

WEC ENERGY GROUP, INC.  
Form 10-K  
February 26, 2019

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D. C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2018

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission Registrant; State of Incorporation; IRS Employer  
File Number Address; and Telephone Number Identification No.

001-09057 WEC ENERGY GROUP, INC. 39-1391525  
(A Wisconsin Corporation)  
231 West Michigan Street  
P. O. Box 1331  
Milwaukee, WI 53201  
414-221-2345

Securities registered pursuant to Section 12(b) of the Act:  
Title of Each Class Name of Each Exchange on Which Registered  
Common Stock, \$.01 Par Value New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes  No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes  No

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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

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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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 the 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  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

The aggregate market value of the common stock of WEC Energy Group, Inc. held by non-affiliates was \$20.4 billion based upon the reported closing price of such securities as of June 30, 2018.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date (January 31, 2019):

Common Stock, \$.01 par value, 315,455,323 shares outstanding

Documents incorporated by reference:

Portions of WEC Energy Group, Inc.'s Definitive Proxy Statement on Schedule 14A for its Annual Meeting of Shareholders, to be held on May 2, 2019, are incorporated by reference into Part III hereof.



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GLOSSARY OF TERMS AND ABBREVIATIONS

The abbreviations and terms set forth below are used throughout this report and have the meanings assigned to them below:

Subsidiaries and Affiliates

ATC	American Transmission Company LLC
ATC Holdco	ATC Holdco, LLC
ATC Holding	ATC Holding LLC
Bishop Hill III	Bishop Hill Energy III LLC
Bluewater	Bluewater Natural Gas Holding, LLC
Bluewater Gas Storage	Bluewater Gas Storage, LLC
Bostco	Bostco LLC
Coyote Ridge	Coyote Ridge Wind, LLC
Integrys	Integrys Holding, Inc.
ITF	Integrys Transportation Fuels, LLC
MERC	Minnesota Energy Resources Corporation
MGU	Michigan Gas Utilities Corporation
NSG	North Shore Gas Company
PDL	WPS Power Development, LLC
PELLC	Peoples Energy, LLC
PGL	The Peoples Gas Light and Coke Company
UMERC	Upper Michigan Energy Resources Corporation
Upstream	Upstream Wind Energy LLC
WBS	WEC Business Services LLC
WE	Wisconsin Electric Power Company
We Power	W.E. Power, LLC
WEC Energy Group	WEC Energy Group, Inc.
WECC	Wisconsin Energy Capital Corporation
WG	Wisconsin Gas LLC
Wispark	Wispark LLC
Wisvest	Wisvest LLC
WPS	Wisconsin Public Service Corporation
WRPC	Wisconsin River Power Company

Federal and State Regulatory Agencies

EPA	United States Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
ICC	Illinois Commerce Commission
IRS	United States Internal Revenue Service
MDEQ	Michigan Department of Environmental Quality
MPSC	Michigan Public Service Commission
MPUC	Minnesota Public Utilities Commission
PSCW	Public Service Commission of Wisconsin
SEC	Securities and Exchange Commission
WDNR	Wisconsin Department of Natural Resources

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## Accounting Terms

AFUDC	Allowance for Funds Used During Construction
ARO	Asset Retirement Obligation
ASC	Accounting Standards Codification
ASU	Accounting Standards Update
CWIP	Construction Work in Progress
FASB	Financial Accounting Standards Board
GAAP	Generally Accepted Accounting Principles
LIFO	Last-In, First-Out
OPEB	Other Postretirement Employee Benefits

## Environmental Terms

ACE	Affordable Clean Energy
Act 141	2005 Wisconsin Act 141
CAA	Clean Air Act
CO <sub>2</sub>	Carbon Dioxide
CPP	Clean Power Plan
GHG	Greenhouse Gas
NAAQS	National Ambient Air Quality Standards
NOV	Notice of Violation
NO <sub>x</sub>	Nitrogen Oxide
SO <sub>2</sub>	Sulfur Dioxide
WPDES	Wisconsin Pollutant Discharge Elimination System

## Measurements

Dth	Dekatherm
MDth	One thousand Dekatherms
MW	Megawatt
MWh	Megawatt-hour

## Other Terms and Abbreviations

2006 Junior Notes	Integrus's 2006 Junior Subordinated Notes Due 2066
2007 Junior Notes	WEC Energy Group, Inc.'s 2007 Junior Subordinated Notes Due 2067
ALJ	Administrative Law Judge
ARR	Auction Revenue Right
CNG	Compressed Natural Gas
Compensation Committee	Compensation Committee of the Board of Directors
DATC	Duke-American Transmission Company
D.C. Circuit Court of Appeals	United States Court of Appeals for the District of Columbia Circuit
ERGS	Elm Road Generating Station
ER 1	Elm Road Generating Station Unit 1
ER 2	Elm Road Generating Station Unit 2
Exchange Act	Securities Exchange Act of 1934, as amended
FTR	Financial Transmission Right
GCRM	Gas Cost Recovery Mechanism
LMP	Locational Marginal Price
MCPP	Milwaukee County Power Plant
MISO	Midcontinent Independent System Operator, Inc.
MISO Energy Markets	MISO Energy and Operating Reserves Market

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NYMEX

New York Mercantile Exchange

OCP

Oak Creek Power Plant

OC 5

Oak Creek Power Plant Unit 5

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OC 6	Oak Creek Power Plant Unit 6
OC 7	Oak Creek Power Plant Unit 7
OC 8	Oak Creek Power Plant Unit 8
Omnibus Stock Incentive Plan	WEC Energy Group 1993 Omnibus Stock Incentive Plan, Amended and Restated Effective as of January 1, 2016
PIPP	Presque Isle Power Plant
Point Beach	Point Beach Nuclear Power Plant
PWGS	Port Washington Generating Station
PWGS 1	Port Washington Generating Station Unit 1
PWGS 2	Port Washington Generating Station Unit 2
QIP	Qualifying Infrastructure Plant
ROE	Return on Equity
RTO	Regional Transmission Organization
SMP	Natural Gas System Modernization Program
SMRP	System Modernization and Reliability Project
SSR	System Support Resource
Supreme Court	United States Supreme Court
Tax Legislation	Tax Cuts and Jobs Act of 2017
Tilden	Tilden Mining Company
VAPP	Valley Power Plant
VITA	Variable Income Tax Adjustment Rider

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

In this report, we make statements concerning our expectations, beliefs, plans, objectives, goals, strategies, and future events or performance. These statements are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Exchange Act. Readers are cautioned not to place undue reliance on these forward-looking statements. Forward-looking statements may be identified by reference to a future period or periods or by the use of terms such as "anticipates," "believes," "could," "estimates," "expects," "forecasts," "goals," "guidance," "intends," "may," "objectives," "plans," "possible," "potential," "projects," "seeks," "should," "targets," "will," or variations of these terms.

Forward-looking statements include, among other things, statements concerning management's expectations and projections regarding earnings, completion of capital projects, sales and customer growth, rate actions and related filings with regulatory authorities, environmental and other regulations and associated compliance costs, legal proceedings, dividend payout ratios, effective tax rates, pension and OPEB plans, fuel costs, sources of electric energy supply, coal and natural gas deliveries, remediation costs, environmental matters, liquidity and capital resources, and other matters.

Forward-looking statements are subject to a number of risks and uncertainties that could cause our actual results to differ materially from those expressed or implied in the statements. These risks and uncertainties include those described in Item 1A. Risk Factors and those identified below:

Factors affecting utility operations such as catastrophic weather-related damage, environmental incidents, unplanned facility outages and repairs and maintenance, and electric transmission or natural gas pipeline system constraints;

Factors affecting the demand for electricity and natural gas, including political developments, unusual weather, changes in economic conditions, customer growth and declines, commodity prices, energy conservation efforts, and continued adoption of distributed generation by customers;

The timing, resolution, and impact of rate cases and negotiations, including recovery of deferred and current costs and the ability to earn a reasonable return on investment, and other regulatory decisions impacting our regulated operations;

The ability to obtain and retain customers, including wholesale customers, due to increased competition in our electric and natural gas markets from retail choice and alternative electric suppliers, and continued industry consolidation;

The timely completion of capital projects within budgets, as well as the recovery of the related costs through rates;

The impact of federal, state, and local legislative and/or regulatory changes, including changes in rate-setting policies or procedures, deregulation and restructuring of the electric and/or natural gas utility industries, transmission or distribution system operation, the approval process for new construction, reliability standards, pipeline integrity and safety standards, allocation of energy assistance, energy efficiency mandates, and tax laws that affect our ability to use production tax credits and investment tax credits;

The remaining uncertainty surrounding the Tax Legislation enacted in December 2017, including implementing regulations and IRS interpretations, the amount to be returned to our ratepayers, and any further impact on our and our subsidiaries' credit ratings;

Federal and state legislative and regulatory changes relating to the environment, including climate change and other environmental regulations impacting generation facilities and renewable energy standards, the enforcement of these

laws and regulations, changes in the interpretation of regulations or permit conditions by regulatory agencies, and the recovery of associated remediation and compliance costs;

• Factors affecting the implementation of our generation reshaping plan, including related regulatory decisions, the cost of materials, supplies, and labor, and the feasibility of competing projects;

• Increased pressure on us by investors and other stakeholder groups to take more aggressive action to reduce future GHG emissions in order to limit future global temperature increases;

The risks associated with changing commodity prices, particularly natural gas and electricity, and the availability of sources of fossil fuel, natural gas, purchased power, materials needed to operate environmental controls at our electric generating facilities,

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or water supply due to high demand, shortages, transportation problems, nonperformance by electric energy or natural gas suppliers under existing power purchase or natural gas supply contracts, or other developments;

Changes in credit ratings, interest rates, and our ability to access the capital markets, caused by volatility in the global credit markets, our capitalization structure, and market perceptions of the utility industry, us, or any of our subsidiaries;

Costs and effects of litigation, administrative proceedings, investigations, settlements, claims, and inquiries;

Restrictions imposed by various financing arrangements and regulatory requirements on the ability of our subsidiaries to transfer funds to us in the form of cash dividends, loans or advances, that could prevent us from paying our common stock dividends, taxes, and other expenses, and meeting our debt obligations;

The risk of financial loss, including increases in bad debt expense, associated with the inability of our customers, counterparties, and affiliates to meet their obligations;

Changes in the creditworthiness of the counterparties with whom we have contractual arrangements, including participants in the energy trading markets and fuel suppliers and transporters;

The direct or indirect effect on our business resulting from terrorist attacks and cyber security intrusions, as well as the threat of such incidents, including the failure to maintain the security of personally identifiable information, the associated costs to protect our utility assets, technology systems, and personal information, and the costs to notify affected persons to mitigate their information security concerns and to comply with state notification laws;

The financial performance of ATC and its corresponding contribution to our earnings, as well as the ability of ATC and DATC to obtain the required approvals for their transmission projects;

The investment performance of our employee benefit plan assets, as well as unanticipated changes in related actuarial assumptions, which could impact future funding requirements;

- Factors affecting the employee workforce, including loss of key personnel, internal restructuring, work stoppages, and collective bargaining agreements and negotiations with union employees;
- Advances in technology, and related legislation or regulation supporting the use of that technology, that result in competitive disadvantages and create the potential for impairment of existing assets;

The risk associated with the values of goodwill and other intangible assets and their possible impairment;

Potential business strategies to acquire and dispose of assets or businesses, which cannot be assured to be completed timely or within budgets, and legislative or regulatory restrictions or caps on non-utility acquisitions, investments or projects, including the State of Wisconsin's public utility holding company law;

The timing and outcome of any audits, disputes, and other proceedings related to taxes;

The ability to maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act, while both integrating and continuing to consolidate our enterprise systems;

The effect of accounting pronouncements issued periodically by standard-setting bodies; and

Other considerations disclosed elsewhere herein and in other reports we file with the SEC or in other publicly disseminated written documents.

We expressly disclaim any obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.

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PART I

ITEM 1. BUSINESS

A. INTRODUCTION

In this report, when we refer to "WEC Energy Group," "the Company," "us," "we," "our," or "ours," we are referring to WEC Energy Group, Inc. and all of its subsidiaries. The term "utility" refers to the regulated activities of the electric and natural gas utility companies, while the term "non-utility" refers to the activities of the electric and natural gas companies that are not regulated, as well as We Power and Bluewater. The term "nonregulated" refers to activities at Bishop Hill III, Coyote Ridge, WEC Energy Group holding company, the Integrys holding company, the PELLC holding company, Wispark, Bostco, Wisvest, WECC, WBS, PDL, and ITF. References to "Notes" are to the Notes to the Consolidated Financial Statements included in this Annual Report on Form 10-K.

For more information about our business operations, see Note 20, Segment Information, and Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations.

WEC Energy Group, Inc.

We were incorporated in the state of Wisconsin in 1981 and became a diversified holding company in 1986. We maintain our principal executive offices in Milwaukee, Wisconsin. On June 29, 2015, we acquired 100% of the outstanding common shares of Integrys and changed our name to WEC Energy Group, Inc. Our wholly owned subsidiaries provide regulated natural gas and electricity, as well as nonregulated renewable energy. Another subsidiary, ITF, provided CNG products and services prior to its sale in the first quarter of 2016. See Note 3, Dispositions, for more information on this sale. We have an approximately 60% equity interest in ATC (an electric transmission company operating in Illinois, Michigan, Minnesota, and Wisconsin). At December 31, 2018, we had six reportable segments, which are discussed below. For additional information about our reportable segments, see Note 20, Segment Information.

Available Information

Our annual and periodic filings with the SEC are available, free of charge, on our website, [www.wecenergygroup.com](http://www.wecenergygroup.com), as soon as reasonably practicable after they are filed with or furnished to the SEC. You may also obtain materials we filed with or furnished to the SEC on their website at [www.sec.gov](http://www.sec.gov).

B. UTILITY ENERGY OPERATIONS

Wisconsin Segment

The Wisconsin segment includes the electric and natural gas utility operations of WE, WG, WPS, and UMERC, which includes WE's former electric operations and WPS's former electric and natural gas operations in the state of Michigan that were transferred to UMERC effective January 1, 2017.

In December 2016, both the MPSC and the PSCW approved the operation of UMERC as a stand-alone utility in the Upper Peninsula of Michigan. See Note 24, Regulatory Environment, for more information. UMERC became operational effective January 1, 2017, and WE and WPS transferred customers and property, plant, and equipment as of that date. WE transferred approximately 27,500 retail electric customers and 50 electric distribution-only customers to UMERC, along with approximately 2,500 miles of electric distribution lines. WPS transferred approximately 9,000 retail electric customers and 5,300 natural gas customers to UMERC, along with approximately 600 miles of electric



distribution lines and approximately 100 miles of natural gas distribution mains. WE and WPS also transferred related electric distribution substations in the Upper Peninsula of Michigan and all property rights for the distribution assets to UMERG. The book value of net assets, including the related deferred income tax liabilities, transferred to UMERG from WE and WPS as of January 1, 2017, was \$61.1 million and \$20.6 million, respectively. This transaction was a non-cash equity transfer recorded to additional paid in capital between entities under common control, and therefore, did not result in the recognition of a gain or loss.

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## Electric Utility Operations

For the periods presented in this Annual Report on Form 10-K, our electric utility operations included operations of WE and WPS for all periods, and operations for UMERC beginning January 1, 2017, due to the transfer of customers and assets located in the Upper Peninsula of Michigan from WE and WPS.

WE, which is the largest electric utility in the state of Wisconsin, generates and distributes electric energy to customers located in southeastern Wisconsin (including the metropolitan Milwaukee area), east central Wisconsin, and northern Wisconsin, and serves an iron ore mine customer, Tilden, in the Upper Peninsula of Michigan. This customer will become a customer of UMERC once the new generation solution in the Upper Peninsula of Michigan begins commercial operation, which is expected to occur during the second quarter of 2019.

WPS generates and distributes electric energy to customers located in northeastern and central Wisconsin.

UMERC distributes electric energy to customers located in the Upper Peninsula of Michigan. UMERC currently meets its market obligations through power purchase agreements with WE and WPS. UMERC will begin to generate electricity when its new generation solution in the Upper Peninsula of Michigan begins commercial operation. For more information on UMERC's new generation solution, see the discussion below under the heading "Natural Gas-Fired Generation."

## Operating Revenues

The following table shows electric utility operating revenues, including steam operations. For information about our operating revenues disaggregated by customer class for the year ended December 31, 2018, see Note 4, Operating Revenues. For more information about our significant accounting policies related to the recognition of revenues, see Note 1(d), Operating Revenues.

(in millions)	Year Ended	
	December 31	
	2017	2016
Operating revenues		
Residential	\$1,581.5	\$1,620.7
Small commercial and industrial <sup>(1)</sup>	1,400.9	1,418.1
Large commercial and industrial <sup>(1)</sup>	913.7	949.5
Other	30.5	29.8
Retail <sup>(1)</sup>	3,926.6	4,018.1
Wholesale	233.4	231.2
Resale	270.6	247.1
Steam	23.3	27.2
Other operating revenues <sup>(2)</sup>	105.1	104.5
Total operating revenues <sup>(1)</sup>	\$4,559.0	\$4,628.1

<sup>(1)</sup> Includes distribution sales for customers who have purchased power from an alternative electric supplier in Michigan.

<sup>(2)</sup> Includes SSR revenues, amounts collected from (refunded to) customers for certain fuel and purchased power costs that exceed a 2% price variance from costs included in rates, and other revenues, partially offset by revenues from Tilden that are being deferred until a future rate proceeding. For more information, see the discussion below under the heading "Large Electric Retail Customers."

## Electric Sales

Our electric energy deliveries included supply and distribution sales to retail and wholesale customers and distribution sales to those customers who switched to an alternative electric supplier. In 2018, retail electric revenues accounted for 90.0% of total electric operating revenues, while wholesale and resale electric revenues accounted for 9.1% of total electric operating revenues. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations – Wisconsin Segment Contribution to Operating Income for information on MWh sales by customer class.

Our electric utilities are authorized to provide retail electric service in designated territories in the state of Wisconsin, as established by indeterminate permits and boundary agreements with other utilities, and in certain territories in the state of Michigan pursuant to franchises granted by municipalities.

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Our electric utilities buy and sell wholesale electric power by participating in the MISO Energy Markets. The cost of our individual generation offered into the MISO Energy Markets compared to our competitors affects how often our generating units are dispatched and whether we buy or sell power, based on our customers' needs. For more information, see D. Regulation.

## Steam Sales

WE has a steam utility that generates, distributes, and sells steam supplied by VAPP to customers in metropolitan Milwaukee, Wisconsin. Steam is used by customers for processing, space heating, domestic hot water, and humidification. Annual sales of steam fluctuate from year to year based on system growth and variations in weather conditions. In April 2016, we sold the MCPP steam generation and distribution assets, located in Wauwatosa, Wisconsin. MCPP primarily provided steam to the Milwaukee Regional Medical Center hospitals and other campus buildings. See Note 3, Dispositions, for more information.

## Electric Sales Forecast

Our service territories experienced growth in weather-normalized retail electric sales in 2018 due to customer growth. We currently forecast retail electric sales volumes and the associated peak demand, excluding the Tilden mine located in the Upper Peninsula of Michigan, to grow between flat and 0.5% over the next five years, assuming normal weather.

## Customers

(in thousands)	Year Ended December		
	2018	2017	2016
Electric customers – end of year			
Residential	1,441.3	1,431.4	1,421.7
Small commercial and industrial	173.2	172.2	171.1
Large commercial and industrial	0.9	0.9	0.9
Other	2.7	2.6	2.6
Total electric customers – end of year	1,618.1	1,607.1	1,596.3
Steam customers – end of year	0.4	0.4	0.4

## Large Electric Retail Customers

We provide electric utility service to a diversified base of customers in industries such as paper, metals and other manufacturing, governmental, food products, municipalities, cooperatives, and marketers, health services, retail, mining, and education.

In February 2015, Tilden, along with another affiliated iron ore mine located in the Upper Peninsula of Michigan, returned as customers after choosing an alternative electric supplier in September 2013. For more information on alternative electric suppliers, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Factors Affecting Results, Liquidity, and Capital Resources – Competitive Markets. WE entered into a contract with each of the mines to provide full requirements electric service through December 31, 2019. Since 2015, we have been deferring, and expect to continue to defer, the revenues less costs of sales from the mine sales and will apply these amounts for the benefit of Wisconsin retail electric customers in a future rate proceeding, as ordered by the PSCW.

In 2016, one of the iron ore mines closed, and the related contract for full requirements electric service was terminated. In August 2016, we entered into a new agreement with Tilden under which it will purchase electric power from UMEREC for 20 years for the remaining mine, contingent upon UMEREC's construction of natural gas-fired generation in the Upper Peninsula of Michigan. Tilden will continue to receive full requirements electric service from WE under the existing contract until UMEREC's generation solution in the Upper Peninsula of Michigan begins commercial operation, which is expected to occur during the second quarter of 2019. See Note 24, Regulatory Environment, for more information, as well as the discussion under the heading "Natural Gas-Fired Generation" below.

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## Wholesale Customers

We provide wholesale electric service to various customers, including electric cooperatives, municipal joint action agencies, other investor-owned utilities, municipal utilities, and energy marketers. Wholesale sales accounted for 7.7%, 7.6%, and 7.4% of total electric energy sales volumes during 2018, 2017, and 2016, respectively. Wholesale revenues accounted for 4.8%, 5.1%, and 5.0% of total electric operating revenues during 2018, 2017, and 2016, respectively.

## Resale

The majority of our sales for resale are sold into an energy market operated by MISO at market rates based on availability of our generation and market demand. Resale sales accounted for 12.8%, 18.2%, and 17.5% of total electric energy sales volumes during 2018, 2017, and 2016, respectively. Resale revenues accounted for 4.3%, 5.9%, and 5.3% of total electric operating revenues during 2018, 2017, and 2016, respectively. Retail fuel costs are reduced by the amount that revenue exceeds the costs of sales derived from these opportunity sales.

## Electric Generation and Supply Mix

Our electric supply strategy is to provide our customers with energy from plants using a diverse fuel mix that is expected to maintain a stable, reliable, and affordable supply of electricity. Through our participation in the MISO Energy Markets, we supply a significant amount of electricity to our customers from power plants that we own. We supplement our internally generated power supply with long-term power purchase agreements, including the Point Beach power purchase agreement discussed under the heading "Power Purchase Commitments," and through spot purchases in the MISO Energy Markets. We also sell excess capacity into the MISO Energy Markets when it is economical, which reduces net fuel costs by offsetting costs of purchased power.

Our rated capacity by fuel type as of December 31 is shown below. For more information on our electric generation facilities, see Item 2. Properties.

	Rated Capacity in MW <sup>(1)</sup>		
	2018	2017	2016
Coal	3,518	4,935	4,933
Natural gas:			
Combined cycle	1,799	1,753	1,697
Steam turbine <sup>(2)</sup>	347	314	320
Natural gas/oil peaking units <sup>(3)</sup>	1,444	1,458	1,413
Renewables <sup>(4)</sup>	220	273	273
Total rated capacity	7,328	8,733	8,636

<sup>(1)</sup> Rated capacity is the net power output under average operating conditions with equipment in an average state of repair as of a given month in a given year. We have summer peaking electric utilities, and amounts are primarily based on expected capacity ratings for the following summer. The values were established by tests and may change slightly from year to year.

<sup>(2)</sup> The natural gas steam turbine represents the rated capacity associated with VAPP as well as Weston Unit 2.

<sup>(3)</sup> Certain dual-fueled facilities generally burn oil only if natural gas is not available due to constraints on the natural gas pipeline and/or at the local natural gas distribution company that delivers natural gas to the plants.

(4) Includes hydroelectric, biomass, and wind generation.

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The table below indicates our sources of electric energy supply as a percentage of sales for the three years ended December 31, as well as estimates for 2019:

	Estimate		Actual			
	2019	2018	2017	2016		
Company-owned generation units:						
Coal *	35.9 %	44.7 %	48.5 %	45.7 %		
Natural gas:						
Combined cycle	23.9 %	19.7 %	16.5 %	18.2 %		
Steam turbine	0.8 %	0.6 %	0.8 %	0.9 %		
Natural gas/oil peaking units	1.1 %	1.7 %	1.1 %	1.1 %		
Renewables	4.2 %	4.1 %	4.1 %	3.9 %		
Total company-owned generation units	65.9 %	70.8 %	71.0 %	69.8 %		
Power purchase contracts:						
Nuclear	19.0 %	18.6 %	17.7 %	17.5 %		
Natural gas	3.0 %	1.5 %	1.3 %	1.7 %		
Renewables	3.1 %	2.4 %	2.9 %	2.8 %		
Other	1.8 %	1.7 %	1.6 %	2.1 %		
Total power purchase contracts	26.9 %	24.2 %	23.5 %	24.1 %		
Purchased power from MISO	7.2 %	5.0 %	5.5 %	6.1 %		
Total purchased power	34.1 %	29.2 %	29.0 %	30.2 %		
Total electric utility supply	100.0 %	100.0 %	100.0 %	100.0 %		

Although the generation of PIPP has been included as a source of our electric energy supply for the three years \* ended December 31, we have only included this generation facility as a source of our estimated 2019 electric energy supply through its expected retirement date on or before May 31, 2019. See Note 6, Property, Plant, and Equipment, for more information.

## Reshaping our Generation Fleet

The following discussion summarizes information about our generation facilities, including the planned reshaping of our generation fleet to balance reliability and customer cost with environmental stewardship. Generation reshaping includes retiring older fossil fuel generation units, building state-of-the-art natural gas generation, and investing in cost-effective zero-carbon generation with a goal of reducing CO<sub>2</sub> emissions by approximately 40% and 80% below 2005 levels by 2030 and 2050, respectively.

## Coal-Fired Generation

As of December 31, 2018, our coal-fired generation consists of five operating plants with a rated capacity of 3,518 MW. For more information about our operating plants, see Item 2. Properties.

We plan to retire approximately 1,800 MW of coal-fired generation by 2020 as a result of WEC Energy Group's generation reshaping plan. As part of this effort during 2018, we retired approximately 1,500 MW of coal-fired generation, including the Pleasant Prairie power plant, Pulliam power plant, and the jointly-owned Edgewater Unit 4. We are required to retire PIPP by May 31, 2019. For more information about the retirement of these plants, see Note 6, Property, Plant, and Equipment.

## Natural Gas-Fired Generation



Our natural gas-fired generation currently consists of nine operating plants, including peaking units, with a rated capacity of 3,400 MW as of December 31, 2018. For more information about our operating plants, see Item 2. Properties.

In October 2017, the MPSC approved UMEREC's application for a certificate of necessity to begin construction of a long-term generation solution for electric reliability in the region. UMEREC is constructing and will operate approximately 180 MW of natural gas-fired generation in the Upper Peninsula of Michigan. The new generation is expected to begin commercial operation during the second quarter of 2019. See Note 24, Regulatory Environment, for more information.

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### Oil-Fired Generation

Our oil-fired generation had a rated capacity of 190 MW as of December 31, 2018. We also have natural gas-fired peaking units with a rated capacity of 1,239 MW, which have the ability to burn oil if natural gas is not available due to delivery constraints. For more information about our operating plants, see Item 2. Properties.

### Renewable Generation

Our electric utilities meet a portion of their electric generation supply with various renewable energy resources. This helps our electric utilities maintain compliance with renewable energy legislation in Wisconsin and Michigan. These renewable energy resources also help us maintain diversity in our generation portfolio, which effectively serves as a price hedge against future fuel costs, and will help mitigate the risk of potential unknown costs associated with any future carbon restrictions for electric generators. For more information about our renewable generation, see Item 2. Properties.

In December 2018, WE received approval from the PSCW for the Dedicated Renewable Energy Resource pilot program, a program for customers who wish to access a large-scale renewable project located in Wisconsin that WE would operate. The project will contribute toward meeting WE's peak demand, adding up to 150 MW of renewables to WE's portfolio.

### Solar

As part of our commitment to invest in zero-carbon generation, we plan to invest in utility scale solar of up to 350 MW within our Wisconsin segment. In May 2018, WPS, along with an unaffiliated utility, filed an application with the PSCW for approval to acquire ownership interests in two proposed solar projects in Wisconsin. Badger Hollow Solar Farm will be located in Iowa County, Wisconsin, and Two Creeks Solar Project will be located in Manitowoc County, Wisconsin. If approved, WPS will own 100 MW of the output of each project for a total of 200 MW.

In December 2018, WE received approval from the PSCW for the Solar Now pilot program, which is expected to add 35 MW of renewables to WE's portfolio and will allow commercial and industrial customers to site solar arrays on their property.

### Hydroelectric

Our hydroelectric generating system consists of 30 operating plants with a total installed capacity of 173 MW and a rated capacity of 102 MW as of December 31, 2018. All of our hydroelectric facilities follow FERC guidelines and/or regulations.

### Wind

We have six wind sites, consisting of 352 turbines, with an installed capacity of 576 MW and a rated capacity of 72 MW as of December 31, 2018. In April 2018, WPS, along with two other non-affiliated utilities, completed the purchase of Forward Wind Energy Center, which consists of 86 wind turbines located in Wisconsin with a total capacity of 138 MW. WPS's proportionate share of Forward Wind Energy Center is 44.6%. See Note 2, Acquisitions, for more information.

### Biomass

We have a biomass-fueled power plant at a Rothschild, Wisconsin paper mill site. Wood waste and wood shavings are used to produce a rated capacity of approximately 46 MW of electric power as well as steam to support the paper mill's operations. Fuel for the power plant is supplied by both the paper mill and through contracts with biomass suppliers. The plant also has the ability to burn natural gas if wood waste and wood shavings are not available.

#### Electric System Reliability

The PSCW requires us to maintain a planning reserve margin above our projected annual peak demand forecast to help ensure reliability of electric service to our customers. These planning reserve requirements are consistent with the MISO calculated planning reserve margin. In 2008, the PSCW established a 14.5% reserve margin requirement for long-term planning (planning years two through ten). For short-term planning (planning year one), the PSCW requires Wisconsin utilities to follow the planning reserve margin established by MISO. MISO has a 17.1% installed capacity reserve margin requirement for the planning year from June 1, 2018, through May 31, 2019, and a 16.8% installed capacity reserve margin requirement for the planning year from June 1, 2019,

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through May 31, 2020. MISO's short-term reserve margin requirements experience year-to-year fluctuations, primarily due to changes in the average forced outage rate of generation within the MISO footprint.

Michigan legislation requires all electric providers to demonstrate to the MPSC that they have enough resources to serve the anticipated needs of their customers for a minimum of four consecutive planning years beginning in the upcoming planning year June 1, 2019, through May 31, 2020. The MPSC has established future planning reserve margin requirements based on the same study conducted by MISO that determines the short-term reserve margin requirements.

In both of our Wisconsin and Michigan jurisdictions, we have adequate capacity through company-owned generation units and power purchase contracts to meet the MISO calculated planning reserve margin during the current planning year. We also fully anticipate that we will have adequate capacity to meet the planning reserve margin requirements for the upcoming planning year in both jurisdictions. However, extremely hot weather, unexpected equipment failure, or unavailability across the 15-state MISO footprint could require us to call upon load management procedures. Load management procedures allow for the reduction of energy use through agreements with customers to directly shut off their equipment or through interruptible service, where customers agree to reduce their load in the case of an emergency interruption.

#### Fuel and Purchased Power Costs

Our retail electric rates in Wisconsin are established by the PSCW and include base amounts for fuel and purchased power costs. The electric fuel rules set by the PSCW allow us to defer, for subsequent rate recovery or refund, under- or over-collections of actual fuel and purchased power costs that exceed a 2% price variance from the costs included in the rates charged to customers. Prudently incurred fuel and purchased power costs are recovered dollar-for-dollar from our Michigan retail electric customers. For more information about the fuel rules, see D. Regulation.

Our average fuel and purchased power costs per MWh by fuel type were as follows for the years ended December 31:

	2018	2017	2016
Coal	\$23.54	\$23.05	\$23.09
Natural gas combined cycle	21.69	22.65	18.79
Natural gas/oil peaking units	49.06	53.91	45.08
Biomass	97.33	118.76	103.24
Purchased power	42.85	42.12	40.11

WE and WPS purchase coal under long-term contracts, which helps with price stability. In the past, coal and associated transportation services were exposed to volatility in pricing due to changing domestic and world-wide demand for coal and diesel fuel. To moderate the volatility, WE and WPS were both given PSCW approval for a hedging program, which allowed them to hedge up to 75% of their potential risks related to rail transportation fuel surcharge exposure. However, due to decreased volatility over the last few years, we suspended the fuel surcharge hedging program in 2017.

We purchase natural gas for our plants on the spot market from natural gas marketers, utilities, and producers, and we arrange for transportation of the natural gas to our plants. We have firm and interruptible transportation, as well as balancing and storage agreements, intended to support our plants' variable usage. WE and WPS also have PSCW-approved programs that allow them to hedge up to 75% of their estimated natural gas use for electric generation in order to help manage their natural gas price risk.

Our hedging programs are generally implemented on a 36-month forward-looking basis. The results of these programs are reflected in the average costs of natural gas and purchased power.

## Coal Supply

We diversify the coal supply for our electric generating facilities and jointly-owned plants by purchasing coal from several mines in Wyoming, as well as from various other states. For 2019, approximately 85% of our total projected coal requirements of 8.9 million tons are contracted under fixed-price contracts. See Note 22, Commitments and Contingencies, for more information on amounts of coal purchases and coal deliveries under contract.

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The annual tonnage amounts contracted for the next two years are as follows. We have not entered into any coal contracts for years after 2020.

(in thousands)	Annual Tonnage
2019	7,545
2020	2,317

Coal Deliveries

All of our 2019 coal requirements are expected to be shipped by our owned or leased unit trains under existing transportation agreements. The unit trains transport the coal for electric generating facilities from mines in Wyoming, Pennsylvania, and Montana. The coal is transported by train to our rail-served electric-generating facilities and to dock storage in Superior, Wisconsin, until needed by our lake vessel-served facility, PIPP. See Note 6, Property, Plant, and Equipment, for more information about the planned retirement of PIPP. Additional small volume agreements may also be used to supplement the normal coal supply for our facilities.

Midcontinent Independent System Operator Costs

In connection with its status as a FERC approved RTO, MISO developed and operates the MISO Energy Markets, which include its bid-based energy and ancillary services markets. We are participants in the MISO Energy Markets. For more information on MISO, see D. Regulation.

Power Purchase Commitments

We enter into short and long-term power purchase commitments to meet a portion of our anticipated electric energy supply needs. Our power purchase commitments with unaffiliated parties are 1,387 MW per year for 2019 and 2020, 1,379 MW for 2021, and 1,133 MW per year for 2022 and 2023, which exclude planning capacity purchases. These amounts include 1,033 MW per year related to a long-term power purchase agreement for electricity generated by Point Beach. Due to the actual and planned retirement of generation resources, we have entered into purchase agreements to procure additional planning capacity in order to maintain our compliance with planning reserve requirements as established by the PSCW, MPSC, and MISO.

Other Matters

Seasonality

Our electric utility sales are impacted by seasonal factors and varying weather conditions. We sell more electricity during the summer months because of the residential cooling load. We continue to upgrade our electric distribution system, including substations, transformers, and lines, to meet the demand of our customers. Our generating plants performed as expected during the warmest periods of the summer, and all power purchase commitments under firm contract were received. During this period, WE did not require public appeals for conservation, and it did not interrupt or curtail service to non-firm customers who participate in load management programs. In addition, WPS did not require any public appeals for conservation, and it did not interrupt or curtail service to non-firm customers who participate in load management programs for capacity reasons. However, WPS did have service curtailments for economic interruptions. Economic interruptions are declared during times in which the price of electricity in the regional market exceeds the cost of operating the Company's peaking generation. During this time, interruptible customers can choose to continue using electricity at a price based on wholesale market prices.

Competition

Our electric utilities face competition from various entities and other forms of energy sources available to customers, including self-generation by large industrial customers and alternative energy sources. Our electric utilities compete with other utilities for sales to municipalities and cooperatives as well as with other utilities and marketers for wholesale electric business.

For more information on competition in our service territories, see Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Factors Affecting Results, Liquidity, and Capital Resources – Competitive Markets.

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## Environmental Matters

For information regarding environmental matters, especially as they relate to coal-fired generating facilities, see Note 22, Commitments and Contingencies.

## Natural Gas Utility Operations

We are authorized to provide retail natural gas distribution service in designated territories in the state of Wisconsin, as established by indeterminate permits and boundary agreements with other utilities. We also transport customer-owned natural gas. Together our natural gas distribution utilities are the largest in Wisconsin, and we operate throughout the state, including the City of Milwaukee and surrounding areas, northeastern Wisconsin, and in large areas of both central and western Wisconsin.

Effective January 1, 2017, WPS transferred its natural gas customers and natural gas distribution assets located in the Upper Peninsula of Michigan to UMERC, which is included in our Wisconsin segment. More information about UMERC is included at the beginning of the Wisconsin segment section.

We provide natural gas utility service to a diversified base of industrial customers who are largely within our electric service territory. Major industries served include governmental, food products, paper, education, and metals manufacturing. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations – Wisconsin Segment Contribution to Operating Income for information on natural gas sales volumes by customer class in Wisconsin and the Upper Peninsula of Michigan.

## Operating Revenues

The following table shows natural gas utility operating revenues for our Wisconsin segment. For information about our operating revenues disaggregated by customer class for the year ended December 31, 2018, see Note 4, Operating Revenues. For more information about our significant accounting policies related to the recognition of revenues, see Note 1(d), Operating Revenues.

(in millions)	Year Ended	
	December 31	
	2017	2016
Operating revenues		
Residential	\$809.3	\$763.2
Commercial and industrial	395.5	355.3
Total retail revenues	1,204.8	1,118.5
Transport	72.6	69.7
Other operating revenues *	(7.2 )	(10.6 )
Total operating revenues	\$1,270.2	\$1,177.6

\*Includes amounts refunded to customers for purchased gas adjustment costs.

## Natural Gas Sales Forecast

Our combined Wisconsin service territories experienced growth in weather-normalized retail natural gas deliveries (excluding natural gas deliveries for electric generation) in 2018 due to customer growth. We currently forecast retail natural gas delivery volumes to grow at a rate between 0.5% and 1.0% over the next five years, assuming normal weather.



Customers

	Year Ended December		
	31		
(in thousands)	2018	2017	2016
Customers – end of year			
Residential	1,329.6	1,318.3	1,306.3
Commercial and industrial	130.6	129.7	129.0
Transport	3.0	2.8	2.6
Total customers	1,463.2	1,450.8	1,437.9

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### Natural Gas Supply, Pipeline Capacity and Storage

We have been able to meet our contractual obligations with both our suppliers and our customers. For more information on our natural gas utility supply and transportation contracts, see Note 22, Commitments and Contingencies.

#### Pipeline and Storage Capacity

The interstate pipelines serving Wisconsin originate in major natural gas producing areas of North America: the Oklahoma and Texas basins, western Canada, and the Rocky Mountains. We have contracted for long-term firm capacity from a number of these sources. This strategy reflects management's belief that overall supply security is enhanced by geographic diversification of the supply portfolio.

Due to variations in natural gas usage in Wisconsin, we have also contracted for substantial underground storage capacity, primarily in Michigan. We target storage inventory levels at approximately 40% of forecasted demand for November through March. Diversity of natural gas supply enables us to manage significant changes in demand and to optimize our overall natural gas supply and capacity costs. We generally inject natural gas into storage during the spring and summer months and withdraw it in the winter months.

In June 2017, we completed the acquisition of Bluewater. Bluewater owns natural gas storage facilities in Michigan that provide approximately one-third of the current storage needs for our Wisconsin natural gas utilities. See Note 2, Acquisitions, for more information on this transaction.

We hold daily transportation and storage capacity entitlements with interstate pipeline companies as well as other service providers under varied-length long-term contracts.

Pipeline and storage capacity and natural gas supplies under contract can be resold in secondary markets. Peak or near-peak demand generally occurs only a few times each year. The secondary markets facilitate utilization of capacity and supply during times when the contracted capacity and supply are in excess of utility demand. The proceeds from these transactions are passed through to customers, subject to our approved GCRMs. For information on the GCRMs, see Note 1(d), Operating Revenues.

To ensure a reliable supply of natural gas during peak winter conditions, we have liquefied natural gas and propane facilities located within our distribution system. These facilities are typically utilized during extreme demand conditions to ensure reliable supply to our customers.

Combined with our storage capability, management believes that the volume of natural gas under contract is sufficient to meet our forecasted firm peak-day and seasonal demand. Our Wisconsin natural gas utilities' forecasted design peak-day throughput is 32.5 million therms for the 2018 through 2019 heating season. Our peak daily send-out during 2018 was 24.2 million therms on January 4, 2018.

#### Natural Gas Supply

We have contracts for firm supplies with terms of 3–5 months with suppliers for natural gas acquired in the Chicago, Illinois market hub and in the producing areas discussed above. The pricing of the term contracts is based upon first of the month indices.

We expect to continue to make natural gas purchases in the spot market as price and other circumstances dictate. We have supply relationships with a number of sellers from whom we purchase natural gas in the spot market.

### Hedging Natural Gas Supply Prices

WE, WPS, and WG have PSCW approval to hedge up to 60% of planned winter demand and up to 15% of planned summer demand using a mix of NYMEX-based natural gas options and futures contracts. These approvals allow these companies to pass 100% of the hedging costs (premiums and brokerage fees) and proceeds (gains and losses) to customers through their respective GCRMs.

To the extent that opportunities develop and physical supply operating plans are supportive, WE, WG, and WPS also have PSCW approval to utilize NYMEX-based natural gas derivatives to capture favorable forward-market price differentials. These approvals provide for 100% of the related proceeds to accrue to these companies' respective GCRMs.

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## Seasonality

Since the majority of our customers use natural gas for heating, customer use is sensitive to weather and is generally higher during the winter months. Accordingly, we are subject to some variations in earnings and working capital throughout the year as a result of changes in weather.

The seasonality of natural gas revenues causes the timing of cash collections to be concentrated from January through June. A portion of the winter natural gas supply needs is typically purchased and stored from April through November. Also, planned capital spending on our natural gas distribution facilities is concentrated in April through November. Because of these timing differences, the cash flow from customers is typically supplemented with temporary increases in short-term borrowings (from external sources) during the late summer and fall. Short-term debt is typically reduced over the January through June period.

## Competition

We face varying degrees of competition from other entities and other forms of energy available to consumers. Many large commercial and industrial customers have the ability to switch between natural gas and alternative fuels. Commercial and industrial customers have the opportunity to choose a natural gas supplier other than us. We offer both natural gas transportation service and interruptible natural gas sales to enable customers to better manage their energy costs. Transportation customers purchase natural gas directly from third-party natural gas suppliers and use our distribution systems to transport the natural gas to their facilities. We earn a distribution charge for transporting the natural gas for these customers. As such, the loss of revenue associated with the cost of natural gas that our transportation customers purchase from third-party suppliers has little impact on our net income, as it is offset by an equal reduction to natural gas costs. Customers continue to switch between firm system supply, interruptible system supply, and transportation service each year as the economics and service options change.

## Illinois Segment

Our Illinois segment includes the natural gas utility operations of PGL and NSG. PGL and NSG, both Illinois corporations, began operations in 1855 and 1900, respectively. Our customers are located in Chicago and the northern suburbs of Chicago. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations – Illinois Segment Contribution to Operating Income for information on natural gas sales volumes by customer class.

## Illinois Utilities Operating Statistics

## Operating Revenues

The following table shows natural gas operating revenues for our Illinois utilities. For information about our operating revenues disaggregated by customer class for the year ended December 31, 2018, see Note 4, Operating Revenues. For more information about our significant accounting policies related to the recognition of revenues, see Note 1(d), Operating Revenues.

(in millions)	Year Ended	
	December 31	
	2017	2016
Operating revenues		
Residential	\$934.8	\$839.2
Commercial and industrial	156.7	136.5
Total retail revenues	1,091.5	975.7

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Transport	246.9	239.4
Other operating revenues	17.1	27.1
Total operating revenues	\$1,355.5	\$1,242.2

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## Customers

	Year Ended December		
	31		
(in thousands)	2018	2017	2016
Customers – end of year			
Residential	863.2	849.8	822.6
Commercial and industrial	72.1	72.9	71.3
Transport	97.5	107.5	109.5
Total customers	1,032.8	1,030.2	1,003.4

## Natural Gas Supply, Pipeline Capacity, and Storage

We manage portfolios of natural gas supply contracts, storage services, and pipeline transportation services designed to meet varying customer use patterns with safe, reliable natural gas supplies at the best value. For more information on our natural gas utility supply and transportation contracts, see Note 22, Commitments and Contingencies.

## Pipeline Capacity and Storage

We contract with local distribution companies and interstate pipelines to purchase firm transportation services. We believe that having multiple pipelines that serve our natural gas service territory benefits our customers by improving reliability, providing access to a diverse supply of natural gas, and fostering competition among these service providers. These benefits can lead to favorable conditions for our Illinois utilities when negotiating new agreements for transportation and storage services.

We own a 38.8 Bcf storage field (Manlove Field in central Illinois) and contract with various other underground storage service providers for additional storage services. Storage allows us to manage significant changes in daily natural gas demand and to purchase steady levels of natural gas on a year-round basis, which provides a hedge against supply cost volatility. We also own a natural gas pipeline system that connects Manlove Field to Chicago and nine major interstate pipelines. These assets are directed primarily to serving rate-regulated retail customers and are included in our regulatory rate base. We also use a portion of these company-owned storage and pipeline assets as a natural gas hub, which consists of providing transportation and storage services in interstate commerce to our wholesale customers. Customers deliver natural gas to us for storage through an injection into the storage reservoir, and we return the natural gas to the customers under an agreed schedule through a withdrawal from the storage reservoir. Title to the natural gas does not transfer to us. We recognize service fees associated with the natural gas hub services provided to wholesale customers. These service fees reduce the cost of natural gas and services charged to retail customers in rates.

We had adequate capacity to meet all firm natural gas demand obligations during 2018 and expect to have adequate capacity to meet all firm demand obligations during 2019. Our Illinois utilities' forecasted design peak-day throughput is 24.8 million therms for the 2018 through 2019 heating season.

## Natural Gas Supply

Our natural gas supply requirements are met through a combination of fixed-price purchases, index-priced purchases, contracted and owned storage, peak-shaving facilities, and natural gas supply call options. We contract for fixed-term firm natural gas supply each year to meet the demand of firm system sales customers. To supplement natural gas supply and manage risk, we purchase additional natural gas supply on the monthly and daily spot markets.

## Hedging Natural Gas Supply Prices

Our Illinois utilities further reduce their supply cost volatility through the use of financial instruments, such as commodity futures, swaps, and options as part of their hedging programs. Their hedging programs are approved by the ICC. They hedge between 25% and 50% of natural gas purchases, with a target of 37.5%.

#### Natural Gas System Modernization Program

PGL is continuing work on the SMP, a project to replace approximately 2,000 miles of Chicago's aging natural gas pipeline infrastructure that began in 2011. PGL currently recovers these costs through a surcharge on customer bills pursuant to an ICC approved QIP rider, which is in effect through 2023. For information on regulatory proceedings related to the SMP, see Note 24, Regulatory Environment.

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### Seasonality

Since the majority of our customers use natural gas for heating, customer use is sensitive to weather and is generally higher during the winter months. Accordingly, we are subject to variations in earnings and working capital throughout the year as a result of changes in weather.

Our Illinois utilities' working capital needs are met by cash generated from operations and debt (both long-term and short-term). The seasonality of natural gas revenues causes the timing of cash collections to be concentrated from January through June. A portion of the winter natural gas supply needs is typically purchased and stored from April through November. Also, planned capital spending on our natural gas distribution facilities is concentrated in April through November. Because of these timing differences, the cash flow from customers is typically supplemented with temporary increases in short-term borrowings (from external sources) during the late summer and fall. Short-term debt is typically reduced over the January through June period.

### Competition

Although our Illinois utilities' rates are regulated by the ICC, we still face varying degrees of competition from other entities and other forms of energy available to consumers. Absent extraordinary circumstances, potential competitors are not allowed to construct competing natural gas distribution systems in our service territory due to a judicial doctrine known as the "first in the field." In addition, we believe it would be impractical to construct competing duplicate distribution facilities due to the high cost of installation.

Since 2002, all our Illinois utilities' natural gas customers have had the opportunity to choose a natural gas supplier other than us. As a result, we offer natural gas transportation service to enable customers to directly manage their energy costs. Transportation customers purchase natural gas directly from third-party natural gas suppliers and use our distribution system to transport the natural gas to their facilities. We still earn a distribution charge for transporting the natural gas for these customers. As such, the loss of revenue associated with the cost of natural gas that our transportation customers purchase from third-party suppliers has little impact on our net income, as it is offset by an equal reduction to natural gas costs.

An interstate pipeline may seek to provide transportation service directly to end users, which would bypass our natural gas transportation service. However, we have a bypass rate approved by the ICC, which allows us to negotiate rates with customers that are potential bypass candidates to help ensure that such customers use our transportation service.

### Other States Segment

Our other states segment includes the natural gas utility operations of MERC and MGU. MERC serves customers in various cities and communities throughout Minnesota, and MGU serves customers in southern and western Michigan. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Results of Operations – Other States Segment Contribution to Operating Income for information on natural gas sales volumes by customer class for this segment.



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## Other States Utilities Operating Statistics

## Operating Revenues

The following table shows natural gas operating revenues for our other states utilities. For information about our operating revenues disaggregated by customer class for the year ended December 31, 2018, see Note 4, Operating Revenues. For more information about our significant accounting policies related to the recognition of revenues, see Note 1(d), Operating Revenues.

(in millions)	Year Ended December 31	
	2017	2016
Operating revenues		
Residential	\$220.2	\$209.3
Commercial and industrial	123.9	110.7
Total retail revenues	344.1	320.0
Transport	31.4	31.7
Other operating revenues	35.7	24.8
Total operating revenues	\$411.2	\$376.5

## Customers

(in thousands)	Year Ended December 31		
	2018	2017	2016
Customers – end of year			
Residential	356.5	353.0	348.1
Commercial and industrial	34.9	34.5	34.1
Transport	24.7	24.2	24.8
Total customers	416.1	411.7	407.0

## Natural Gas Supply, Pipeline Capacity and Storage

We manage portfolios of natural gas supply contracts, storage services, and pipeline transportation services designed to meet varying customer use patterns with safe, reliable natural gas supplies at the best value. For more information on our natural gas utility supply and transportation contracts, see Note 22, Commitments and Contingencies.

## Pipeline Capacity and Storage

We own a storage field (Partello in Michigan) and contract with various other underground storage service providers for additional storage services. We contract with local distribution companies and interstate pipelines to purchase firm transportation services. We believe that having diverse capacity and storage benefits our customers.

Combined with our storage capability, management believes that the volume of gas under contract is sufficient to meet our forecasted firm peak-day and seasonal demand. Forecasted design peak-day throughput for our other states utilities is 8.7 million therms for the 2018 through 2019 heating season.

## Natural Gas Supply

Our natural gas supply requirements are met through a combination of fixed-price purchases, index-priced purchases, contracted and owned storage, and natural gas supply call options. We contract for fixed-term firm natural gas supply

each year to meet the demand of firm system sales customers. To supplement natural gas supply and manage risk, we purchase additional natural gas supply on the monthly and daily spot markets.

#### Hedging Natural Gas Supply Prices

Our other states utilities further reduce their supply cost volatility through the use of financial instruments, such as commodity futures, swaps, and options as part of their hedging programs. MERC has MPUC approval to hedge up to 30% of planned winter

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demand using NYMEX financial instruments. MGU has MPSC approval to hedge up to 20% of its planned annual purchases using NYMEX financial instruments.

### Seasonality

Since the majority of our customers use natural gas for heating, customer use is sensitive to weather and is generally higher during the winter months. Accordingly, we are subject to variations in earnings and working capital throughout the year as a result of changes in weather.

Our other states utilities' working capital needs are met by cash generated from operations and debt (both long-term and short-term). The seasonality of natural gas revenues causes the timing of cash collections to be concentrated from January through June. A portion of the winter natural gas supply needs is typically purchased and stored from April through November. Also, planned capital spending on our natural gas distribution facilities is concentrated in April through November. Because of these timing differences, the cash flow from customers is typically supplemented with temporary increases in short-term borrowings (from external sources) during the late summer and fall. Short-term debt is typically reduced over the January through June period.

### Competition

Although our other states utilities' rates are regulated by the MPUC and MPSC, we still face varying degrees of competition from other entities and other forms of energy available to consumers. Natural gas utilities in the state of Minnesota do not have exclusive franchise service territories and, as a matter of law and policy, natural gas utilities may compete for new customers. However, natural gas utilities have customarily avoided competing for existing customers of other utilities, as there would be duplicative utility facilities and/or increased costs to customers. If this approach were to change, it could lead to a greater level of utility to utility competition for customers.

Many large commercial and industrial customers have the ability to switch between natural gas and alternative fuels. In addition, MERC commercial and industrial customers and all MGU customers have the opportunity to choose a natural gas supplier other than us. We offer natural gas transportation service and also offer interruptible natural gas sales to enable customers to better manage their energy costs. Transportation customers purchase natural gas directly from third-party natural gas suppliers and use our distribution systems to transport the natural gas to their facilities. We still earn a distribution charge for transporting the natural gas for these customers. As such, the loss of revenue associated with the cost of natural gas that our transportation customers purchase from third-party suppliers has little impact on our net income, as it is offset by an equal reduction to natural gas costs. Customers continue to switch between firm system supply, interruptible system supply, and transportation service each year as the economics and service options change.

### Electric Transmission Segment

ATC is a regional transmission company that owns, maintains, monitors, and operates electric transmission systems in Wisconsin, Michigan, Illinois, and Minnesota. ATC is expected to provide comparable service to all customers, including WE, WPS, and UMER, and to support effective competition in energy markets without favoring any market participant. ATC is regulated by the FERC for all rate terms and conditions of service and is a transmission-owning member of MISO. MISO maintains operational control of ATC's transmission system, and WE, WPS, and UMER are non-transmission owning members and customers of MISO. As of December 31, 2018, our ownership interest in ATC was approximately 60%. In addition, we own approximately 75% of ATC Holdco, a separate entity formed in December 2016 to invest in transmission-related projects outside of ATC's traditional footprint.

In April 2011, ATC and Duke Energy announced the creation of a joint venture, DATC, that seeks opportunities to acquire, build, own, and operate new electric transmission infrastructure in North America to address increasing demand for affordable, reliable transmission capacity. In April 2013, DATC acquired a 72% interest in California's Path 15 transmission rights. DATC continues to evaluate new projects and opportunities, along with participating in the competitive bidding process on projects it considers viable. These projects are located in the service territories of several different RTOs around the country. See Note 19, Investment in Transmission Affiliates, for more information.

ATC is currently named as one of several parties to a complaint filed with the FERC requesting a reduction in the base ROE used by MISO transmission owners. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Factors Affecting Results, Liquidity, and Capital Resources – Other Matters – American Transmission Company Allowed Return on Equity Complaints, for more information.

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C. NON-UTILITY OPERATIONS

Non-Utility Energy Infrastructure Segment

The non-utility energy infrastructure segment includes We Power, which owns and leases generating facilities to WE; Bluewater, which owns underground natural gas storage facilities in Michigan; our 90% membership interest in Bishop Hill III, a wind generating facility; our 80% membership interest in Coyote Ridge, a wind generating facility under construction; and our 80% membership interest in Upstream, a wind generating facility acquired in January 2019. See Note 2, Acquisitions, for more information.

We Power, through wholly owned subsidiaries, designed and built approximately 2,450 MW of generation in Wisconsin. This generation is made up of capacity from the ERGS units, ER 1 and ER 2, which were placed in service in February 2010 and January 2011, respectively, and the PWGS units, PWGS 1 and PWGS 2, which were placed in service in July 2005 and May 2008, respectively. Two unaffiliated entities collectively own approximately 17%, or approximately 211 MW, of ER 1 and ER 2. We Power's share of the ERGS units and both PWGS units are being leased to WE under long-term leases (the ERGS units have 30-year leases and the PWGS units have 25-year leases), and are positioned to provide a significant portion of our future generation needs.

Because of the significant investment necessary to construct these generating units, we constructed the plants under Wisconsin's Leased Generation Law, which allows a non-utility affiliate to construct an electric generating facility and lease it to the public utility. The law allows a public utility that has entered into a lease approved by the PSCW to recover fully in its retail electric rates that portion of any payments under the lease that the PSCW has allocated to the public utility's Wisconsin retail electric service, and all other costs that are prudently incurred in the public utility's operation and maintenance of the electric generating facility allocated to the utility's Wisconsin retail electric service. In addition, the PSCW may not modify or terminate a lease it has approved under the Leased Generation Law except as specifically provided in the lease or the PSCW's order approving the lease. This law effectively created regulatory certainty in light of the significant investment being made to construct the units. All four units were constructed under leases approved by the PSCW.

We are recovering our costs of these units, including subsequent capital additions, through lease payments that are billed from We Power to WE and then recovered in WE's rates as authorized by the PSCW, the MPSC, and the FERC. Under the lease terms, our return is calculated using a 12.7% ROE and the equity ratio is assumed to be 55% for the ERGS units and 53% for the PWGS units.

Bluewater, located in Michigan, provides natural gas storage and hub services for our Wisconsin natural gas utilities. WE, WG, and WPS have entered into long-term service agreements for natural gas storage with a wholly owned subsidiary of Bluewater.

Bishop Hill III is a 132 MW wind generating facility consisting of 53 wind turbines located in Henry County, Illinois. Bishop Hill III has a 22-year offtake agreement with an unaffiliated company for the sale of all energy produced by the facility. We have a 90% membership interest in Bishop Hill III. Under the Tax Legislation, our investment in Bishop Hill III qualifies for production tax credits and 100% bonus depreciation.

Coyote Ridge is a wind generating facility under construction in Brookings County, South Dakota. The wind generating facility is expected to be in service by the end of 2019. The Coyote Ridge site will consist of 39 wind turbines with a combined capacity of 97.5 MW. The project has a 12-year offtake agreement with an unaffiliated third party for all energy produced by the facility. We have an 80% membership interest in Coyote Ridge. Under the Tax Legislation, our investment in Coyote Ridge is expected to qualify for production tax credits and 100% bonus

depreciation. We are entitled to 99% of the tax benefits related to this facility.

In January 2019, we purchased an 80% membership interest in Upstream, a commercially operational 202.5 MW wind generating facility consisting of 81 wind turbines located in Antelope County, Nebraska, which supplies energy to the Southwest Power Pool. Upstream's revenue will be substantially fixed over a 10-year period through an agreement with an unaffiliated third party. Under the Tax Legislation, our investment in Upstream qualifies for production tax credits and 100% bonus depreciation.

#### Corporate and Other Segment

The corporate and other segment includes the operations of the WEC Energy Group holding company, the Integrys holding company, and the PELLC holding company, as well as the operations of Wispark, Bostco (prior to the sale of substantially all of its remaining assets in the first quarter of 2017 and its dissolution in October 2018), Wisvest (prior to the sale of its assets in the second quarter of

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2016), WECC, WBS, PDL, and ITF (prior to the sale of this business in the first quarter of 2016). See Note 3, Dispositions, for more information on the sale of Wisvest's and Bostco's assets and ITF.

Wispark develops and invests in real estate, primarily in southeastern Wisconsin. Wispark had \$40.7 million in real estate holdings at December 31, 2018.

Bostco was originally formed to develop and invest in real estate. In March 2017, we sold the remaining real estate holdings of Bostco located in downtown Milwaukee, Wisconsin. See Note 3, Dispositions, for more information. In October 2018, Bostco was dissolved.

Wisvest was originally formed to develop, own, and operate electric generating facilities and to invest in other energy-related entities. However, Wisvest discontinued its development activity several years ago. In April 2016, we sold the chilled water generation and distribution assets of Wisvest, which provided chilled water services to the Milwaukee Regional Medical Center. Wisvest no longer has significant operations. See Note 3, Dispositions, for more information.

WECC was originally formed to invest in non-utility projects, such as low income housing developments. However, due to a focus on our regulated utility business, WECC sold many of its non-utility investments and no longer has significant operations.

WBS is a wholly owned centralized service company that provides administrative and general support services to our regulated entities. WBS also provides certain administrative and support services to our nonregulated entities.

PDL owns distributed renewable solar projects. As part of our asset management strategy, in 2016, PDL sold its natural gas-fired cogeneration facility and its landfill gas facility, and in 2018, PDL sold three of its distributed commercial and industrial solar projects. These facilities were not considered core to our operations. PDL's solar facilities rely on solar irradiance, a renewable energy resource. There is no market price risk associated with the fuel supply of these solar projects. However, production at these facilities can be intermittent due to the variability of solar irradiance.

## D. REGULATION

We are a holding company and are subject to the requirements of the Public Utility Holding Company Act of 2005 (PUHCA 2005). We also have various subsidiaries that meet the definition of a holding company under PUHCA 2005 and are also subject to its requirements.

Pursuant to the non-utility asset cap provisions of Wisconsin's public utility holding company law, the sum of certain assets of all non-utility affiliates in a holding company system generally may not exceed 25% of the assets of all public utility affiliates. However, among other items, the law exempts energy-related assets, including the generating plants constructed by We Power and the other assets in our non-utility energy infrastructure segment, from being counted against the asset cap provided that they are employed in qualifying businesses. We report to the PSCW annually our compliance with this law and provide supporting documentation to show that our non-utility assets are below the non-utility asset cap.

### Regulated Utility Operations

In addition to the specific regulations noted above and below, our utilities are also subject to regulations, where applicable, of the EPA, the WDNR, the MDEQ, the Michigan Department of Natural Resources, the Illinois Environmental Protection Agency, the United States Army Corps of Engineers, the Minnesota Department of Natural

Resources, and the Minnesota Pollution Control Agency.

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## Rates

Our utilities' rates were regulated by the various commissions shown in the table below during 2018. These commissions have general supervisory and regulatory powers over public utilities in their respective jurisdictions.

Regulated Rates	Regulatory Commission
WE	
Retail electric, natural gas, and steam	PSCW
Retail electric	MPSC
Wholesale power	FERC
WPS	
Retail electric and natural gas	PSCW
Wholesale power	FERC
WG	
Retail natural gas	PSCW
UMERC	
Retail electric and natural gas	MPSC
Wholesale power	FERC
PGL	
Retail natural gas	ICC
NSG	
Retail natural gas	ICC
MERC	
Retail natural gas	MPUC
MGU	
Retail natural gas	MPSC

Embedded within our electric utilities' rates is an amount to recover fuel and purchased power costs. The Wisconsin retail fuel rules require a utility to defer, for subsequent rate recovery or refund, any under-collection or over-collection of fuel and purchased power costs that are outside of the utility's symmetrical fuel cost tolerance, which the PSCW typically sets at plus or minus 2% of the utility's approved fuel and purchased power cost plan. The deferred fuel and purchased power costs are subject to an excess revenues test. If the utility's ROE in a given year exceeds the ROE authorized by the PSCW, the recovery of under-collected fuel and purchased power costs would be reduced by the amount by which the utility's return exceeds the authorized amount. Prudently incurred fuel and purchased power costs are recovered dollar-for-dollar from our Michigan retail electric customers and our wholesale electric customers.

Our natural gas utilities operate under GCRMs as approved by their respective state regulator. Generally, the GCRMs allow for a dollar-for-dollar recovery of prudently incurred natural gas costs.

See Note 1(d), Operating Revenues, for additional information on the significant mechanisms our utilities had in place in 2018 that allowed them to recover or refund changes in prudently incurred costs from rate case-approved amounts.

WE, WG, and WPS are each subject to an earnings sharing mechanism through 2019. WE and WG have been subject to the earnings sharing mechanism since January 2016, and WPS adopted it in January 2018 pursuant to its settlement agreement with the PSCW. See Note 24, Regulatory Environment, for more information.

For information on how rates are set for our regulated entities, see Note 24, Regulatory Environment. Orders from our respective regulators can be viewed at the following websites:

Regulatory Commission Website

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PSCW	<a href="https://psc.wi.gov/">https://psc.wi.gov/</a>
ICC	<a href="https://www.icc.illinois.gov/">https://www.icc.illinois.gov/</a>
MPSC	<a href="http://www.michigan.gov/mpsc/">http://www.michigan.gov/mpsc/</a>
MPUC	<a href="http://mn.gov/puc/">http://mn.gov/puc/</a>
FERC	<a href="http://www.ferc.gov/">http://www.ferc.gov/</a>

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The material and information contained on these websites are not intended to be a part of, nor are they incorporated by reference into, this Annual Report on Form 10-K.

The following table compares our utility operating revenues by regulatory jurisdiction for each of the three years ended December 31:

(in millions)	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
<b>Electric</b>						
Wisconsin	\$3,890.4	87.7 %	\$3,909.1	85.7 %	\$3,974.8	85.9 %
Michigan	152.4	3.4 %	145.9	3.2 %	175.0	3.8 %
FERC – Wholesale	396.1	8.9 %	504.0	11.1 %	478.3	10.3 %
Total	4,438.9	100.0 %	4,559.0	100.0 %	4,628.1	100.0 %
<b>Natural Gas</b>						
Wisconsin	1,351.8	42.3 %	1,266.4	41.7 %	1,174.2	42.0 %
Illinois	1,400.0	43.8 %	1,355.5	44.6 %	1,242.2	44.4 %
Minnesota	289.8	9.1 %	272.6	9.0 %	249.4	8.9 %
Michigan	152.4	4.8 %	142.4	4.7 %	130.5	4.7 %
Total	3,194.0	100.0 %	3,036.9	100.0 %	2,796.3	100.0 %
Total utility operating revenues	\$7,632.9		\$7,595.9		\$7,424.4	

#### Electric Transmission, Capacity, and Energy Markets

In connection with its status as a FERC approved RTO, MISO operates bid-based energy markets. MISO has been able to assume significant balancing area responsibilities such as frequency control and disturbance control.

In MISO, base transmission costs are currently being paid by load-serving entities located in the service territories of each MISO transmission owner. The FERC has previously confirmed the use of the current transmission cost allocation methodology. Certain additional costs for new transmission projects are allocated throughout the MISO footprint.

As part of MISO, a market-based platform is used for valuing transmission congestion premised upon the LMP system that is used in certain northeastern and mid-Atlantic states. The LMP system includes the ability to hedge transmission congestion costs through ARRs and FTRs. ARRs are allocated to market participants by MISO, and FTRs are purchased through auctions. A new allocation and auction were completed for the period of June 1, 2018, through May 31, 2019. The resulting ARR valuation and the secured FTRs are expected to mitigate our transmission congestion risk for that period.

MISO has an annual zonal resource adequacy requirement to ensure there is sufficient generation capacity to serve the MISO market. To meet this requirement, capacity resources can be acquired through MISO's annual capacity auction, bilateral contracts for capacity, or provided from generating or demand response resources. All of our capacity requirements during the planning year from June 1, 2018, through May 31, 2019 were met.

#### Other Electric Regulations

Our electric utilities are subject to the Federal Power Act and the corresponding regulations developed by certain federal agencies. The Energy Policy Act amended the Federal Power Act in 2005 to, among other things, make electric utility industry consolidation more feasible, authorize the FERC to review proposed mergers and the

acquisition of generation facilities, change the FERC regulatory scheme applicable to qualifying cogeneration facilities, and modify certain other aspects of energy regulations and Federal tax policies applicable to us. Additionally, the Energy Policy Act created an Electric Reliability Organization to be overseen by the FERC, which established mandatory electric reliability standards and has the authority to levy monetary sanctions for failure to comply with these standards.

WE and WPS are subject to Act 141 in Wisconsin, and WE and UMERCA are subject to Public Acts 295 and 342 in Michigan, which contain certain minimum requirements for renewable energy generation.

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All of our hydroelectric facilities follow FERC guidelines and/or regulations.

### Other Natural Gas Regulations

Almost all of the natural gas we distribute is transported to our distribution systems by interstate pipelines. The pipelines' transportation and storage services, including PGL's natural gas hub, are regulated by the FERC under the Natural Gas Act and the Natural Gas Policy Act of 1978. In addition, the Pipeline and Hazardous Materials Safety Administration and the state commissions are responsible for monitoring and enforcing requirements governing our natural gas utilities' safety compliance programs for our pipelines under the United States Department of Transportation regulations. These regulations include 49 Code of Federal Regulations (CFR) Part 191 (Transportation of Natural and Other Gas by Pipeline; Annual Reports, Incident Reports, and Safety-Related Condition Reports), 49 CFR Part 192 (Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards), and 49 CFR Part 195 (Transportation of Hazardous Liquids by Pipeline).

We are required to provide natural gas service and grant credit (with applicable deposit requirements) to customers within our service territories. We are generally not allowed to discontinue natural gas service during winter moratorium months to residential heating customers who do not pay their bills. Federal and certain state governments have programs that provide for a limited amount of funding for assistance to low-income customers of our utilities.

### Non-Utility Energy Infrastructure Operations

The generation facilities constructed by wholly owned subsidiaries of We Power are being leased on a long-term basis to WE. Environmental permits necessary for operating the facilities are the responsibility of the operating entity, WE. We Power received determinations from the FERC that upon the transfer of the facilities by lease to WE, We Power's subsidiaries would not be deemed public utilities under the Federal Power Act and thus would not be subject to the FERC's jurisdiction.

Bluewater is regulated by the FERC under the Natural Gas Act and the Natural Gas Policy Act of 1978. In addition, the Pipeline and Hazardous Materials Safety Administration is responsible for monitoring and enforcing requirements governing Bluewater's safety compliance programs for its pipelines under the United States Department of Transportation regulations. These regulations include 49 CFR Parts 191, 192, and 195. Given that Bluewater is required to route some of its natural gas through Canada, applicable reporting and licensing with the United States Department of Energy and the Canadian National Energy Board are also required, along with routine reporting related to imports and exports.

Bishop Hill III and Upstream, which was acquired in January 2019, are both subject to the FERC's regulation of wholesale energy under the Federal Power Act.

## E. ENVIRONMENTAL COMPLIANCE

Our operations are subject to extensive environmental regulation by state and federal environmental agencies governing air and water quality, hazardous and solid waste management, environmental remediation, and management of natural resources. Costs associated with complying with these requirements are significant. Additional future environmental regulations or revisions to existing laws, including for example, additional regulation of GHG emissions, coal combustion products, air emissions, or wastewater discharges, could significantly increase these environmental compliance costs.

Anticipated expenditures for environmental compliance and remediation issues for the next three years are included in the estimated capital expenditures described in Item 7. Management's Discussion and Analysis of Financial Condition

and Results of Operations – Liquidity and Capital Resources – Capital Requirements. For a discussion of matters related to manufactured gas plant sites and air and water quality, see Note 22, Commitments and Contingencies.

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## F. EMPLOYEES

As of December 31, 2018, we had the following number of employees:

	Total Employees
WE	2,739
WPS	1,189
WG	411
PGL	1,566
NSG	166
MERC	221
MGU	149
WBS	1,437
Total employees	7,878

As of December 31, 2018, we had employees represented under labor agreements with the following bargaining units:

	Number of Employees	Expiration Date of Current Labor Agreement
<b>WE</b>		
Local 2150 of International Brotherhood of Electrical Workers	1,611	August 15, 2020
Local 420 of International Union of Operating Engineers	360	September 30, 2021
Local 2006 Unit 1 of United Steel Workers of America	114	October 31, 2021
Local 510 of International Brotherhood of Electrical Workers	75	October 31, 2020
Total WE	2,160	
<b>WPS</b>		
Local 420 of International Union of Operating Engineers	850	April 16, 2021
<b>WG</b>		
Local 2150 of International Brotherhood of Electrical Workers	81	August 15, 2020
Local 2006 Unit 1 of United Steel Workers of America	209	October 31, 2021
Total WG	290	
<b>PGL</b>		
Local 18007 of Utility Workers Union of America	990	April 30, 2023
Local 18007(C) of Utility Workers Union of America	92	July 31, 2021
Total PGL	1,082	
<b>NSG</b>		
Local 2285 of International Brotherhood of Electrical Workers <sup>(1)</sup>	121	June 30, 2019
<b>MERC</b>		
Local 31 of International Brotherhood of Electrical Workers	43	May 31, 2020
Local 49 of International Union of Operating Engineers <sup>(2)</sup>	3	January 1, 2022
Total MERC	46	

MGU

Local 12295 of United Steelworkers of America	70	January 15, 2020
Local 417 of Utility Workers Union of America	25	February 15, 2022
Total MGU	95	

Total represented employees 4,644

- (1) We anticipate that Local 2285 negotiations will begin in spring 2019 and will conclude before the expiration of the current agreement.
- (2) A three year contract was ratified between MERC and the International Union of Operating Engineers, Local 49, on January 10, 2019.

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ITEM 1A. RISK FACTORS

We are subject to a variety of risks, many of which are beyond our control, that may adversely affect our business, financial condition, and results of operations. You should carefully consider the following risk factors, as well as the other information included in this report and other documents filed by us with the SEC from time to time, when making an investment decision.

Risks Related to Legislation and Regulation

Our business is significantly impacted by governmental regulation and oversight.

We are subject to significant state, local, and federal governmental regulation, including regulation by the various utility commissions in the states where we serve customers. These regulations significantly influence our operating environment, may affect our ability to recover costs from utility customers, and cause us to incur substantial compliance and other costs. Changes in regulations, interpretations of regulations, or the imposition of new regulations could also significantly impact us, including requiring us to change our business operations. Many aspects of our operations are regulated and impacted by government regulation, including, but not limited to: the rates we charge our retail electric, natural gas, and steam customers; the authorized rates of return of our utilities; construction and operation of electric generating facilities and electric and natural gas distribution systems, including the ability to recover such costs; decommissioning generating facilities, the ability to recover the related costs, and continuing to recover the return on the carrying value of these facilities; wholesale power service practices; electric reliability requirements and accounting; participation in the interstate natural gas pipeline capacity market; standards of service; issuance of securities; short-term debt obligations; transactions with affiliates; and billing practices. Failure to comply with any applicable rules or regulations may lead to customer refunds, penalties, and other payments, which could materially and adversely affect our results of operations and financial condition.

The rates, including adjustments determined under riders, we are allowed to charge our customers for retail and wholesale services have the most significant impact on our financial condition, results of operations, and liquidity. Rate regulation provides us an opportunity to recover prudently incurred costs and earn a reasonable rate of return on invested capital. However, our ability to obtain rate adjustments in the future is dependent upon regulatory action, and there is no assurance that our regulators will consider all of our costs to have been prudently incurred. In addition, our rate proceedings may not always result in rates that fully recover our costs or provide for a reasonable ROE. We defer certain costs and revenues as regulatory assets and liabilities for future recovery from or refund to customers, as authorized by our regulators. Future recovery of regulatory assets is not assured and is subject to review and approval by our regulators. If recovery of regulatory assets is not approved or is no longer deemed probable, these costs would be recognized in current period expense and could have a material adverse impact on our results of operations, cash flows, and financial condition.

We believe we have obtained the necessary permits, approvals, authorizations, certificates, and licenses for our existing operations, have complied with all of their associated terms, and that our businesses are conducted in accordance with applicable laws. These permits, approvals, authorizations, certificates, and licenses may be revoked or modified by the agencies that granted them if facts develop that differ significantly from the facts assumed when they were issued. In addition, discharge permits and other approvals and licenses are often granted for a term that is less than the expected life of the associated facility. Licenses and permits may require periodic renewal, which may result in additional requirements being imposed by the granting agency. In addition, existing regulations may be revised or reinterpreted by federal, state, and local agencies, or these agencies may adopt new laws and regulations that apply to us. We cannot predict the impact on our business and operating results of any such actions by these agencies.

If we are unable to recover costs of complying with regulations or other associated costs in customer rates in a timely manner, or if we are unable to obtain, renew, or comply with these governmental permits, approvals, authorizations, certificates, or licenses, our results of operations and financial condition could be materially and adversely affected.

We face significant costs to comply with existing and future environmental laws and regulations.

Our operations are subject to numerous federal and state environmental laws and regulations. These laws and regulations govern, among other things, air emissions (including, but not limited to: CO<sub>2</sub>, methane, mercury, SO<sub>2</sub>, and NO<sub>x</sub>), water quality, wastewater discharges, and management of hazardous, toxic, and solid wastes and substances. We incur significant costs to comply with these environmental requirements, including costs associated with the installation of pollution control equipment, environmental monitoring, emissions fees, and permits at our facilities. In addition, if we fail to comply with environmental laws and regulations, even if caused by factors beyond our control, that failure may result in the assessment of civil or criminal penalties and fines.

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The EPA adopted and implemented (or is in the process of implementing) regulations governing the emission of NO<sub>x</sub>, SO<sub>2</sub>, fine particulate matter, mercury, and other air pollutants under the CAA through the NAAQS, the Mercury and Air Toxics Standards rule, the CPP, the Cross-State Air Pollution Rule, and other air quality regulations. In addition, the EPA finalized regulations under the Clean Water Act that govern cooling water intake structures at our power plants and revised the effluent guidelines for steam electric generating plants. The EPA and the United States Army Corps of Engineers (Army Corps) have also adopted a final rule that would expand traditional federal jurisdiction over navigable waters and related wetlands for permitting and other regulatory matters. However, this rule has been stayed, and the EPA and the Army Corps have proposed revisions to it. We continue to assess the potential cost of complying, and to explore different alternatives in order to comply, with these and other environmental regulations. In addition, as a result of the actions taken by the sitting President and Federal Executive Branch since taking office in January 2017, as well as its announced future plans and other factors, there is uncertainty as to what capital expenditures or additional costs may ultimately be required to comply with existing and future environmental laws and regulations.

Existing environmental laws and regulations may be revised or new laws or regulations may be adopted at the federal or state level that could result in significant additional expenditures for our generation units or distribution systems, including, without limitation, costs to further limit GHG emissions from our operations; operating restrictions on our facilities; and increased compliance costs. In addition, the operation of emission control equipment and compliance with rules regulating our intake and discharge of water could increase our operating costs and reduce the generating capacity of our power plants. Any such regulation may also create substantial additional costs in the form of taxes or emission allowances and could affect the availability and/or cost of fossil fuels.

As a result, certain of our coal-fired electric generating facilities have become uneconomical to maintain and operate, which has resulted in some of these units being retired or converted to an alternative type of fuel. For example, as part of our goal to retire approximately 1,800 MW of coal-fired generation by 2020, we retired the Pleasant Prairie power plant, Pulliam power plant, and the jointly-owned Edgewater Unit 4 generating unit during 2018, representing approximately 1,500 MW, and are required to retire PIPP by May 31, 2019. Certain of our remaining coal-fired electric generating facilities may also be retired or converted in the future. If other generation facility owners in the Midwest retire a significant number of older coal-fired generation facilities, a potential reduction in the region's capacity reserve margin below acceptable risk levels may result. This could impair the reliability of the grid in the Midwest, particularly during peak demand periods. A reduction in available future capacity could also adversely affect our ability to serve our customers' needs.

Our electric and natural gas utilities are also subject to significant liabilities related to the investigation and remediation of environmental impacts at certain of our current and former facilities and at third-party owned sites. We accrue liabilities and defer costs (recorded as regulatory assets) incurred in connection with our former manufactured gas plant sites. These costs include all costs incurred to date that we expect to recover, management's best estimates of future costs for investigation and remediation, related legal expenses, and are net of amounts recovered by or that may be recovered from insurance or other third parties. Due to the potential for the imposition of stricter standards and greater regulation in the future, the possibility that other potentially responsible parties may not be financially able to contribute to cleanup costs, a change in conditions or the discovery of additional contamination, our remediation costs could increase, and the timing of our capital and/or operating expenditures in the future may accelerate or could vary from the amounts currently accrued.

In the event we are not able to recover all of our environmental expenditures and related costs from our customers in the future, our results of operations and financial condition could be adversely affected. Further, increased costs recovered through rates could contribute to reduced demand for electricity and natural gas, which could adversely affect our results of operations, cash flows, and financial condition.

Litigation over environmental issues and claims of various types, including property damage, personal injury, common law nuisance, and citizen enforcement of environmental laws and regulations, has increased generally throughout the United States. In particular, personal injury, property damage, and other claims for damages alleged to have been caused by environmental impacts and alleged exposure to hazardous materials have become more frequent. In addition to claims relating to our current facilities, we may also be subject to potential liability in connection with the environmental condition of facilities that we previously owned and operated, regardless of whether the liabilities arose before, during, or after the time we owned or operated these facilities. If we fail to comply with environmental laws and regulations or cause (or caused) harm to the environment or persons, that failure or harm may result in the assessment of civil penalties and damages against us. The incurrence of a material environmental liability or a material judgment in any action for personal injury or property damage related to environmental matters could have a significant adverse effect on our results of operations and financial condition.

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We may face significant costs to comply with the regulation of greenhouse gas emissions.

Management believes it is reasonably likely that the scientific and political attention to issues concerning the existence and extent of climate change, and the role of human activity in it, will continue, with the potential for further regulation that affects our operations. In 2015, the EPA issued a final rule regulating GHG emissions from existing generating units, referred to as the CPP, and final performance standards for modified and reconstructed generating units and new fossil-fueled power plants. In February 2016, the Supreme Court stayed the effectiveness of the CPP until disposition of certain litigation in the D.C. Circuit Court of Appeals challenging the rule and, to the extent that further appellate review is sought, at the Supreme Court.

In April 2017, pursuant to motions made by the EPA, the D.C. Circuit Court of Appeals ordered the challenges to the CPP, as well as related performance standards for new, reconstructed, and modified fossil-fueled power plants, be held in abeyance, which remains the case. In August 2018, the EPA issued a proposed replacement rule for the CPP, the ACE rule. The proposed ACE rule would require the EPA to develop emission guidelines for states to use to develop their individual state plans. The state plans would focus on reducing GHG emissions by improving the efficiency of fossil-fueled power plants. In December 2018, the EPA proposed to revise the regulations related to new, modified, and reconstructed fossil-fueled power plants. We are continuing to analyze the GHG emission profile of our electric generation resources and to work with other stakeholders to determine the potential impacts to our operations of the CPP, the proposed ACE rule, and federal GHG regulations in general.

There is no guarantee that we will be allowed to fully recover costs incurred to comply with these and other federal regulations or that cost recovery will not be delayed or otherwise conditioned. GHG regulations that may be adopted in the future, at either the federal or state level, may cause our environmental compliance spending to differ materially from the amounts currently estimated. In December 2016, Michigan enacted Act 342, which retains the 10% renewable energy portfolio requirement through 2018, increases the requirement to 12.5% for years 2019 through 2020, and increases the requirement to 15.0% for 2021. These regulations, as well as changes in the fuel markets and advances in technology, could make additional electric generating units uneconomic to maintain or operate, may impact how we operate our existing fossil-fueled power plants and biomass facility, and could affect unit retirement and replacement decisions in the future. These regulations could also adversely affect our future results of operations, cash flows, and financial condition.

In addition, our natural gas delivery systems and natural gas storage fields may generate fugitive gas as a result of normal operations and as a result of excavation, construction, and repair. Fugitive gas typically vents to the atmosphere and consists primarily of methane. CO<sub>2</sub> is also a byproduct of natural gas consumption. As a result, future regulation of GHG emissions could increase the price of natural gas, restrict the use of natural gas, and adversely affect our ability to operate our natural gas facilities. A significant increase in the price of natural gas may increase rates for our natural gas customers, which could reduce natural gas demand.

We also continue to monitor efforts by investors and other stakeholders to increase pressure on us and others to take more aggressive action to reduce future GHG emissions in order to limit future global temperature increases to less than two degrees Celsius. These efforts could impact how we operate our electric generating units and natural gas facilities and lead to increased competition and regulation, all of which could have a material adverse effect on our operations and financial condition.

Changes in federal income tax policy may adversely affect our financial condition, results of operations, and cash flows, as well as our or our subsidiaries' credit ratings.

We and our subsidiaries have invested or will be investing in renewable energy generating facilities, several of which generate production tax credits and investment tax credits that we use to reduce our federal tax obligations. The

amount of tax credits we earn depends on the level of electricity generated, the applicable tax credit rate, and the amount of the investment in qualifying property. If our tax credits were disallowed in whole or in part as a result of an IRS audit or changes in tax law, we could owe tax liabilities for previously recognized tax credits that could significantly impact our earnings and cash flows.

In addition, if corporate tax rate or policies are changed with future federal or state legislation, we may be required to take material charges against earnings. For example, the United States federal income tax legislation enacted in December 2017 significantly changed the United States Internal Revenue Code, including taxation of United States corporations, by, among other things, reducing the federal corporate income tax rate, limiting interest deductions, and altering the expensing of capital expenditures. Parts of the Tax Legislation still remain unclear and will require interpretations and implementing regulations by the Treasury Department and the IRS, as well as state income tax authorities, and the Tax Legislation could be subject to potential amendments and technical corrections, any of which could lessen or increase certain adverse impacts of the Tax Legislation. In addition, the regulatory treatment of the impacts of the Tax Legislation will be subject to the discretion of the FERC and state public utility commissions. State

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and local taxing authorities continue to evaluate the impact of federal income tax reform, and any changes on the state or local level could lessen or increase the impacts of the Tax Legislation.

There is still uncertainty as to when or how credit rating agencies, capital markets, the FERC, or state public utility commissions will treat any additional impacts of the Tax Legislation. These impacts could subject us or any of our subsidiaries to further credit rating downgrades. It is unclear whether additional opportunities may evolve for us to manage the adverse impacts of the Tax Legislation. In addition, certain financial metrics used by credit rating agencies, such as our funds from operations-to-debt percentage, could be negatively impacted by future rulings related to the Tax Legislation.

In addition, the FERC and state public utility commissions continue to engage with our utility subsidiaries to determine how certain tax savings will be returned to ratepayers. In December 2017, our regulated utilities deferred the estimated tax benefits for return to ratepayers through bill credits or reductions in regulatory assets. We have received written orders from the MPSC, the MPUC, and the PSCW addressing the refunding of certain of these tax benefits to ratepayers in Michigan, Minnesota, and Wisconsin, respectively, and the ICC has approved the VITA in Illinois. Despite receiving these written orders, the amount of tax benefits we must return to ratepayers could change if state commissions take additional action. Furthermore, if the amounts our regulators order our regulated utility subsidiaries to return to ratepayers exceeds the actual amount of tax savings realized, or our regulators require the tax savings to be applied in a manner other than we had expected, it could have a material adverse effect on our financial condition, results of operations, and cash flow.

While our analysis and interpretation of the Tax Legislation is ongoing, based on our current evaluation, we do not expect the limitations on interest deductions to materially adversely affect our earnings per share. Any amendments to the Tax Legislation or interpretations or implementing regulations by the Treasury Department and/or the IRS contrary to our interpretation of the Tax Legislation could limit our ability to deduct the interest on some of our outstanding debt.

There may be other material adverse effects resulting from the Tax Legislation that we have not yet identified. If we are unable to successfully take actions to manage any adverse impacts of the Tax Legislation, or if additional interpretations, regulations, amendments, or technical corrections exacerbate the adverse impacts of the Tax Legislation, the Tax Legislation could have an adverse effect on our financial condition, results of operations, cash flows, and on the value of investments in our debt securities and common stock, and could result in credit rating agencies placing our or our subsidiaries' credit ratings on negative outlook or further downgrading our or our subsidiaries' credit ratings.

Failure to maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act could have a material effect on our results of operations and stock price.

We are subject to reporting, disclosure control, and other obligations under Section 404 of the Sarbanes-Oxley Act (SOX). SOX contains provisions requiring our management to report on the effectiveness of our internal control over financial reporting and requires our independent registered public accounting firm to attest to the effectiveness of our internal controls. We have undertaken, or will undertake, a variety of initiatives to integrate, standardize, centralize, and streamline our operations with technology, including, but not limited to, an enterprise resource planning system and a customer information and billing system. There is a risk that we will not be able to conclude that our internal control over financial reporting is effective because of the discovery of material weaknesses, with either our current controls and processes or with the implementation of new controls and processes around these new technologies. Any failure to maintain effective internal controls or a determination by our independent registered public accounting firm that we have a material weakness in our internal controls could cause investors to lose confidence in the accuracy or completeness of our financial reports, cause a decline in the market price of our common stock, restrict our access to

the capital markets, or subject us to investigations by the SEC or other regulatory authorities.

Our electric utilities could be subject to higher costs and penalties as a result of mandatory reliability standards.

Our electric utilities are subject to mandatory reliability and critical infrastructure protection standards established by the North American Electric Reliability Corporation and enforced by the FERC. The critical infrastructure protection standards focus on controlling access to critical physical and cyber security assets. Compliance with the mandatory reliability standards could subject our electric utilities to higher operating costs. If our electric utilities were ever found to be in noncompliance with the mandatory reliability standards, they could be subject to sanctions, including substantial monetary penalties.

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Provisions of the Wisconsin Utility Holding Company Act limit our ability to invest in non-utility businesses and could deter takeover attempts by a potential purchaser of our common stock that would be willing to pay a premium for our common stock.

Under the Wisconsin Utility Holding Company Act (Holding Company Act), we remain subject to certain restrictions that have the potential of limiting our diversification into non-utility businesses. Under the Holding Company Act, the sum of certain assets of all non-utility affiliates in a holding company system generally may not exceed 25% of the assets of all public utility affiliates in the system, subject to certain exceptions.

In addition, the Holding Company Act precludes the acquisition of 10% or more of the voting shares of a holding company of a Wisconsin public utility unless the PSCW has first determined that the acquisition is in the best interests of utility customers, investors, and the public. This provision and other requirements of the Holding Company Act may delay or reduce the likelihood of a sale or change of control of WEC Energy Group. As a result, shareholders may be deprived of opportunities to sell some or all of their shares of our common stock at prices that represent a premium over market prices.

### Risks Related to the Operation of Our Business

Our operations are subject to risks arising from the reliability of our electric generation, transmission, and distribution facilities, natural gas infrastructure facilities, and other facilities, as well as the reliability of third-party transmission providers.

Our financial performance depends on the successful operation of our electric generation and natural gas and electric distribution facilities. The operation of these facilities involves many risks, including operator error and the breakdown or failure of equipment or processes. Potential breakdown or failure may occur due to severe weather; catastrophic events (i.e., fires, earthquakes, explosions, tornadoes, floods, droughts, pandemic health events, etc.); significant changes in water levels in waterways; fuel supply or transportation disruptions; accidents; employee labor disputes; construction delays or cost overruns; shortages of or delays in obtaining equipment, material, and/or labor; performance below expected levels; operating limitations that may be imposed by environmental or other regulatory requirements; terrorist attacks; or cyber security intrusions. Any of these events could lead to substantial financial losses.

Because our electric generation facilities are interconnected with third-party transmission facilities, the operation of our facilities could also be adversely affected by events impacting their systems. Unplanned outages at our power plants may reduce our revenues, cause us to incur significant costs if we are required to operate our higher cost electric generators or purchase replacement power to satisfy our obligations, and could result in additional maintenance expenses.

Insurance, warranties, performance guarantees, or recovery through the regulatory process may not cover any or all of these lost revenues or increased expenses, which could adversely affect our results of operations and cash flows.

Our operations are subject to various conditions that can result in fluctuations in energy sales to customers, including customer growth and general economic conditions in our service areas, varying weather conditions, and energy conservation efforts.

Our results of operations and cash flows are affected by the demand for electricity and natural gas, which can vary greatly based upon:

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Fluctuations in customer growth and general economic conditions in our service areas. Customer growth and energy use can be negatively impacted by population declines as well as economic factors in our service territories, including workforce reductions, stagnant wage growth, changing levels of support from state and local government for economic development, business closings, and reductions in the level of business investment. Our electric and natural gas utilities are impacted by economic cycles and the competitiveness of the commercial and industrial customers we serve. Any economic downturn, disruption of financial markets, or reduced incentives by state government for economic development could adversely affect the financial condition of our customers and demand for their products or services. These risks could directly influence the demand for electricity and natural gas as well as the need for additional power generation and generating facilities. We could also be exposed to greater risks of accounts receivable write-offs if customers are unable to pay their bills.

Weather conditions. Demand for electricity is greater in the summer and winter months when cooling and heating is necessary. In addition, demand for natural gas peaks in the winter heating season. As a result, our overall results may fluctuate substantially on a seasonal basis. In addition, milder temperatures during the summer cooling season and during the winter heating season may result in lower revenues and net income.

Our customers' continued focus on energy conservation and ability to meet their own energy needs. Our customers' use of electricity and natural gas has decreased as a result of continued individual conservation efforts, including the use of more energy

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efficient technologies. Customers could also voluntarily reduce their consumption of energy in response to decreases in their disposable income and increases in energy prices. Conservation of energy can be influenced by certain federal and state programs that are intended to influence how consumers use energy. For example, several states, including Wisconsin and Michigan, have adopted energy efficiency targets to reduce energy consumption by certain dates.

As part of our planning process, we estimate the impacts of changes in customer growth and general economic conditions, weather, and customer energy conservation efforts, but risks still remain. Any of these matters, as well as any regulatory delay in adjusting rates as a result of reduced sales from effective conservation measures or the adoption of new technologies, could adversely impact our results of operations and financial condition.

We are actively involved with several significant capital projects, which are subject to a number of risks and uncertainties that could adversely affect project costs and completion of construction projects.

Our business requires substantial capital expenditures for investments in, among other things, capital improvements to our electric generating facilities, electric and natural gas distribution infrastructure, natural gas storage, and other projects, including projects for environmental compliance. We also expect to invest in renewable energy generating facilities as part of our generation reshaping plan and as part of our non-utility energy infrastructure segment. In addition, WBS continues to invest in technology and the development of software applications to support our utilities.

Achieving the intended benefits of any large construction project is subject to many uncertainties, some of which we will have limited or no control over, that could adversely affect project costs and completion time. These risks include, but are not limited to, the ability to adhere to established budgets and time frames; the availability of labor or materials at estimated costs; the ability of contractors to perform under their contracts; strikes; adverse weather conditions; potential legal challenges; changes in applicable laws or regulations; other governmental actions; continued public and policymaker support for such projects; and events in the global economy. In addition, certain of these projects require the approval of our regulators. If construction of commission-approved projects should materially and adversely deviate from the schedules, estimates, and projections on which the approval was based, our regulators may deem the additional capital costs as imprudent and disallow recovery of them through rates, and otherwise available production tax credits and investment tax credits for renewable energy projects could be lost.

To the extent that delays occur, costs become unrecoverable, tax credits are lost, or we (or third parties with whom we invest and/or partner) otherwise become unable to effectively manage and complete our (or their) capital projects, our results of operations, cash flows, and financial condition may be adversely affected.

Advances in technology could make our electric generating facilities less competitive.

Advances in new technologies that produce power or reduce power consumption are ongoing and include renewable energy technologies, customer-oriented generation, energy storage devices, and energy efficiency technologies. We generate power at central station power plants to achieve economies of scale and produce power at a competitive cost. There are distributed generation technologies that produce power, including fuel cells, microturbines, wind turbines, and solar cells, which have become more cost competitive than they were in the past. It is possible that legislation or regulations could be adopted supporting the use of these technologies. There is also a risk that advances in technology will continue to reduce the costs of these alternative methods of producing power to a level that is competitive with that of central station power production. If these technologies become cost competitive and achieve economies of scale, our market share could be eroded, and the value of our generating facilities could be reduced. Advances in technology could also change the channels through which our electric customers purchase or use power, which could reduce our sales and revenues or increase our expenses.

Our operations are subject to risks beyond our control, including but not limited to, cyber security intrusions, terrorist attacks, acts of war, or unauthorized access to personally identifiable information.

We have been subject to attempted cyber attacks from time to time, but these attacks have not had a material impact on our system or business operations. Despite the implementation of security measures, all assets and systems are potentially vulnerable to disability, failures, or unauthorized access due to physical or cyber security intrusions caused by human error, vendor bugs, terrorist attacks, or other malicious acts. These threats against our generation facilities, electric and natural gas distribution infrastructure, our information and technology systems, and network infrastructure, including that of third parties on which we rely, could result in a full or partial disruption of our ability to generate, transmit, purchase, or distribute electricity or natural gas or cause environmental repercussions. If our assets or systems were to fail, be physically damaged, or be breached, and were not recovered in a timely manner, we may be unable to perform critical business functions, and data, including sensitive information, could be compromised.

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We operate in an industry that requires the use of sophisticated information technology systems and network infrastructure, which control an interconnected system of generation, distribution, and transmission systems shared with third parties. A successful physical or cyber security intrusion may occur despite our security measures or those that we require our vendors to take, which include compliance with reliability standards and critical infrastructure protection standards. Successful cyber security intrusions, including those targeting the electronic control systems used at our generating facilities and electric and natural gas transmission, distribution, and storage systems, could disrupt our operations and result in loss of service to customers. These intrusions may cause unplanned outages at our power plants, which may reduce our revenues or cause us to incur significant costs if we are required to operate our higher cost electric generators or purchase replacement power to satisfy our obligations, and could result in additional maintenance expenses. The risk of such intrusions may also increase our capital and operating costs as a result of having to implement increased security measures for protection of our information technology and infrastructure.

Our continued efforts to integrate, consolidate, and streamline our operations have also resulted in increased reliance on current and recently completed projects for technology systems, including an enterprise resource planning system, a customer information and billing system, automated meter reading systems, and other similar technological tools and initiatives. We implement procedures to protect our systems, but we cannot guarantee that the procedures we have implemented to protect against unauthorized access to secured data and systems are adequate to safeguard against all security breaches. The failure of any of these or other similarly important technologies, or our inability to support, update, expand, and/or integrate these technologies across our subsidiaries could materially and adversely impact our operations, diminish customer confidence and our reputation, materially increase the costs we incur to protect against these risks, and subject us to possible financial liability or increased regulation or litigation.

Our business requires the collection and retention of personally identifiable information of our customers, shareholders, and employees, who expect that we will adequately protect such information. Security breaches may expose us to a risk of loss or misuse of confidential and proprietary information. A significant theft, loss, or fraudulent use of personally identifiable information may lead to potentially large costs to notify and protect the impacted persons, and/or could cause us to become subject to significant litigation, costs, liability, fines, or penalties, any of which could materially and adversely impact our results of operations as well as our reputation with customers, shareholders, and regulators, among others. In addition, we may be required to incur significant costs associated with governmental actions in response to such intrusions or to strengthen our information and electronic control systems. We may also need to obtain additional insurance coverage related to the threat of such intrusions.

Any operational disruption or environmental repercussions caused by these on-going threats to our assets and technology systems could result in a significant decrease in our revenues or significant reconstruction or remediation costs, which could materially and adversely affect our results of operations, financial condition, and cash flows. The costs of repairing damage to our facilities, operational disruptions, protecting personally identifiable information, and notifying impacted persons, as well as related legal claims, may also not be recoverable in rates, may exceed the insurance limits on our insurance policies, or, in some cases, may not be covered by insurance.

Transporting, distributing, and storing natural gas involves numerous risks that may result in accidents and other operating risks and costs.

Inherent in natural gas distribution activities are a variety of hazards and operational risks, such as leaks, accidental explosions, and mechanical problems, which could materially and adversely affect our results of operations, financial condition, and cash flows. In addition, these risks could result in serious injury to employees and non-employees, loss of human life, significant damage to property, environmental pollution, impairment of operations, and substantial losses to us. The location of natural gas pipelines and storage facilities near populated areas, including residential areas, commercial business centers, and industrial sites, could increase the level of damages resulting from these risks.

These activities may subject us to litigation and/or administrative proceedings from time to time, which could result in substantial monetary judgments, fines, or penalties against us, or be resolved on unfavorable terms.

We are a holding company and rely on the earnings of our subsidiaries to meet our financial obligations.

As a holding company with no operations of our own, our ability to meet our financial obligations including, but not limited to, debt service, taxes, and other expenses, as well as pay dividends on our common stock, is dependent upon the ability of our subsidiaries to pay amounts to us, whether through dividends or other payments. Our subsidiaries are separate legal entities that are not required to pay any of our obligations or to make any funds available for that purpose or for the payment of dividends on our common stock. The ability of our subsidiaries to pay amounts to us depends on their earnings, cash flows, capital requirements, and general financial condition, as well as regulatory limitations. Prior to distributing cash to us, our subsidiaries have financial obligations

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that must be satisfied, including, among others, debt service and preferred stock dividends. In addition, each subsidiary's ability to pay amounts to us depends on any statutory, regulatory, and/or contractual restrictions and limitations applicable to such subsidiary, which may include requirements to maintain specified levels of debt or equity ratios, working capital, or other assets. Our utility subsidiaries are regulated by various state utility commissions, which generally possess broad powers to ensure that the needs of the utility customers are being met.

We may fail to attract and retain an appropriately qualified workforce.

We operate in an industry that requires many of our employees to possess unique technical skill sets. Events such as an aging workforce without appropriate replacements, the mismatch of skill sets to future needs, or the unavailability of contract resources may lead to operating challenges or increased costs. These operating challenges include lack of resources, loss of knowledge, and a lengthy time period associated with skill development. In addition, current and prospective employees may determine that they do not wish to work for us. Failure to hire and obtain replacement employees, including the ability to transfer significant internal historical knowledge and expertise to the new employees, may adversely affect our ability to manage and operate our business. If we are unable to successfully attract and retain an appropriately qualified workforce, our results of operations could be adversely affected.

Failure of our counterparties to meet their obligations, including obligations under power purchase, natural gas supply, and transportation agreements, could have an adverse impact on our results of operations.

We are exposed to the risk that counterparties to various arrangements who owe us money, electricity, natural gas, or other commodities or services will not be able to perform their obligations. Should the counterparties to these arrangements fail to perform, we may be required to replace the underlying commitment at current market prices or we may be unable to meet all of our customers' electric and natural gas requirements unless or until alternative supply arrangements are put in place. In such event, we may incur losses, and our results of operations, financial position, or liquidity could be adversely affected.

We have entered into several power purchase, natural gas supply, and transportation agreements with non-affiliated companies, and continue to look for additional opportunities to enter into these agreements. Revenues are dependent on the continued performance by the counterparties of their obligations under the power purchase, natural gas supply, and transportation agreements. Although we have a comprehensive credit evaluation process and contractual protections, it is possible that one or more counterparties could fail to perform their obligations under these agreements. If this were to occur, we generally would expect that any operating and other costs that were initially allocated to a defaulting customer's power purchase, natural gas supply, or transportation agreement would be reallocated among our retail customers. To the extent these costs are not allowed to be reallocated by our regulators or there is any regulatory delay in adjusting rates, a customer default under these agreements could have a negative impact on our results of operations and cash flows.

We may not be able to fully use tax credits, net operating losses, and/or charitable contribution carryforwards.

We have significantly reduced our consolidated federal and state income tax liability in the past through tax credits, net operating losses, and charitable contribution deductions available under the applicable tax codes. We have not fully used the allowed tax credits, net operating losses, and charitable contribution deductions in our previous tax filings. We may not be able to fully use the tax credits, net operating losses, and charitable contribution deductions available as carryforwards if our future federal and state taxable income and related income tax liability is insufficient to permit their use. In addition, any future disallowance of some or all of those tax credits, net operating losses, or charitable contribution carryforwards as a result of legislation or an adverse determination by one of the applicable taxing jurisdictions could materially affect our tax obligations and financial results.

We have recorded goodwill that could become impaired and adversely affect financial results.

We assess goodwill for impairment on an annual basis or whenever events or circumstances occur that indicate a potential for impairment. If goodwill is deemed to be impaired, we may be required to incur non-cash charges that could materially adversely affect our results of operations. At December 31, 2018, our goodwill was \$3,052.8 million.

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### Risks Related to Economic and Market Volatility

Our business is dependent on our ability to successfully access capital markets.

We rely on access to credit and capital markets to support our capital requirements, including expenditures for our utility infrastructure and to comply with future regulatory requirements, to the extent not satisfied by the cash flow generated by our operations. We have historically secured funds from a variety of sources, including the issuance of short-term and long-term debt securities. Successful implementation of our long-term business strategies, including capital investment, is dependent upon our ability to access the capital markets, including the banking and commercial paper markets, on competitive terms and rates. In addition, we rely on committed bank credit agreements as back-up liquidity, which allows us to access the low cost commercial paper markets.

Our or our subsidiaries' access to the credit and capital markets could be limited, or our or our subsidiaries' cost of capital significantly increased, due to any of the following risks and uncertainties:

- A rating downgrade;
- An economic downturn or uncertainty;
- Prevailing market conditions and rules;
- Concerns over foreign economic conditions;
- Changes in tax policy;
- Changes in investment criteria of institutional investors;
- War or the threat of war; and
- The overall health and view of the utility and financial institution industries.

If any of these risks or uncertainties limit our access to the credit and capital markets or significantly increase our cost of capital, it could limit our ability to implement, or increase the costs of implementing, our business plan, which, in turn, could materially and adversely affect our results of operations, cash flows, and financial condition, and could limit our ability to sustain our current common stock dividend level.

A downgrade in our or any of our subsidiaries' credit ratings could negatively affect our or our subsidiaries' ability to access capital at reasonable costs and/or require the posting of collateral.

There are a number of factors that impact our and our subsidiaries' credit ratings, including, but not limited to, capital structure, regulatory environment, the ability to cover liquidity requirements, and other requirements for capital. We or any of our subsidiaries could experience a downgrade in ratings if the rating agencies determine that the level of business or financial risk of us, our utilities, or the utility industry has deteriorated. Changes in rating methodologies by the rating agencies could also have a negative impact on credit ratings.

Any downgrade by the rating agencies could:

- Increase borrowing costs under certain existing credit facilities;
- Require the payment of higher interest rates in future financings and possibly reduce the pool of creditors;
- Decrease funding sources by limiting our or our subsidiaries' access to the commercial paper market;
- Limit the availability of adequate credit support for our subsidiaries' operations; and
- Trigger collateral requirements in various contracts.

See the risk factor titled "Changes in federal income tax policy may adversely affect our financial condition, results of operations, and cash flows, as well as our or our subsidiaries' credit ratings" above for information about how the Tax Legislation could impact our or our subsidiaries' credits ratings.

Fluctuating commodity prices could negatively impact our electric and natural gas utility operations.

Our operating and liquidity requirements are impacted by changes in the forward and current market prices of natural gas, coal, electricity, renewable energy credits, and ancillary services.

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Our electric utilities burn natural gas in several of their electric generation plants and as a supplemental fuel at several coal-fired plants. In many instances the cost of purchased power is tied to the cost of natural gas. The cost of natural gas may increase because of disruptions in the supply of natural gas due to a curtailment in production or distribution, international market conditions, the demand for natural gas, and the availability of shale gas and potential regulations affecting its accessibility.

For Wisconsin retail electric customers, our utilities bear the risk for the recovery of fuel and purchased power costs within a symmetrical 2% fuel tolerance band compared to the forecast of fuel and purchased power costs established in their respective rate structures. Prudently incurred fuel and purchased power costs are recovered dollar-for-dollar from our Michigan retail electric customers and our wholesale electric customers. Our natural gas utilities receive dollar-for-dollar recovery of prudently incurred natural gas costs from their natural gas customers.

Changes in commodity prices could result in:

- Higher working capital requirements, particularly related to natural gas inventory, accounts receivable, and cash collateral postings;
- Reduced profitability to the extent that lower revenues, increased bad debt, and interest expense are not recovered through rates;
- Higher rates charged to our customers, which could impact our competitive position;
- Reduced demand for energy, which could impact revenues and operating expenses; and
- Shutting down of generation facilities if the cost of generation exceeds the market price for electricity.

We may not be able to obtain an adequate supply of coal, which could limit our ability to operate our coal-fired facilities.

We own and operate several coal-fired electric generating units. Although we generally carry sufficient coal inventory at our generating facilities to protect against an interruption or decline in supply, there can be no assurance that the inventory levels will be adequate. While we have coal supply and transportation contracts in place, we cannot assure that the counterparties to these agreements will be able to fulfill their obligations to supply coal to us or that we will be able to take delivery of all the coal volume contracted for. If we are unable to obtain our coal requirements under our coal supply and transportation contracts, we may be required to purchase coal at higher prices or we may be forced to reduce generation at our coal-fired units, which could lead to increased fuel costs. The increase in fuel costs could result in either reduced margins on net sales into the MISO Energy Markets, a reduction in the volume of net sales into the MISO Energy Markets, and/or an increase in net power purchases in the MISO Energy Markets. There is no guarantee that we would be able to fully recover any increased costs in rates or that recovery would not otherwise be delayed, either of which could adversely affect our cash flows.

The use of derivative contracts could result in financial losses.

We use derivative instruments such as swaps, options, futures, and forwards to manage commodity price exposure. We could recognize financial losses as a result of volatility in the market value of these contracts or if a counterparty fails to perform. These risks are managed through risk management policies, which might not work as planned and cannot entirely eliminate the risks associated with these activities. In addition, although the hedging programs of our utilities must be approved by the various state commissions, derivative contracts entered into for hedging purposes might not offset the underlying exposure being hedged as expected, resulting in financial losses. In the absence of actively quoted market prices and pricing information from external sources, the value of these financial instruments can involve management's judgment or use of estimates. Changes in the underlying assumptions or use of alternative valuation methods could affect the reported fair value of these contracts.

Restructuring in the regulated energy industry and competition in the retail and wholesale markets could have a negative impact on our business and revenues.

The regulated energy industry continues to experience significant structural changes. Increased competition in the retail and wholesale markets, which may result from restructuring efforts, could have a significant adverse financial impact on us.

Certain jurisdictions in which we operate, including Michigan and Illinois, have adopted retail choice. Under Michigan law, our retail customers may choose an alternative electric supplier to provide power supply service. The law limits customer choice to 10% of our Michigan retail load. The iron ore mine located in the Upper Peninsula of Michigan is excluded from this cap. When a customer switches to an alternative electric supplier, we continue to provide distribution and customer service functions for the customer. Although Illinois has adopted retail choice, there is currently little or no impact on the net income of our Illinois utilities as they still

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earn a distribution charge for transporting the natural gas for these customers. It is uncertain whether retail choice might be implemented in Wisconsin or Minnesota.

The FERC continues to support the existing RTOs that affect the structure of the wholesale market within these RTOs. In connection with its status as a FERC approved RTO, MISO implemented bid-based energy markets that are part of the MISO Energy Markets. All market participants, including us, must submit day-ahead and/or real-time bids and offers for energy at locations across the MISO region. MISO then calculates the most efficient solution for all of the bids and offers made into the market that day and establishes an LMP that reflects the market price for energy. We are required to follow MISO's instructions when dispatching generating units to support MISO's responsibility for maintaining the stability of the transmission system. MISO also implemented an ancillary services market for operating reserves that schedules energy and ancillary services at the same time as part of the energy market, allowing for more efficient use of generation assets in the MISO Energy Markets. These market designs continue to have the potential to increase the costs of transmission, the costs associated with inefficient generation dispatching, the costs of participation in the MISO Energy Markets, and the costs associated with estimated payment settlements.

The FERC rules related to transmission are designed to facilitate competition in the wholesale electricity markets among regulated utilities, non-utility generators, wholesale power marketers, and brokers by providing greater flexibility and more choices to wholesale customers, including initiatives designed to encourage the integration of renewable sources of supply. In addition, along with transactions contemplating physical delivery of energy, financial laws and regulations impact hedging and trading based on futures contracts and derivatives that are traded on various commodities exchanges, as well as over-the-counter. Technology changes in the power and fuel industries also have significant impacts on wholesale transactions and related costs. We currently cannot predict the impact of these and other developments or the effect of changes in levels of wholesale supply and demand, which are driven by factors beyond our control.

We may experience poor investment performance of benefit plan holdings due to changes in assumptions and market conditions.

We have significant obligations related to pension and OPEB plans. If we are unable to successfully manage our benefit plan assets and medical costs, our cash flows, financial condition, or results of operations could be adversely impacted. Our cost of providing these plans is dependent upon a number of factors, including actual plan experience, changes made to the plans, and assumptions concerning the future. Types of assumptions include earnings on plan assets, discount rates, the level of interest rates used to measure the required minimum funding levels of the plans, future government regulation, estimated withdrawals by retirees, and our required or voluntary contributions to the plans. Plan assets are subject to market fluctuations and may yield returns that fall below projected return rates. In addition, medical costs for both active and retired employees may increase at a rate that is significantly higher than we currently anticipate. Our funding requirements could be impacted by a decline in the market value of plan assets, changes in interest rates, changes in demographics (including the number of retirements), or changes in life expectancy assumptions.

In addition, we maintain rabbi trusts to fund our deferred compensation plans, which from time to time, hold equity and debt investments that are subject to market fluctuations. Decreases in investment performance of these assets could materially adversely affect our results of operations, cash flows, and financial condition.

We may be unable to obtain insurance on acceptable terms or at all, and the insurance coverage we do obtain may not provide protection against all significant losses.

Our ability to obtain insurance, as well as the cost and coverage of such insurance, could be affected by developments affecting our business; international, national, state, or local events; and the financial condition of insurers and our

contractors that are required to acquire and maintain insurance for our benefit. Insurance coverage may not continue to be available at all or at rates or terms similar to those presently available to us. In addition, our insurance may not be sufficient or effective under all circumstances and against all hazards or liabilities to which we may be subject. Any losses for which we are not fully insured or that are not covered by insurance at all could materially adversely affect our results of operations, cash flows, and financial position.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

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## ITEM 2. PROPERTIES

We own our principal properties outright, except the major portion of our electric utility distribution lines, steam utility distribution mains, and natural gas utility distribution mains and services are located, for the most part, on or under streets and highways, and on land owned by others and are generally subject to granted easements, consents, or permits.

## A. REGULATED

## Electric Facilities

The following table summarizes information on our electric generation facilities, including owned and jointly owned facilities, as of December 31, 2018:

Name	Location	Fuel	Number of Generating Units	Rated Capacity In MW (1)	
Coal-fired plants					
Columbia	Portage, WI	Coal	2	315	(2)
ERGS	Oak Creek, WI	Coal	2	1,057	(3) (4)
PIPP	Marquette, MI	Coal	5	353	(5)
OCPP	Oak Creek, WI	Coal	4	1,079	
Weston	Rothschild, WI	Coal	2	714	(2)
Total coal-fired plants			15	3,518	
Natural gas-fired plants					
Concord Combustion Turbines	Watertown, WI	Natural Gas/Oil	4	359	
De Pere Energy Center	De Pere, WI	Natural Gas/Oil	1	165	
Fox Energy Center	Wrightstown, WI	Natural Gas	3	567	
Germantown Combustion Turbines	Germantown, WI	Natural Gas/Oil	5	270	
Paris Combustion Turbines	Union Grove, WI	Natural Gas/Oil	4	360	
PWGS	Port Washington, WI	Natural Gas	2	1,232	(4)
Pulliam	Green Bay, WI	Natural Gas/Oil	1	80	
VAPP	Milwaukee, WI	Natural Gas	2	269	
West Marinette	Marinette, WI	Natural Gas/Oil	3	150	
Weston	Rothschild, WI	Natural Gas/Oil	3	138	
Total natural gas-fired plants			28	3,590	
Renewables					
Hydro Plants (30 in number)	WI and MI	Hydro	81	102	(6)
Rothschild Biomass Plant	Rothschild, WI	Biomass	1	46	
Blue Sky Green Field	Fond du Lac, WI	Wind	88	17	
Byron Wind Turbines	Fond du Lac, WI	Wind	2	—	
Crane Creek	Howard County, IA	Wind	66	17	
Glacier Hills	Cambria, WI	Wind	90	26	
Forward Wind Energy Center	Fond du Lac County, WI	Wind	86	9	(7)
Montfort Wind Energy Center	Montfort, WI	Wind	20	3	
Total renewables			434	220	
Total system			477	7,328	

(1)

Values are primarily based on the net dependable capacity ratings for summer 2019 using historical generation. The summer period is the most relevant for capacity planning purposes. This is a result of continually reaching demand peaks in the summer months, primarily due to air conditioning demand.

- (2) These facilities are jointly owned by WPS and various other utilities. The capacity indicated for each of these units is equal to WPS's portion of total plant capacity based on its percent of ownership.

Wisconsin Power and Light Company, an unaffiliated utility, operates the Columbia units. WPS holds a 28.1% ownership interest in Columbia. See Note 7, Jointly Owned Utility Facilities, for more information on the decrease in WPS's ownership interest in the Columbia unit.

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WPS operates the Weston 4 facility and holds a 70.0% ownership interest in this facility. Dairyland Power Cooperative holds the remaining 30.0% interest.

- (3) This facility is jointly owned by We Power and two other unaffiliated entities. The capacity indicated for the facility is equal to We Power's portion of total plant capacity based on its 83.34% ownership.
- (4) These facilities are part of the Company's non-utility energy infrastructure segment. See B. Non-Utility Energy Infrastructure Segment below.
- (5) We are required to retire the PIPP units during the second quarter of 2019. See Note 6, Property, Plant, and Equipment, for more information on the plant retirement.
- (6) WRPC owns and operates the Castle Rock and Petenwell units. WPS holds a 50.0% ownership interest in WRPC and is entitled to 50.0% of the total capacity at Castle Rock and Petenwell. WPS's share of capacity for Castle Rock is 8.4 MW, and WPS's share of capacity for Petenwell is 10.2 MW.

- (7) In April 2018, WPS, along with two other unaffiliated utilities, purchased Forward Wind Energy Center, which consists of 86 wind turbines located in Wisconsin with a total capacity of 138 MW. The capacity indicated for the facility is equal to WPS's portion of total plant capacity based on its 44.6% ownership. See Note 2, Acquisitions, for more information on the acquisition.

As of December 31, 2018, we operated approximately 36,800 miles of overhead distribution lines and 33,300 miles of underground distribution cable, as well as approximately 500 electric distribution substations and 500,450 line transformers.

### Natural Gas Facilities

At December 31, 2018, our natural gas properties were located in Illinois, Wisconsin, Minnesota, and Michigan, and consisted of the following:

- ▲ Approximately 48,900 miles of natural gas distribution mains,
- ▲ Approximately 1,100 miles of natural gas transmission mains,
- ▲ Approximately 2.3 million natural gas lateral services,
- ▲ Approximately 520 natural gas distribution and transmission gate stations,
- ▲ Approximately 68.2 billion cubic feet of working gas capacities in underground natural gas storage fields:
  - Bluewater, 26.5 billion cubic feet of fields located in southeastern Michigan,
  - Manlove, a 38.8 billion-cubic-foot field located in central Illinois,
  - Partello, a 2.9 billion-cubic-foot field located in southern Michigan,
  - ▲ 2.0 billion-cubic-foot liquefied natural gas plant located in central Illinois,
  - ▲ A peak-shaving facility that can store the equivalent of approximately 80 MDth in liquefied petroleum gas located in Illinois,
  - ▲ Peak propane air systems providing approximately 2,960 Dth per day, and
  - ▲ Liquefied natural gas storage plants with a total send-out capability of 73,600 Dth per day.

Our natural gas distribution and gas storage systems included distribution mains and transmission mains connected to the pipeline transmission systems of ANR Pipeline Company, Centra Pipelines, Consumers Energy, Great Lakes Transmission Company, Guardian Pipeline L.L.C., Michigan Consolidated Gas Company, Natural Gas Pipeline Company of America, Northern Natural Pipeline Company, Union Gas, Vector Pipeline Company, and Viking Gas Transmission. Our liquefied natural gas storage plants convert and store, in liquefied form, natural gas received during

periods of low consumption.

We also own office buildings, natural gas regulating and metering stations, and major service centers, including garage and warehouse facilities, in certain communities we serve. Where distribution lines and services, and natural gas distribution mains and services occupy private property, we have in some, but not all instances, obtained consents, permits, or easements for these installations from the apparent owners or those in possession of those properties, generally without an examination of ownership records or title.

#### Steam Facilities

As of December 31, 2018, the steam system supplied by the VAPP consisted of approximately 40 miles of both high pressure and low pressure steam piping, approximately four miles of walkable tunnels, and other pressure regulating equipment.

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General

Substantially all of PGL's and NSG's properties are subject to the lien of the respective company's mortgage indenture for the benefit of bondholders.

**B. NON-UTILITY ENERGY INFRASTRUCTURE SEGMENT**

Bluewater and We Power are considered non-utility energy infrastructure operations, however, their facilities are shown in the regulated section. We Power owns and leases generating facilities to WE. We Power's share of the ERGS units and both PWGS units are being leased to WE under long-term leases. Bluewater provides natural gas storage and hub services to WE, WG, and WPS.