cash* — Certain of our debt agreements, lease agreements or other operating agreements require us to establish and maintain segregated cash accounts, the use of which is restricted, making these cash funds unavailable for general use. These amounts are held by depository banks in order to comply with the contractual provisions requiring reserves for payments such as for debt service, rent and major maintenance or with applicable regulatory requirements. Funds that can be used to satisfy obligations due during the next 12 months are classified as current restricted cash, with the remainder classified as non-current restricted cash. Restricted cash is generally invested in accounts earning market rates; therefore, the carrying value approximates fair value. Such cash is excluded from cash and cash equivalents on our Consolidated Condensed Balance Sheets.
Business Interruption Proceeds [Policy Text Block]	*Business Interruption Proceeds* — We record business interruption insurance proceeds in operating revenues when they are realizable.
New accounting pronouncements, policy	*Leases* — On January 1, 2019, we adopted Accounting Standards Update 2016-02, “Leases” (“Topic 842”). The comprehensive new lease standard superseded all existing lease guidance. The standard requires that a lessee should recognize a right-of-use asset and a lease

liability for substantially all operating leases based on the present value of the minimum rental payments. For lessors, the accounting for leases under Topic 842 remained substantially unchanged. The standard also requires expanded disclosures surrounding leases. We adopted the standards under Topic 842 using the modified retrospective method and elected a number of the practical expedients in our implementation of Topic 842. The key change that affected us relates to our accounting for operating leases for which we are the lessee that were historically off-balance sheet. The impact of adopting the standards resulted in the recognition of a right-of-use asset and lease obligation liability of $191 million on our Consolidated Condensed Balance Sheet on January 1, 2019, exclusive of previously recognized lease balances. The implementation of Topic 842 did not have a material effect on our Consolidated Condensed Statement of Operations or Consolidated Condensed Statement of Cash Flows for the nine months ended September 30, 2019. See Note 3 for a discussion of the practical expedients we elected and additional disclosures required by Topic 842.

Derivatives and Hedging — In August 2017, the FASB issued Accounting Standards Update 2017-12, “Targeted Improvements to Accounting for Hedging Activities.” The standard better aligns an entity’s hedging activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results in the financial statements. The standard will prospectively make hedge accounting easier to apply to hedging activities and also enhances disclosure requirements for how hedge transactions are reflected in the financial statements when hedge accounting is elected. We adopted Accounting Standards Update 2017-12 in the first quarter of 2019 which did not have a material effect on our financial condition, results of operations or cash flows.

Fair Value Measurements — In August 2018, the FASB issued Accounting Standards Update 2018-13, “Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.” The standard removes, modifies and adds disclosures about fair value measurements and is effective for fiscal years beginning after December 15, 2019. The changes required by this standard to remove or modify disclosures may be early adopted with adoption of the additional disclosures required by this standard delayed until their effective date. We do not anticipate a material effect on our financial condition, results of operations or cash flows as a result of adopting this standard.

Lessee, Leases [Policy Text Block]

Accounting for Leases – Lessee

We evaluate contracts for lease accounting at contract inception and assess lease classification at the lease commencement date. For our leases, we recognize a right-of-use asset and corresponding lease obligation liability at the lease commencement date where the lease obligation liability is measured at the present value of the minimum lease payments. For our operating leases, the amortization of the right-of-use asset and the accretion of our lease obligation liability result in a single straight-line expense recognized over the lease term.

We determine the discount rate associated with our operating and finance leases using our incremental borrowing rate at lease commencement. For our operating leases, we use an interest rate commensurate with the interest rate to borrow on a collateralized basis over a similar term with an amount equal to the lease payments. Factors management considers in the calculation of the discount rate include the amount of the borrowing, the lease term including options that are reasonably certain of exercise, the current interest rate environment and the credit rating of the entity. For our finance leases, we use the interest rate commensurate with the interest rate for a project finance borrowing arrangement with a similar collateral package, repayment terms, restrictive covenants and guarantees.

Our operating leases are primarily related to office space for our corporate and regional offices as well as land and operating related leases for our power plants. Additionally, one of our power plants is accounted for as an operating lease. Payments made by Calpine on this lease are recognized on a straight-line basis with capital improvements associated with our leased power plant deemed leasehold improvements that are amortized over the shorter of the term of the lease or the economic life of the capital improvement. Several of our leases contain renewal options held by us to extend the lease term. The inclusion of these renewal periods in the lease term and in the minimum lease payments included in our lease liabilities is dependent on specific facts and circumstances for each lease and whether it is determined to be reasonably certain that we will exercise our option to extend the term. Our office, land and other operating leases do not contain any material restrictive covenants or residual value guarantees.

We have entered into finance leases for certain power plants and related equipment with terms that range up to 30 years (including lease renewal options). The finance leases generally provide for the lessee to pay taxes, maintenance, insurance, and certain other operating costs of the leased property.

In connection with our adoption of Topic 842 on January 1, 2019, we elected certain practical expedients that were available under the new lease standards including:

- we elected not to separate lease and nonlease components for our current classes of underlying leased assets as the lessee;
- we did not evaluate existing and expired land easements that were not previously accounted for as leases prior to January 1, 2019; and
- we did not reassess the classification of leases, the accounting for initial direct costs or whether contractual arrangements contained a lease for all contracts that expired or commenced prior to January 1, 2019.

Further, upon the adoption of Topic 842, we made an accounting policy election to not recognize lease assets and liabilities for leases with a term of 12 months or less. We do not have any material subleases associated with our operating and finance leases.

Lessor, Leases [Policy Text Block]

Accounting for Leases – Lessor

We apply lease accounting to PPAs that meet the definition of a lease and determine lease classification treatment at commencement of the agreement. We currently do not have any contracts which are accounted for as sales-type leases or direct financing leases and all of our leases as the lessor are classified as operating leases. As part of the implementation of Topic 842, we elected the practical expedient to not reassess leases that have commenced prior to January 1, 2019.

Revenue from contracts accounted for as operating leases, such as certain tolling agreements, with minimum lease rentals (capacity payments) which vary over time must be levelized. Generally, we levelize these contract revenues on a straight-line basis over the term of the contract. Our operating leases that have commenced contain terms extending through December 2034. These contracts also generally contain variable payment components based on generation volumes or operating efficiency over a period of time. Revenues associated with the variable payments are recognized over time as the goods or services are provided to the lessee. Our operating leases generally do not contain renewal or purchase options or residual value guarantees. We have elected to not separate our lease and non-lease components as the lease components reflect the predominant characteristics of these agreements.

Consolidation, Variable Interest Entity, Policy [Policy Text Block]

We consolidate all of our VIEs where we have determined that we are the primary beneficiary.

We have a 50% partnership interest in Greenfield LP and in Whitby. Greenfield LP and Whitby are VIEs; however, we do not have the power to direct the most significant activities of these entities and therefore do not consolidate them. Greenfield LP is a limited partnership between certain subsidiaries of ours and of Mitsui & Co., Ltd., which operates the Greenfield Energy Centre, a 1,038 MW natural gas-fired, combined-cycle power plant located in Ontario, Canada. We and Mitsui & Co., Ltd. each hold a 50% interest in Greenfield LP. Whitby is a limited partnership between certain of our subsidiaries and Atlantic Packaging Ltd., which operates the Whitby facility, a 50 MW natural gas-fired, simple-cycle cogeneration power plant located in Ontario, Canada. We and Atlantic Packaging Ltd. each hold a 50% partnership interest in Whitby.

Calpine Receivables is a VIE and a bankruptcy remote entity created for the special purpose of purchasing trade accounts receivable from Calpine Solutions under the Accounts Receivable Sales Program. We have determined that we do not have the power to direct the activities of the VIE that most significantly affect the VIE's economic performance nor the obligation to absorb losses or receive benefits from the VIE. Accordingly, we have determined that we are not the primary beneficiary of Calpine Receivables because we do not have the power to affect its financial performance as the unaffiliated financial institutions that purchase the receivables from Calpine Receivables control the selection criteria of the receivables sold and appoint the servicer of the receivables which controls management of default. Thus, we do not consolidate Calpine Receivables in our Consolidated Condensed Financial Statements and use the equity method of accounting to record our net interest in Calpine Receivables.

We account for these entities under the equity method of accounting and include our net equity interest in investments in unconsolidated subsidiaries on our Consolidated Condensed Balance Sheets.

Fair Value of Financial Instruments, Policy [Policy Text Block]

Our First Lien Term Loans, Senior Unsecured Notes, First Lien Notes, CCFC Term Loan and revolving facilities are categorized as level 2 within the fair value hierarchy. Our project financing, notes payable and other debt instruments are categorized as level 3 within the fair value hierarchy. We do not have any debt instruments with fair value measurements categorized as level 1 within the fair value hierarchy.

Cash Equivalents — Highly liquid investments which meet the definition of cash equivalents, primarily investments in money market accounts and other interest-bearing accounts, are included in both our cash and cash equivalents and our restricted cash on our Consolidated Condensed Balance Sheets. Certain of our money market accounts invest in U.S. Treasury securities or other obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities. We do not have any cash equivalents invested in institutional prime money market funds which require use of a floating net asset value and are subject to liquidity fees and redemption restrictions. Certain of our cash equivalents are classified within level 1 of the fair value hierarchy.

Derivatives — The primary factors affecting the fair value of our derivative instruments at any point in time are the volume of open derivative positions (MMBtu, MWh and $ notional amounts); changing commodity market prices, primarily for power and natural gas; our credit standing and that of our counterparties and customers for energy commodity derivatives; and prevailing interest rates for our interest rate hedging instruments. Prices for power and natural gas and interest rates are volatile, which can result in material changes in the fair value measurements reported in our financial statements in the future.

We utilize market data, such as pricing services and broker quotes, and assumptions that we believe market participants would use in pricing our assets or liabilities including assumptions about the risks inherent to the inputs in the valuation technique. These inputs can be either readily observable, market corroborated or generally unobservable. The market data obtained from broker pricing services is evaluated to determine the nature of the quotes obtained and, where accepted as a reliable quote, used to validate our assessment of fair value. We use other qualitative assessments to determine the level of activity in any given market. We primarily apply the market approach and income approach for recurring fair value measurements and utilize what we believe to be the best available information. We utilize valuation techniques that seek to maximize the use of observable inputs and minimize the use of unobservable inputs. We classify fair value balances based on the observability of those inputs.

The fair value of our derivatives includes consideration of our credit standing, the credit standing of our counterparties and customers and the effect of credit enhancements, if any. We have also recorded credit reserves in the determination of fair value based on our expectation of how market participants would determine fair value. Such valuation adjustments are generally based on market evidence, if available, or our best estimate.

Our level 1 fair value derivative instruments primarily consist of power and natural gas swaps, futures and options traded on the NYMEX or Intercontinental Exchange.

Our level 2 fair value derivative instruments primarily consist of interest rate hedging instruments and OTC power and natural gas forwards for which market-based pricing inputs in the principal or most advantageous market are representative of executable prices for market participants. These inputs are observable at commonly quoted intervals for substantially the full term of the instruments. In certain instances, our level 2 derivative instruments may utilize models to measure fair value. These models are industry-standard models, including the Black-Scholes option-pricing model, that incorporate various assumptions, including quoted interest rates, correlation, volatility, as well as other relevant economic measures. Substantially all of these assumptions are observable in the marketplace throughout the full term of the instrument, can be derived from observable data or are supported by observable levels at which transactions are executed in the marketplace.

Our level 3 fair value derivative instruments may consist of OTC power and natural gas forwards and options where pricing inputs are unobservable, as well as other complex and structured transactions primarily for the sale and purchase of power and natural gas to both wholesale counterparties and retail customers. Complex or structured transactions are tailored to our customers' needs and can introduce the need for internally-developed model inputs which might not be observable in or corroborated by the market. When such inputs have a significant effect on the measurement of fair value, the instrument is categorized in level 3. Our valuation models may incorporate historical correlation information and extrapolate available broker and other information to future periods.

Derivatives, Policy [Policy Text Block]

We recognize all derivative instruments that qualify for derivative accounting treatment as either assets or liabilities and measure those instruments at fair value unless they qualify for, and we elect, the normal purchase normal sale exemption. For transactions in which we elect the normal purchase normal sale exemption, gains and losses are not reflected on our Consolidated Condensed Statements of Operations until the period of delivery. Revenues and expenses derived from instruments that qualified for hedge accounting or represent an economic hedge are recorded in the same financial statement line item as the item being hedged. Hedge accounting requires us to formally document, designate and assess the effectiveness of transactions that receive hedge accounting. We present the cash flows from our derivatives in the same category as the item being hedged (or economically hedged) within operating activities on our Consolidated Condensed Statements of Cash Flows unless they contain an other-than-insignificant financing element in which case their cash flows are classified within financing activities.

Cash Flow Hedges — We currently apply hedge accounting to our interest rate hedging instruments. We report the mark-to-market gain or loss on our interest rate hedging instruments designated and qualifying as a cash flow hedging instrument as a component of OCI and reclassify such gains and losses into earnings in the same period during which the hedged forecasted transaction affects earnings. Prior to January 1, 2019, gains and losses due to ineffectiveness on interest rate hedging instruments were recognized in earnings as a component of interest expense. Upon the adoption of Accounting Standards Update 2017-12 on January 1, 2019, hedge ineffectiveness is no longer separately measured and recorded in earnings. If it is determined that the forecasted transaction is no longer probable of occurring, then hedge accounting will be discontinued prospectively and future changes in fair value will be recorded in earnings. If the hedging instrument is terminated or de-designated prior to the occurrence of the hedged forecasted transaction, the net accumulated gain or loss associated with the changes in fair value of the hedge instrument remains deferred in AOCI until such time as the forecasted transaction affects earnings or until it is determined that the forecasted transaction is probable of not occurring.

Derivatives Not Designated as Hedging Instruments — We enter into power, natural gas, interest rate, environmental product and fuel oil transactions that primarily act as economic hedges to our asset and interest rate portfolio, but either do not qualify as hedges under the hedge accounting guidelines or qualify under the hedge accounting guidelines and the hedge accounting designation has not been elected. Changes in fair value of commodity derivatives not designated as hedging instruments are recognized currently in earnings and are separately stated on our Consolidated Condensed Statements of Operations in mark-to-market gain/loss as a component of operating revenues (for physical and financial power and Heat Rate and commodity option activity) and fuel and purchased energy expense (for physical and financial natural gas, power, environmental product and fuel oil activity). Changes in fair value of interest rate derivatives not designated as hedging instruments are recognized currently in earnings as interest expense.

We offset fair value amounts associated with our derivative instruments and related cash collateral and margin deposits on our Consolidated Condensed Balance Sheets that are executed with the same counterparty under master netting arrangements. Our netting arrangements include a right to set off or net together purchases and sales of similar products in the margining or settlement process. In some instances, we have also negotiated cross commodity netting rights which allow for the net presentation of activity with a given counterparty regardless of product purchased or sold. We also post and/or receive cash collateral in support of our derivative instruments which may also be subject to a master netting arrangement with the same counterparty.

Commitments and Contingencies, Policy [Policy Text Block]

On a quarterly basis, we review our litigation activities and determine if an unfavorable outcome to us is considered “remote,” “reasonably possible” or “probable” as defined by U.S. GAAP. Where we determine an unfavorable outcome is probable and is reasonably estimable, we accrue for potential litigation losses. The liability we may ultimately incur with respect to such litigation matters, in the event of a negative outcome, may be in excess of amounts currently accrued, if any; however, we do not expect that the reasonably possible outcome of these litigation matters would, individually or in the aggregate, have a material adverse effect on our financial condition, results of operations or cash flows. Where we determine an unfavorable outcome is not probable or reasonably estimable, we do not accrue for any potential litigation loss. The ultimate outcome of these litigation matters cannot presently be determined, nor can the liability that could potentially result from a negative outcome be reasonably estimated. As a result, we give no assurance that such litigation matters would, individually or in the aggregate, not have a material adverse effect on our financial condition, results of operations or cash flows.

Income Taxes (Income Tax Expense (Benefit)) (Details) - USD ($) $ in Millions	3 Months Ended		9 Months Ended	
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
Income Tax Contingency [Line Items]				
Income tax expense	$ 21	$ 128	$ 40	$ 78
Effective Income Tax Rate, Continuing Operations	4.00%	32.00%	4.00%	75.00%
Income Tax Uncertainties [Abstract]				
Unrecognized Tax Benefits	$ 29		$ 29	
Unrecognized Tax Benefits that Would Impact Effective Tax Rate	17		17	
Unrecognized Tax Benefit Related to Deferred Tax Asset	12		12	
Unrecognized Tax Benefits, Income Tax Penalties and Interest Accrued	3		3	
Minimum [Member]				
Income Tax Contingency [Line Items]				
Decrease in Unrecognized Tax Benefits is Reasonably Possible	0		0	
Maximum [Member]				
Income Tax Contingency [Line Items]				
Decrease in Unrecognized Tax Benefits is Reasonably Possible	$ 8		$ 8	

Derivative Instruments (Details 4) (Details) - USD ($) $ in Millions		3 Months Ended		9 Months Ended	
		Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
Summary of Derivative Instruments by Risk Exposure [Abstract]					
Gain (Loss) on Derivative Instruments, Net, Pretax	[1]	$ 158	$ 152	$ 558	$ 38
Gain (Loss) on Sale of Derivatives	[2],[3]	92	45	261	111
Mark-to-market gain (loss)	[4]	66	107	297	(73)
Sales [Member]					
Summary of Derivative Instruments by Risk Exposure [Abstract]					
Gain (Loss) on Derivative Instruments, Net, Pretax	[1],[5],[6]	213	34	791	(142)
Cost of Sales [Member]					
Summary of Derivative Instruments by Risk Exposure [Abstract]					
Gain (Loss) on Derivative Instruments, Net, Pretax	[1],[5],[6]	(54)	117	(230)	176
Interest Expense [Member]					
Summary of Derivative Instruments by Risk Exposure [Abstract]					
Gain (Loss) on Derivative Instruments, Net, Pretax	[1]	(1)	1	(3)	4
Interest Rate Hedging Instruments					
Summary of Derivative Instruments by Risk Exposure [Abstract]					
Mark-to-market gain (loss)	[4]	(1)	1	(3)	4
Energy Related Derivative [Member]					
Summary of Derivative Instruments by Risk Exposure [Abstract]					
Gain (Loss) on Sale of Derivatives	[2],[3]	92	45	261	111
Mark-to-market gain (loss)	[4]	$ 67	$ 106	$ 300	$ (77)

[1] In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

[2] Does not include the realized value associated with derivative instruments that settle through physical delivery.

[3] Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

[4] In addition to changes in market value on derivatives not designated as hedges, changes in mark-to-market gain (loss) also includes adjustments to reflect changes in credit default risk exposure.

[5] Does not include the realized value associated with derivative instruments that settle through physical delivery.

[6] Includes amortization of acquisition date fair value of financial derivative activity related to the acquisition of Champion Energy and Calpine Solutions.

Leases Supplemental cash flow information (Details) $ in Millions	9 Months Ended Sep. 30, 2019 USD ($)
Supplemental Cash Flow Information [Abstract]	
Operating Lease, Payments	$ 19
Finance Lease, Interest Payment on Liability	5
Finance Lease, Principal Payments	6
Right-of-Use Asset Obtained in Exchange for Operating Lease Liability	9
Right-of-Use Asset Obtained in Exchange for Finance Lease Liability	$ 0

Leases Operating Leases, Future Minimum Payments Receivable (Details) - USD ($) $ in Millions	**3 Months Ended**	**9 Months Ended**	
	Sep. 30, 2019	**Sep. 30, 2019**	**Dec. 31, 2018**
Operating Leases, Future Minimum Payments Receivable [Abstract]			
Lessor, Operating Lease, Payments to be Received, Remainder of Fiscal Year	$ 74	$ 74	
Operating Lease, Lease Income	[1] 130	269	
Operating Leases, Future Minimum Payments Due, Future Minimum Sublease Rentals			$ 342
Lessor, Operating Lease, Payments to be Received, Two Years	286	286	
Lessor, Operating Lease, Payments to be Received, Three Years	261	261	
Lessor, Operating Lease, Payments to be Received, Four Years	226	226	
Lessor, Operating Lease, Payments to be Received, Five Years	144	144	
Lessor, Operating Lease, Payments to be Received, Thereafter	277	277	
Lessor, Operating Lease, Payments to be Received	$ 1,268	$ 1,268	

[1] Revenues associated with our operating leases are included in Commodity revenue and other revenue on our Consolidated Condensed Statement of Operations.

Variable Interest Entities and Unconsolidated Investments in Power Plants (Income from Unconsolidated Investments 10-Q) (Details) - USD ($) $ in Millions	3 Months Ended		9 Months Ended	
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
(Income) from unconsolidated subsidiaries	$ (3)	$ (5)	$ (14)	$ (16)
Greenfield [Member]				
(Income) from unconsolidated subsidiaries	(4)	(2)	(10)	(6)
Whitby [Member]				
(Income) from unconsolidated subsidiaries	1	(3)	(5)	(11)
Calpine Receivables [Member]				
(Income) from unconsolidated subsidiaries	$ 0	$ 0	$ 1	$ 1

Assets and Liabilities with Recurring Fair Value Measurements (Textuals) (Details) - USD ($) $ in Millions		3 Months Ended		9 Months Ended		
		Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018	Dec. 31, 2018
Fair Value Measurement [Domain]						
Fair Value Disclosures [Abstract]						
Cash and Cash Equivalents, at Carrying Value		$ 187		$ 187		$ 23
Restricted Cash and Cash Equivalents		172		172		145
Fair Value, Net Derivative Asset (Liability) Measured on Recurring Basis with Unobservable Inputs		227	$ 131	(8)	$ 197	
Included in operating revenues	[1]	20	(99)	151	(84)	
Fair Value, Assets Measured with Unobservable Inputs on Recurring Basis, Gain (Loss) Included In Fuel And Purchased Energy Expense	[2]	0	18	2	27	
Amount of Change in Collateral of Financial Instruments Classified as Derivative Asset (Liability)		(1)	0	0	0	
Fair Value, Net Derivative Asset (Liability) Measured on Recurring Basis, Unobservable Inputs Reconciliation, Purchases		0	4	3	12	
Fair Value, Net Derivative Asset (Liability) Measured on Recurring Basis, Unobservable Inputs Reconciliation, Issues		0	0	(1)	0	
Fair Value, Measurement with Unobservable Inputs Reconciliation, Recurring Basis, Asset, Settlements		(23)	37	68	(56)	
Fair Value, Liabilities, Level 1 to Level 2 Transfers, Amount		0	0	0	0	
Fair Value, Liabilities, Level 2 to Level 1 Transfers, Amount		0	0	0	0	
Transfers into level 3	[3],[4]	7	(1)	10	0	
Transfers out of Level 3	[4],[5]	(23)	(2)	(18)	(8)	
Fair Value, Net Derivative Asset (Liability) Measured on Recurring Basis with Unobservable Inputs		207	88	207	88	
Fair Value, Assets Measured on Recurring Basis, Change in Unrealized Gain (Loss)		20	$ (81)	153	$ (57)	
Cash and Cash Equivalents, at Carrying Value		792		792		205
Restricted Cash and Cash Equivalents		407		407		201
Fair Value, Inputs, Level 1 [Member]						
Fair Value Disclosures [Abstract]						
Derivative, Collateral, Right to Reclaim Cash, Net		88		88		(1)
Fair Value, Inputs, Level 2 [Member]						
Fair Value Disclosures [Abstract]						
Derivative, Collateral, Right to Reclaim Cash, Net		2		2		48
Fair Value, Inputs, Level 3 [Member]						
Fair Value Disclosures [Abstract]						
Derivative, Collateral, Right to Reclaim Cash, Net		$ 0		$ 0		$ 0

[1] For power contracts and other power-related products, included on our Consolidated Condensed Statements of Operations.

[2] For natural gas and power contracts, swaps and options, included on our Consolidated Condensed Statements of Operations.

[3] We had $7 million in gains and $(1) million in losses transferred out of level 2 into level 3 for the three months ended September 30, 2019 and 2018, respectively, and $10 million in gains and nil transferred out of level 2 into level 3 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

[4] We transfer amounts among levels of the fair value hierarchy as of the end of each period. There were no transfers into or out of level 1 for each of the three and nine months ended September 30, 2019 and 2018.

[5] We had $23 million and $2 million in gains transferred out of level 3 into level 2 for the three months ended September 30, 2019 and 2018, respectively, and $18 million and $8 million in gains transferred out of level 3 into level 2 for the nine months ended September 30, 2019 and 2018, respectively, due to changes in market liquidity in various power markets.

Debt (Fair Value of Debt) (Details) - USD ($) $ in Millions	Sep. 30, 2019	Dec. 31, 2018
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	$ 10,709	$ 10,156
Loans Payable [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	3,175	2,976
Corporate Debt Securities [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	2,404	2,400
Reported Value Measurement [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	10,488	10,604
Reported Value Measurement [Member] | Unsecured Debt [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	2,991	3,036
Reported Value Measurement [Member] | Loans Payable [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	3,175	2,976
Reported Value Measurement [Member] | Corporate Debt Securities [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	2,404	2,400
Reported Value Measurement [Member] | Notes Payable, Other Payable excluding Capital Leases [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	[1] 889	1,188
Reported Value Measurement [Member] | Secured Debt [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	969	974
Reported Value Measurement [Member] | Revolving Credit Facility [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	60	30
Fair Value, Inputs, Level 2 [Member] | Unsecured Debt [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	3,062	2,803
Fair Value, Inputs, Level 2 [Member] | Loans Payable [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	3,232	2,877
Fair Value, Inputs, Level 2 [Member] | Corporate Debt Securities [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	2,477	2,299
Fair Value, Inputs, Level 2 [Member] | Secured Debt [Member]		

Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	983	938
Fair Value, Inputs, Level 2 [Member] | Revolving Credit Facility [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	60	30
Fair Value, Inputs, Level 3 [Member] | Notes Payable, Other Payable excluding Capital Leases [Member]		
Fair Value, Balance Sheet Grouping, Financial Statement Captions [Line Items]		
Long-term Debt	[1] $ 895	$ 1,209

[1] Excludes an agreement that is accounted for as a failed sale-leaseback transaction under U.S. GAAP.

Debt Senior Unsecured Notes (Details) - USD ($) $ in Millions	3 Months Ended		9 Months Ended		
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018	Dec. 31, 2018
Debt Instrument [Line Items]					
Long-term Debt	$ 10,709		$ 10,709		$ 10,156
Gain (Loss) on Extinguishment of Debt	(12)	$ (1)	(11)	$ (1)	
Senior Unsecured Notes 2023 [Member]					
Debt Instrument [Line Items]					
Long-term Debt	[1] 1,229		1,229		1,227
Senior Unsecured Notes 2024 [Member]					
Debt Instrument [Line Items]					
Long-term Debt	589		589		599
Senior Unsecured Notes 2025 [Member]					
Debt Instrument [Line Items]					
Long-term Debt	1,173		1,173		$ 1,210
Unsecured Debt [Member]					
Debt Instrument [Line Items]					
Debt Instrument, Repurchased Face Amount, Cumulative	438		438		
Debt Instrument, Repurchased Face Amount	48		48		
Debt Instrument, Repurchase Amount	44		44		
Gain (Loss) on Extinguishment of Debt			4		
Debt Instrument, Repurchase Amount, Cumulative	$ 399		$ 399		

[1] On October 23, 2019, we announced the commencement of a cash tender offer (the “2023 Offer”) for any and all of our outstanding 2023 Senior Unsecured Notes. The 2023 Offer is being made exclusively pursuant to an offer to purchase dated October 23, 2019 (the “Offer to Purchase”), which sets forth the terms and conditions of the 2023 Offer. Consummation of the 2023 Offer is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the 2023 Offer at any time as described in the Offer to Purchase.

Income Taxes Income Taxes (Tables)	9 Months Ended Sep. 30, 2019
Income Tax Disclosure [Abstract]	
Schedule of Components of Income Tax Expense (Benefit)	The table below shows our consolidated income tax expense and our effective tax rates for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Income tax expense	$ 21	$ 128	$ 40	$ 78
Effective tax rate	4%	32%	4%	75%

Revenue From Contracts with Customers Disaggregation of Revenues (Details) - USD ($) $ in Millions	3 Months Ended		9 Months Ended	
	Sep. 30, 2019	Sep. 30, 2018	Sep. 30, 2019	Sep. 30, 2018
Disaggregation of Revenue [Line Items]				
Commodity revenue	$ 2,710	$ 2,845	$ 7,376	$ 7,362
Revenues	2,792 [1]	2,890 [1]	7,990 [2]	7,158 [2]
West [Member]				
Disaggregation of Revenue [Line Items]				
Revenues	856 [1]	701 [1]	2,187 [2]	1,536 [2]
Texas [Member]				
Disaggregation of Revenue [Line Items]				
Revenues	867 [1]	1,022 [1]	2,509 [2]	2,155 [2]
East [Member]				
Disaggregation of Revenue [Line Items]				
Revenues	348 [1]	460 [1]	1,683 [2]	1,415 [2]
Retail [Member]				
Disaggregation of Revenue [Line Items]				
Revenues	1,096 [1]	1,125 [1]	3,176 [2]	2,998 [2]
Energy and Other Products [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	1,388	1,603	3,597	3,754
Energy and Other Products [Member] | West [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	238	369	675	744
Energy and Other Products [Member] | Texas [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	490	470	1,110	1,100
Energy and Other Products [Member] | East [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	169	221	496	473
Energy and Other Products [Member] | Retail [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	491	543	1,316	1,437
Energy and Other Products [Member] | Intersegment Eliminations [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	0	0	0	0
Capacity Revenue [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	198	264	665	656

Capacity Revenue [Member] | West [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	52	51	123	105
Capacity Revenue [Member] | Texas [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	31	23	96	72
Capacity Revenue [Member] | East [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	115	190	446	479
Capacity Revenue [Member] | Retail [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	0	0	0	0
Capacity Revenue [Member] | Intersegment Eliminations [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	0	0	0	0
Revenues Relating to Physical or Executory Contracts - Third Party [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	1,586	1,867	4,262	4,410
Revenues Relating to Physical or Executory Contracts - Third Party [Member] | West [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	290	420	798	849
Revenues Relating to Physical or Executory Contracts - Third Party [Member] | Texas [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	521	493	1,206	1,172
Revenues Relating to Physical or Executory Contracts - Third Party [Member] | East [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	284	411	942	952
Revenues Relating to Physical or Executory Contracts - Third Party [Member] | Retail [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	491	543	1,316	1,437
Revenues Relating to Physical or Executory Contracts - Third Party [Member] | Intersegment Eliminations [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	0	0	0	0
Affiliate Revenue [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	[3] 0	0	0	0
Affiliate Revenue [Member] | West [Member]				
Disaggregation of Revenue [Line Items]				

Commodity revenue	[3] 11	9	28	22
Affiliate Revenue [Member] | Texas [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	[3] 14	11	42	24
Affiliate Revenue [Member] | East [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	[3] 21	20	78	62
Affiliate Revenue [Member] | Retail [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	[3] 2	0	6	2
Affiliate Revenue [Member] | Intersegment Eliminations [Member]				
Disaggregation of Revenue [Line Items]				
Commodity revenue	[3] (48)	(40)	(154)	(110)
Revenues Relating to Leases and Derivative Instruments [Member]				
Disaggregation of Revenue [Line Items]				
Revenues	[4] $ 1,206	$ 1,023	$ 3,728	$ 2,748

[1] Includes intersegment revenues of $133 million and $160 million in the West, $225 million and $238 million in Texas, $13 million and $19 million in the East and $4 million and $1 million in Retail for the three months ended September 30, 2019 and 2018, respectively.

[2] Includes intersegment revenues of $395 million and $344 million in the West, $784 million and $447 million in Texas, $378 million and $152 million in the East and $8 million and $3 million in Retail for the nine months ended September 30, 2019 and 2018, respectively.

[3] Affiliate energy, other and capacity revenues reflect revenues on transactions between wholesale and retail affiliates excluding affiliate activity related to leases and derivative instruments. All such activity supports retail supply needs from the wholesale business and/or allows for collateral margin netting efficiencies at Calpine.

[4] Revenues relating to contracts accounted for as leases and derivatives include energy and capacity revenues relating to PPAs that we are required to account for as operating leases and physical and financial commodity derivative contracts, primarily relating to power, natural gas and environmental products. Revenue related to derivative instruments includes revenue recorded in Commodity revenue and mark-to-market gain (loss) within our operating revenues on our Consolidated Condensed Statements of Operations.

Leases Future Minimum Lease Payments (Details) $ in Millions	Sep. 30, 2019 USD ($)	
Operating and Finance Leases [Abstract]		
Lessee, Operating Lease, Liability, Payments, Remainder of Fiscal Year	$ 34	[1]
Finance Lease, Liability, Payments, Remainder of Fiscal Year	7	[2]
Lessee, Operating Lease, Liability, Payments, Due Year Two	20	[1]
Finance Lease, Liability, Payments, Due Year Two	16	[2]
Lessee, Operating Lease, Liability, Payments, Due Year Three	21	[1]
Finance Lease, Liability, Payments, Due Year Three	16	[2]
Lessee, Operating Lease, Liability, Payments, Due Year Four	19	[1]
Finance Lease, Liability, Payments, Due Year Four	16	[2]
Lessee, Operating Lease, Liability, Payments, Due Year Five	18	[1]
Finance Lease, Liability, Payments, Due Year Five	19	[2]
Lessee, Operating Lease, Liability, Payments, Due after Year Five	201	[1]
Finance Lease, Liability, Payments, Due after Year Five	33	[2]
Lessee, Operating Lease, Liability, Undiscounted Excess Amount	105	[1]
Finance Lease, Liability, Undiscounted Excess Amount	29	[2]
Operating Lease, Liability	208	[1]
Finance Lease, Liability	78	[2]
Operating Lease, Liability, Current	39	[1]
Lessee, Operating Lease, Liability, Payments, Due	313	[1]
Finance Lease, Liability, Current	10	[2]
Finance Lease, Liability, Payment, Due	107	[2]
Operating Lease, Liability, Noncurrent	169	[1]
Finance Lease, Liability, Noncurrent	$ 68	[2]

[1] The lease liabilities associated with our operating leases as of September 30, 2019 are included in other current liabilities and other long-term liabilities on our Consolidated Condensed Balance Sheet.

[2] The lease liabilities associated with our finance leases as of September 30, 2019 are included in debt, current portion and debt, net of current portion on our Consolidated Condensed Balance Sheet.

Income Taxes	9 Months Ended Sep. 30, 2019

Income Tax Disclosure [Abstract]

Income Taxes

Income Taxes

Income Tax Expense

The table below shows our consolidated income tax expense and our effective tax rates for the periods indicated (in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Income tax expense	$ 21	$ 128	$ 40	$ 78
Effective tax rate	4%	32%	4%	75%

Our income tax rates do not bear a customary relationship to statutory income tax rates primarily as a result of the effect of our NOLs, changes in unrecognized tax benefits and valuation allowances. For the three and nine months ended September 30, 2019 and 2018, our income tax expense is largely comprised of discrete tax items and estimated state and foreign income taxes in jurisdictions where we do not have NOLs or valuation allowances.

Income Tax Audits — We remain subject to periodic audits and reviews by taxing authorities; however, we do not expect these audits will have a material effect on our tax provision. Any NOLs we claim in future years to reduce taxable income could be subject to IRS examination regardless of when the NOLs were generated. Any adjustment of state or federal returns could result in a reduction of deferred tax assets rather than a cash payment of income taxes in tax jurisdictions where we have NOLs. We are currently under various state income tax audits for various periods.

Valuation Allowance — U.S. GAAP requires that we consider all available evidence, both positive and negative, and tax planning strategies to determine whether, based on the weight of that evidence, a valuation allowance is needed to reduce the value of deferred tax assets. Future realization of the tax benefit of an existing deductible temporary difference or carryforward ultimately depends on the existence of sufficient taxable income of the appropriate character within the carryback or carryforward periods available under the tax law. Due to our history of losses, we were unable to assume future profits; however, we are able to consider available tax planning strategies.

Limitation on Deduction of Net Business Interest Expense — On November 26, 2018, the U.S. Treasury Department released proposed regulations which would limit the current deductibility of net business interest expense. The proposed regulations would be applicable for taxable years ending after the date on which the regulations become final. Companies have the discretion to apply the proposed regulations, but must apply all such provisions of the proposed regulations on a consistent basis. As of September 30, 2019, we have not elected to apply the proposed regulations for the 2018 or 2019 tax years and we do not expect the application of the final regulations will have a material effect on our Consolidated Condensed Financial Statements.

Unrecognized Tax Benefits — At September 30, 2019, we had unrecognized tax benefits of $29 million. If recognized, $17 million of our unrecognized tax benefits could affect the annual effective tax rate and $12 million, related to deferred tax assets, could be offset against the recorded valuation allowance resulting in no effect on our effective tax rate. We had accrued interest and penalties of $3 million for income tax matters at September 30, 2019. We recognize interest and penalties related to unrecognized tax benefits in income tax expense on our Consolidated

Condensed Statements of Operations. We believe that it is reasonably possible that a decrease within the range of nil and $8 million in unrecognized tax benefits could occur within the next twelve months primarily related to state tax issues.

Debt	9 Months Ended Sep. 30, 2019

Debt Disclosure [Abstract]

Debt

Debt

Our debt at September 30, 2019 and December 31, 2018, was as follows (in millions):

	September 30, 2019	December 31, 2018
First Lien Term Loans	$ 3,175	$ 2,976
Senior Unsecured Notes	2,991	3,036
First Lien Notes	2,404	2,400
Project financing, notes payable and other	965	1,264
CCFC Term Loan	969	974
Finance lease obligations	78	105
Revolving facilities	60	30
Subtotal	10,642	10,785
Less: Current maturities	229	637
Total long-term debt	$ 10,413	$ 10,148

Our effective interest rate on our consolidated debt, excluding the effects of capitalized interest and mark-to-market gains (losses) on interest rate hedging instruments, increased to 5.9% for the nine months ended September 30, 2019, from 5.7% for the same period in 2018. Since the fourth quarter of 2018, we have cumulatively repurchased $438 million in aggregate principal amount of our Senior Unsecured Notes for $399 million.

First Lien Term Loans

The amounts outstanding under our senior secured First Lien Term Loans are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2019 First Lien Term Loan	$ —	$ 389
2023 First Lien Term Loans	—	1,059
2024 First Lien Term Loan	1,519	1,528
2026 First Lien Term Loans	1,656	—
Total First Lien Term Loans	$ 3,175	$ 2,976

On August 12, 2019, we entered into a $750 million first lien senior secured term loan which bears interest, at our option, at either (i) the Base Rate, equal to the highest of (a) the Federal Funds Effective Rate plus 0.50% per annum, (b) the Prime Rate or (c) the Eurodollar Rate for a one month interest period plus 1.0% (in each case, as such terms are defined in the credit agreement), plus an applicable margin of 1.50%, or (ii) LIBOR plus 2.50% per annum (with a 0% LIBOR floor) and matures on August 12, 2026. An aggregate amount equal to 0.25% of the aggregate principal amount of the New 2026 First Lien Term Loans is payable at the end of each quarter with the remaining balance payable on the maturity date. We paid an upfront fee of an amount equal to 0.50% of the aggregate principal amount of the New 2026 First Lien Term Loan, which is structured as original issue discount and recorded approximately $11 million in debt issuance costs during the third quarter of 2019 related to the issuance of our New 2026 First Lien Term Loan. The New 2026 First Lien Term Loan contains substantially similar covenants, qualifications, exceptions and limitations as our First Lien Term Loans and First Lien Notes. We used the proceeds, together with cash on hand, to repay the remaining 2023 First Lien Term Loans with a maturity date in May 2023 and to repay project debt associated with OMEC. We recorded approximately $12 million in loss on extinguishment of debt during the third quarter of 2019 associated with the repayment.

On April 5, 2019, we entered into a $950 million first lien senior secured term loan which bears interest, at our option, at either (i) the Base Rate, equal to the highest of (a) the Federal Funds Effective Rate plus 0.50% per annum, (b) the Prime Rate or (c) the Eurodollar Rate for a one month interest period plus 1.0% (in each case, as such terms are defined in the credit agreement), plus an applicable margin of 1.75%, or (ii) LIBOR plus 2.75% per annum (with a 0% LIBOR floor) and matures on April 5, 2026. An aggregate amount equal to 0.25% of the aggregate principal amount of the 2026 First Lien Term Loan is payable at the end of each quarter with the remaining balance payable on the maturity date. We paid an upfront fee of an amount equal to 1.0% of the aggregate principal amount of the 2026 First Lien Term Loan, which is structured as original issue discount and recorded approximately $7 million in debt issuance costs during the second quarter of 2019 related to the issuance of our 2026 First Lien Term Loan. The 2026 First Lien Term Loan contains substantially similar covenants, qualifications, exceptions and limitations as our First Lien Term Loans and First Lien Notes. We used the proceeds from our 2026 First Lien Term Loan to repay our 2019 First Lien Term Loan and a portion of our 2023 First Lien Term Loans with a maturity date in January 2023 and recorded approximately $3 million in loss on extinguishment of debt during the second quarter of 2019 associated with the repayment.

Senior Unsecured Notes

The amounts outstanding under our Senior Unsecured Notes are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2023 Senior Unsecured Notes[1]	$ 1,229	$ 1,227
2024 Senior Unsecured Notes	589	599
2025 Senior Unsecured Notes	1,173	1,210
Total Senior Unsecured Notes	$ 2,991	$ 3,036

[1] On October 23, 2019, we announced the commencement of a cash tender offer (the “2023 Offer”) for any and all of our outstanding 2023 Senior Unsecured Notes. The 2023 Offer is being made exclusively pursuant to an offer to purchase dated October 23, 2019 (the “Offer to Purchase”), which sets forth the terms and conditions of the 2023 Offer. Consummation of the 2023 Offer is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the 2023 Offer at any time as described in the Offer to Purchase.

During the nine months ended September 30, 2019, we repurchased $48 million in aggregate principal amount of our Senior Unsecured Notes for $44 million. In connection with the repurchases, we recorded approximately $4 million in gain on extinguishment of debt.

First Lien Notes

The amounts outstanding under our senior secured First Lien Notes are summarized in the table below (in millions):

	September 30, 2019	December 31, 2018
2022 First Lien Notes[1]	$ 745	$ 743
2024 First Lien Notes[1]	487	486

2026 First Lien Notes	1,172	1,171
Total First Lien Notes	$ 2,404	$ 2,400

[1] On October 23, 2019, we announced the commencement of cash tender offers (the “Offers”) for any and all of our outstanding 2022 First Lien Notes and 2024 First Lien Notes. The Offers are being made exclusively pursuant to the Offer to Purchase, which sets forth the terms and conditions of the Offers. Consummation of the Offers is subject to, and conditioned upon, the satisfaction or waiver of certain conditions described in the Offer to Purchase, and is expected to be completed in the fourth quarter of 2019. We may, in our sole discretion, terminate, extend or amend the Offers at any time as described in the Offer to Purchase.

Project Financing, Notes Payable and Other

On January 29, 2019, PG&E and PG&E Corporation each filed voluntary petitions for relief under Chapter 11. Our power plants that sell energy and energy-related products to PG&E through PPAs, include Russell City Energy Center and Los Esteros Critical Energy Facility. Since the bankruptcy filing, we have received all material payments under the PPAs, either directly or through the application of collateral. As a result of PG&E’s bankruptcy, we are currently unable to make distributions from our Russell City and Los Esteros projects in accordance with the terms of the project debt agreements associated with each related project. In July 2019, we executed forbearance agreements associated with the Russell City and Los Esteros project debt agreements, under which the lenders have agreed to forbear enforcement of their rights and remedies, including the ability to accelerate the repayment of borrowings outstanding, otherwise arising because PG&E did not assume our PPAs during the first 180 days of PG&E’s bankruptcy proceeding. The forbearance agreements are effective for rolling 90-day periods, so long as we continue to meet certain conditions, including that the PPAs have not been rejected and there are no other defaults under the project debt agreements or the forbearance agreements. We may be required to reclassify $354 million of Russell City and Los Esteros long-term project debt outstanding at September 30, 2019 to a current liability in a future period. We continue to monitor the bankruptcy proceedings and are assessing our options.

On August 14, 2019, we repaid the project debt associated with OMEC totaling $198 million from the proceeds received from the issuance of our New 2026 First Lien Term Loan (as discussed above), together with cash on hand.

Corporate Revolving Facility and Other Letter of Credit Facilities

The table below represents amounts issued under our letter of credit facilities at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019	December 31, 2018
Corporate Revolving Facility[1]	$ 602	$ 693
CDHI[2]	20	251
Various project financing facilities	199	228
Other corporate facilities[3]	294	193
Total	$ 1,115	$ 1,365

[1] The Corporate Revolving Facility represents our primary revolving facility. On April 5, 2019, we amended our Corporate Revolving Facility to increase the capacity by approximately $330 million from $1.69 billion to approximately $2.02 billion. On August 12, 2019, we amended our Corporate Revolving Facility to extend the maturity of $150 million in revolving commitments from June 27, 2020 to March 8, 2023, and to reduce

the commitments outstanding by $20 million to approximately $2.0 billion. The entire Corporate Revolving Facility now matures on March 8, 2023.

(2) Pursuant to the terms and conditions of the CDHI credit agreement, the capacity under the CDHI revolving facility was reduced to $125 million on June 28, 2019. The decrease in capacity did not have a material effect on our liquidity as alternative sources of liquidity are available.

(3) We have three unsecured letter of credit facilities with two third-party financial institutions totaling approximately $300 million at September 30, 2019.

Fair Value of Debt

We record our debt instruments based on contractual terms, net of any applicable premium or discount and debt issuance costs. The following table details the fair values and carrying values of our debt instruments at September 30, 2019 and December 31, 2018 (in millions):

	September 30, 2019		December 31, 2018	
	Fair Value	Carrying Value	Fair Value	Carrying Value
First Lien Term Loans	$ 3,232	$ 3,175	$ 2,877	$ 2,976
Senior Unsecured Notes	3,062	2,991	2,803	3,036
First Lien Notes	2,477	2,404	2,299	2,400
Project financing, notes payable and other[1]	895	889	1,209	1,188
CCFC Term Loan	983	969	938	974
Revolving facilities	60	60	30	30
Total	$ 10,709	$ 10,488	$ 10,156	$ 10,604

[1] Excludes an agreement that is accounted for as a failed sale-leaseback transaction under U.S. GAAP.

Our First Lien Term Loans, Senior Unsecured Notes, First Lien Notes, CCFC Term Loan and revolving facilities are categorized as level 2 within the fair value hierarchy. Our project financing, notes payable and other debt instruments are categorized as level 3 within the fair value hierarchy. We do not have any debt instruments with fair value measurements categorized as level 1 within the fair value hierarchy.