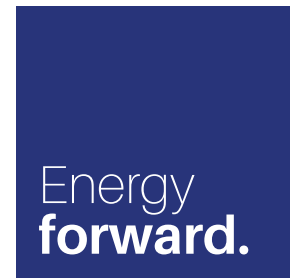
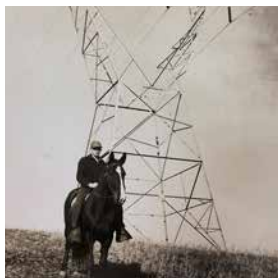




A century of people **powering life.**



## ENERGY AND ENVIRONMENT



### Advance a cleaner energy future

Encourage responsible stewardship in partnership with our customers and stakeholders to have a sustainable environmental impact



### Build tomorrow's energy infrastructure

Invest in tomorrow's energy infrastructure by developing a more reliable, resilient and efficient grid that enables continued progress and a cleaner energy future

## SUSTAINABILITY COMMITMENTS

PPL is committed to growing and innovating in a responsible, reliable way that benefits customers, shareowners, employees and society as a whole. We pledge to...

## GOVERNANCE AND MANAGEMENT



### Create extraordinary shareowner value

Create long-term value for shareowners through fiscal discipline, continuous improvement, environmental stewardship and enduring strategic investments



### Drive best-in-sector operational performance

Excel in safety, reliability, customer responsiveness and energy efficiency while maintaining a culture that fosters innovation

## SOCIAL RESPONSIBILITY



### Exceed customer expectations

Provide energy safely, reliably and in an environmentally responsible manner at the lowest reasonable cost



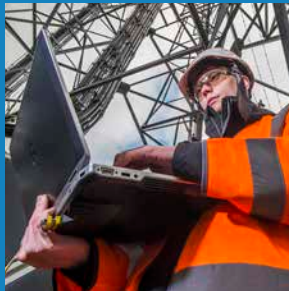
### Foster an exceptional workplace

Cultivate success by energizing an inclusive, respectful and diverse workplace that rewards performance, fosters professional development, encourages employee engagement and enables employees to achieve their full potential



### Strengthen communities

Empower the success of future generations by helping to build strong communities today



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# Message from our Chairman and CEO

## TO OUR STAKEHOLDERS:

Paying your electric bill via your smartphone. Charging an electric vehicle in your garage. Powering your appliances with the sun. A person living 100 years ago would have had a hard time imagining the innovative technology that many of us take for granted today.

As we celebrate our 100<sup>th</sup> year of powering people's lives, we also look ahead to the investments and innovations that will power the transition to a cleaner energy future, and we seek to build on the momentum sustained in 2019, a year in which we:

- Became the U.K.'s first network operator to publish an [electric vehicle strategy](#).
- Continued to connect more distributed generation and renewables to our U.K. networks, with more than 6 gigawatts of renewables connected to date.
- Secured regulatory approval in Kentucky for a [Green Energy tariff](#) for businesses and continued to enhance our solar offerings for all customers.
- Launched PPL Electric's innovative [Distributed Energy Resource Management System](#) to enable more distributed energy resources, like solar power and energy storage, to connect reliably to the grid.
- Executed agreements to acquire, develop, own and operate 110 megawatts of solar generation capacity.

Throughout this report we outline how we have integrated sustainability in all aspects of our operations, from setting [aggressive goals to cut carbon emissions](#) and investing in the grid to recruiting and [training tomorrow's workforce](#) and [supporting our customers' own sustainability goals](#).

Our long-term strategy is to deliver best-in-sector operational performance, invest in a sustainable energy future, provide superior customer service, maintain a strong financial foundation, and engage and develop our people.

The success of this sustainable strategy was evident in our 2019 results, in which we:

- Delivered strong financial results, exceeding the midpoint of our earnings guidance for the 10<sup>th</sup> straight year.
- Increased our dividend for the 17<sup>th</sup> time in 18 years, paying more than \$1 billion in dividends to shareowners.
- Provided superior customer service in the regions we serve.
- Maintained strong transmission and distribution reliability across our utilities, while achieving top-decile generation reliability in Kentucky.
- [Invested more than \\$3 billion in infrastructure improvements](#) to strengthen grid resiliency in the face of a changing climate, incorporate automation, replace and rebuild power lines and substations, and reshape electricity networks to support the growth of renewables and other distributed energy resources.

These achievements and more reflect our shared values and common purpose across PPL – from the United Kingdom to Pennsylvania to Kentucky – to deliver without fail for our stakeholders, to exceed their expectations and to continuously improve.

As we celebrate a century of service, I am confident that PPL's 12,000 employees will continue to deliver for our customers today, navigate an evolving industry and move forward for future generations. And I am pleased that our community will be under the leadership of Vince Sorgi, who will succeed me as our CEO when I retire on June 1.

Lastly, I want to reassure shareowners, customers and other stakeholders that PPL is fully prepared to maintain electricity and gas service safely and reliably as our customers and the communities we serve tackle the extraordinary challenge of coronavirus. We have well-tested business continuity plans in



As we celebrate our 100<sup>th</sup> year of powering people's lives, we also look ahead to the investments and innovations that will power the transition to a cleaner energy future, and we seek to build on the momentum sustained in 2019. ■■

WILLIAM H. SPENCE  
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

place, we are executing those plans, and we are committed to helping our customers through these trying times.

The global spread of the virus has shown us how truly connected we are. We have contributed more than \$1.6 million to relief efforts in Pennsylvania, Kentucky and the U.K. to help our neighbors through these difficult times. And, our employees are committed to powering the communities where we live and work. Together, we will get through this challenging time and emerge even stronger. .

William Spence  
Chairman and CEO



Headquartered in Allentown, Pennsylvania, PPL Corporation (NYSE: PPL) is one of the largest companies in the U.S. utility sector. The company serves more than 10 million customers in the United States and United Kingdom and employs more than 12,000 people.

Our mission is to provide energy in a safe, reliable manner at a reasonable cost to our customers and best-in-sector returns to our shareowners. We believe our competitive earnings, compelling dividend, solid management and high-quality assets represent an attractive, low-risk opportunity for those looking to invest in the utility sector.

Our vision is to empower economic vitality and quality of life, and we are a positive force in the communities where we do business. We support human services, education, arts and culture and environmental stewardship. In addition, our companies work closely with local and state officials to foster economic development that creates jobs throughout the territories we serve.

PPL Corporation's operating companies are located in three primary jurisdictions: Kentucky, Pennsylvania and the United Kingdom. Each of these jurisdictions has different laws, regulatory agencies and local governing bodies. Details are available in the company's 2019 Form 10-K Report, Part I, Business (filed with the Securities and Exchange Commission).

## PPL AT A GLANCE

### LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY

Louisville Gas and Electric Company (LG&E) and Kentucky Utilities Company (KU) are regulated utilities that are engaged in the generation, transmission, distribution and sale of electricity in Kentucky and Virginia. They serve nearly 1.3 million customers and consistently rank among the best companies for customer service in the United States. In Virginia, KU operates under the name Old Dominion Power Company. LG&E and KU own more than 7,500 megawatts of power generation. In addition, LG&E is engaged in the distribution and sale of natural gas.

### PPL ELECTRIC UTILITIES CORPORATION

PPL Electric Utilities Corporation (PPL Electric) provides electricity distribution and transmission services to about 1.4 million customers in Pennsylvania and consistently ranks among the best companies in the U.S. for customer service.

### WESTERN POWER DISTRIBUTION

Western Power Distribution (WPD) is the electricity distribution network operator in the U.K. for the East and West Midlands, South West England and South Wales, serving 7.9 million end-use customers. Operating the U.K.'s largest distribution network by geographical area, WPD covers densely populated residential areas and widely dispersed rural communities. WPD has been recognized consistently as the leading electricity distribution network operator group in the U.K. by the Office of Gas and Electricity Markets (Ofgem).

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J.D. POWER AWARDS  
FOR CUSTOMER  
SATISFACTION

7.5<sup>K</sup>

MEGAWATTS OF  
REGULATED GENERATION  
CAPACITY IN THE U.S.

140<sup>B</sup>

KILOWATT-HOURS  
OF ELECTRICITY  
DELIVERED

10<sup>M</sup>

UTILITY  
CUSTOMERS IN THE  
U.S. AND THE U.K.

12<sup>K</sup>

EMPLOYEES

\$7.8<sup>B</sup>

ANNUAL REVENUE

219<sup>K</sup>

MILES OF  
ELECTRIC LINES

\*As of Dec. 31, 2019

**Key performance indicators in support of our sustainability commitments from 2017-2019**

<b>ENERGY PORTFOLIO</b>		<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>GENERATION</b>	Generation capacity (MW)	8,017	8,017	7,561
	Net generation for the data year (MWh)	32,704,879	34,546,832	32,282,872
	Generation efficiency (BTU/Net Generation)	10.1	10.1	9.9
<b>EMISSIONS</b>	Carbon dioxide (CO <sub>2</sub> e) emissions (owned generation, purchased power and other operations) (metric tonnes for data year)	29,083,085	27,873,408	27,405,245
	Generation carbon emissions intensity (metric tonnes/net MWh)	0.87	0.85	0.83
	Sulfur dioxide emissions intensity (metric tonnes/net MWh)	0.00041	0.00048	0.00042
	Nitrogen dioxide emissions intensity (metric tonnes/net MWh)	0.00048	0.00050	0.00045
	Mercury emissions (kg)	77	71	55
<b>WATER</b>	Water withdrawal (megaliters/year)	494,946	512,000	494,000
	Water withdrawn compared to waterbody size (highest percent impact)	0.74	0.80	0.75
	Volume of water recycled and reused (percent total)	96.07	88.93	89.27
<b>WASTE</b>	Coal combustion products beneficially used (percent total)	34.1	33.5	39.8
<b>INFRASTRUCTURE</b>		<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>ELECTRICITY</b>	Miles of distribution lines	208,077	207,709	208,720
	Miles of transmission lines	10,633	10,659	10,682
<b>NATURAL GAS</b>	Miles of gas distribution mains	4,310	4,369	4,384
	Miles of gas transmission mains	396	370	371

# PERFORMANCE DATA

OPERATIONAL PERFORMANCE		2017	2018	2019
<b>SAFETY</b>	Total hours worked	24,157,564	23,602,105	23,359,302
	Number of lost day cases	18	15	24
	Lost-time incident rate	0.15	0.13	0.21
	Recordable incident rate	1.08	1.18	1.02
	Work-related fatalities	1	0	1
<b>RELIABILITY</b>	SAIFI - Average number of interruptions	0.55	0.60	0.58
	SAIDI - Average outage duration (in minutes)	39.25	43.80	45.49
	CAIDI - Average restoration time (in minutes)	59.84	73.59	79.11
	*Reliability data for each operating utility is available in the Appendix on page 69.			
RESOURCES AND COMMUNITY		2017	2018	2019
Customer count (at end of year)		10,597,979	10,649,818	10,693,596
<b>ENERGY EFFICIENCY</b>	Incremental annual electricity savings from energy efficiency measures (MWh)	671,055	547,291	538,450
	Total rebates	\$35.7M	\$30.8M	\$25.5M
<b>EMPLOYEE AND BOARD DATA</b>	Total number of employees	12,512	12,444	12,280
	Percentage of women employees	21.4	21.5	21.9
	Percentage of minority employees	6.4	6.4	6.6
	Total hours of training	570,488	567,234	552,458
	Average hours of training per employee	46	46	45
	Total number on board of directors	9	10	9
	Total number of women on board of directors	1	2	2
Total number of minorities on board of directors	4	4	3	
<b>SUPPLY CHAIN</b>	Total spent on diverse businesses	\$170M	\$212M	\$258M
	Number of diverse businesses	277	265	264
<b>STRENGTHEN COMMUNITIES</b>	Total charitable giving in communities served	\$9M	\$11M	\$10.6M
	Total volunteer hours	69,000	80,000	64,000



OUR VALUES

SAFETY & HEALTH

CUSTOMER FOCUS

DIVERSITY & ENGAGEMENT



PERFORMANCE EXCELLENCE

INTEGRITY & OPENNESS

CORPORATE CITIZENSHIP

In 2019, PPL Corporation and its regulated utilities were recognized for outstanding performance in a number of areas. Some highlights include:

**PPL CORPORATION**

- Recognized by Forbes Magazine as one of America's Best Employers 2019.
- Received a score of 100% on the 2019 Disability Equality Index, making PPL one of the 2019 Best Places to Work for Disability Inclusion.
- Received a score of 100% on the Human Rights Campaign Foundation's Corporate Equality Index, a national benchmarking survey and report on corporate policies and practices relating to lesbian, gay, bisexual and transgender workplace equality (Pennsylvania).

**PPL ELECTRIC**

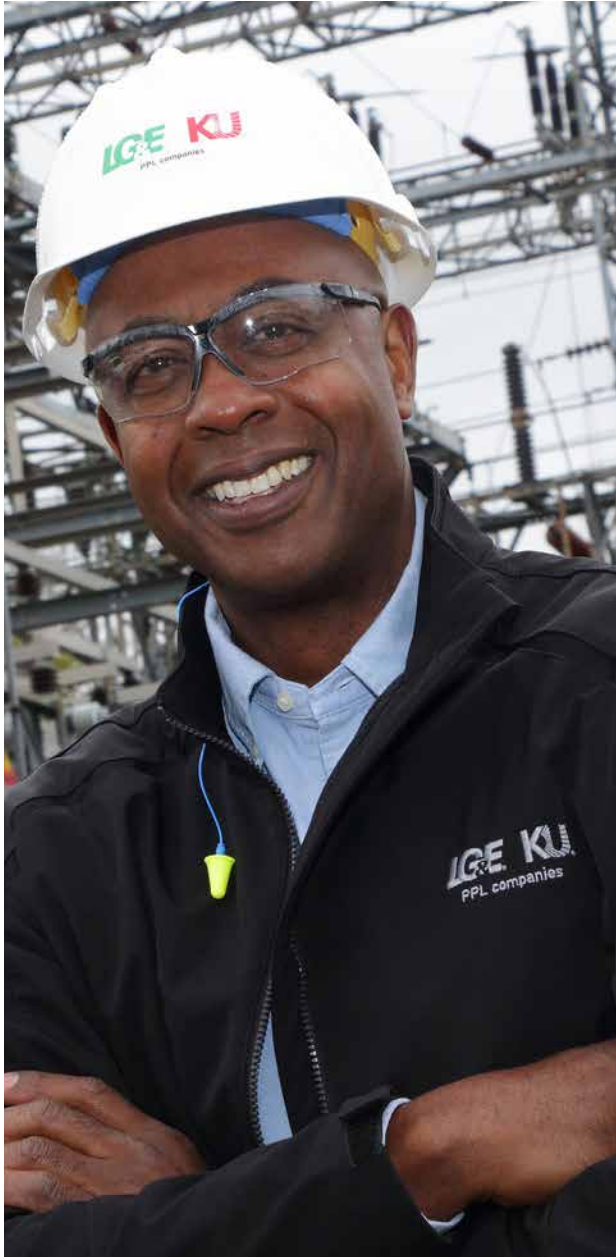
- Ranked highest for residential customer satisfaction among large utilities in the eastern U.S. for an 8<sup>th</sup> consecutive year by J.D. Power.
- Named as the 2019 Investor-Owned Utility of the Year by the Smart Electric Power Alliance.
- Named one of the most trusted utility brands in the country and top among electricity-only utilities in the eastern U.S. in the 2019 Cogent Syndicated Utility Trusted Brand & Customer Engagement Residential Report.
- Received the 2019 ReliabilityOne™ Most Improved Utility Award for its dramatic improvements in grid reliability over the past decade.
- Received the 2019 Achievement Award from the Association of Edison Illuminating Companies for developing technology that safely and automatically cuts power to downed power lines (see story on page 25).

**LG&E AND KU**

- KU ranked highest for residential and business customer satisfaction among midsize electric utilities in the Midwest region by J.D. Power.
- LG&E ranked first in gas business customer satisfaction among its peers in the Midwest region by J.D. Power.
- LG&E received the 2019 American Gas Association Accident Prevention Award for Safety Excellence.
- Named among the "Top 20 Utilities" in the U.S. for economic development by Site Selection, the international economic development magazine. Since 2010, Site Selection has recognized the company's economic development efforts seven times.

**WPD**

- Ranked among the best performers in Ofgem's Broad Measure of Customer Satisfaction, with average customer satisfaction of 9.1/10.
- Ranked best in stakeholder engagement and support for vulnerable customers for the 8<sup>th</sup> straight year in Ofgem's customer satisfaction report.
- Attained the U.K.'s Customer Service Excellence Award (formerly the Charter Mark) for the 27<sup>th</sup> consecutive year.
- Attained the British Standard for Inclusive Service Provision with full compliance for the 6<sup>th</sup> year in a row – the longest of any assessed company in the U.K.
- Ranked as the No. 1 Distribution Network Operator for best overall customer service provider on Twitter by social media analysis service Help Handles.



Our current sustainability programs, performance metrics and initiatives are presented throughout this report and are referenced in the Global Reporting Initiative Index on page 54. This report presents our sustainability performance following the Global Reporting Initiative Framework in accordance with Global Reporting Initiative Standards at the “Comprehensive” level.

Our views about the company's direct and indirect impacts, risks, challenges and opportunities are presented throughout this report and in other publicly available documents such as the [2019 Form 10-K](#), [10-Qs](#), [2020 Proxy Statement](#) and [2019 Annual Report](#) posted on the company's website.

### **Report profile**

This report's content covers activities that occurred in calendar year 2019. All data reflects information as of Dec. 31, 2019. The report was published in 2020.

PPL Corporation intends to report on its sustainability activities annually. The report is reviewed by the company's leadership team, including the chief executive officer. An internal review of this report was completed by the Corporate Audit department, but an external audit has not been conducted.

Throughout this report, when we refer to PPL, we are discussing all of PPL Corporation and its subsidiaries, including PPL Electric, LG&E and KU, and WPD. For specific issues, data and discussion about each entity may be disclosed.

Material aspects and boundaries vary slightly from subsidiary to subsidiary, in part because of different regulatory frameworks

and each subsidiary's level of involvement with energy production and delivery. These are noted throughout the report.

Regarding boundaries, most of the report content is focused on internal boundaries. The company also is reliant on certain regulatory, legislative and community partners to manage some material issues, as discussed in this report.

As we prepared this document, we considered Global Reporting Initiative's principles for defining report content and quality.

Statements contained in this report concerning future events are forward-looking statements as defined by federal securities laws. Although PPL Corporation believes that the expectations and assumptions reflected in these forward-looking statements are reasonable, these statements involve a number of risks and uncertainties, and actual results may differ materially from the results discussed in the statements. Any forward-looking statements should be considered in light of these uncertainties and assumptions and in conjunction with PPL Corporation's 2019 Form 10-K and other reports on file with the Securities and Exchange Commission.

Conversions of British pounds sterling to U.S. dollars marked throughout this report were based on the foreign exchange rate on Dec. 31, 2019 (1 British pound was 1.32 in U.S. dollars).

Questions and comments about this report can be directed to [Community@pplweb.com](mailto:Community@pplweb.com).

## Sustainability strategy, oversight and transparency

PPL conducted an initial priority issues assessment in 2016 to identify the issues that may be helpful to stakeholders in evaluating the company's environmental, social and governance performance and overall commitment to sustainability.

The company did a second assessment in 2018 to reevaluate key sustainability issues. This included reviewing benchmarking data associated with peer companies, interviews with stakeholders within the company and surveys of external stakeholders, such as customers and community partners. The priority issues identified have been found to be important to both PPL and our stakeholders.

Additionally, PPL is a member of Electric Power Research Institute's Sustainability Interest Group; has aligned its sustainability strategy and commitments with the United Nations Sustainable Development Goals for the utility sector; and participates in Edison Electric Institute and American Gas Association's environmental, social, governance and sustainability-related reporting template for investor-owned utilities. PPL has also committed to reductions in greenhouse gas emissions, responds to the CDP Climate Change questionnaire, and incorporated recommendations from the Task Force on Climate-related Financial Disclosures in our scenario-based climate assessment report. PPL has mapped environmental, social and governance disclosures to the Sustainability Accounting Standards Board materiality framework, as well as the Task Force on Climate-related Financial Disclosures, to ensure alignment with those reporting frameworks.



### SUSTAINABILITY GOVERNANCE

#### GOVERNANCE AND NOMINATING COMMITTEE, BOARD OF DIRECTORS

Oversees the company's practices and positions to further its corporate citizenship, including sustainability, environmental and corporate social responsibility initiatives.

#### EXPANDED CORPORATE LEADERSHIP COUNCIL

Reviews, provides strategic input and approves the company's sustainability strategy, commitments and priorities. The council includes PPL's chief executive officer, chief operating officer, chief financial officer, chief human resources officer, chief legal officer and operating company presidents.

#### CORPORATE SUSTAINABILITY COMMITTEE

Responsible for reviewing and guiding the development of a sustainability strategy, providing oversight and establishing the priorities and performance metrics. This committee consists of senior leaders throughout the corporation (including operating companies, human resources, compliance, risk, investor relations and audit).

#### SUSTAINABILITY CORE TEAM

Cross-functional and enterprise-wide team of subject matter experts that conduct analysis of sustainability priority issues and environmental, social and governance trends and is responsible for developing environmental, social and governance disclosures.

# COMMITMENTS

## SUSTAINABILITY COMMITMENTS



Create extraordinary shareowner value



Drive best-in-sector operational performance



Advance a cleaner energy future



Build tomorrow's energy infrastructure



Exceed customer expectations



Foster an exceptional workplace



Strengthen communities

## PRIORITIES

**Cybersecurity and information protection** – Protect the grid, customer and employee data, and the company's assets

**Economic viability** – Promote the long-term financial viability of the company

**Governance, compliance and ethics** – Maintain strong corporate governance, compliance and ethical business practices

**Utility industry transformation** – Advance regulatory structures to support industry transformation

PAGE 15

**Operational efficiency** – Strive for best-in-sector performance

**Reliability** – Excel in reliability

**Safety & health** – Drive employee and public safety

**Supply chain** – Foster a pool of diverse, strategic suppliers and business partners that mirror the communities we serve

PAGE 21

**Emissions reduction** – Take reasonable measures, within the regulatory frameworks in which we operate, to support reduction of carbon dioxide and other emissions

**Environmental stewardship** – Responsibly manage our impact on the environment through conservation and sustainable practices

PAGE 26

**Distributed energy resources** – Encourage and support development of distributed energy resources and renewables

**Grid security** – Protect the physical security of the grid

**Infrastructure investments** – Enhance the reliability and resiliency of service through continued investments

PAGE 35

**Innovation and technology** – Be a leader in the transformation of the electric utility industry

**Affordability** – Strive to deliver affordable electricity and natural gas service for our customers

**Customer satisfaction** – Deliver excellent customer service

**Energy efficiency** – Implement tools and resources to reduce energy consumption

PAGE 40

**Diversity and inclusion** – Foster an inclusive, respectful and diverse workplace

**Employee engagement** – Create a workplace that fosters an engaged, high-quality workforce

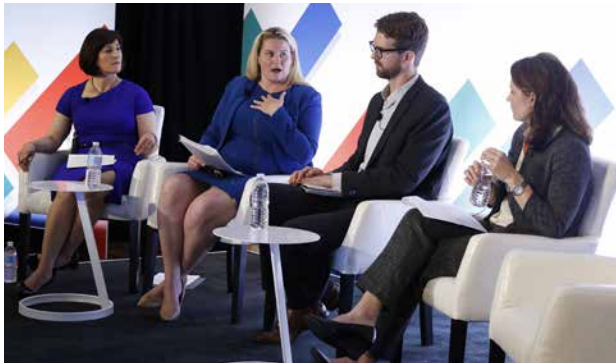
**Workforce development** – Train and develop our workforce for future success

PAGE 45

**Community investments** – Make positive contributions to communities we serve through philanthropy and volunteerism

**Emergency preparedness** – Maintain business continuity and prepare for events that affect our ability to serve customers

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## Stakeholder Engagement

A stakeholder is anyone with an interest in our business, or anyone who is affected by what we do. PPL and its subsidiaries reach out to stakeholders on both a formal and informal basis. Our Customer Service teams respond to customer inquiries; our Investor Relations department answers questions from investors individually and at investor events; and our Public Affairs team consults with state and national regulators and public officials on a regular basis and regularly engages subject matter experts. We track customer service issues, including response time and reliability, as part of our regular operations. We conduct regular market research to establish customer satisfaction.

We also are active with community groups that help us understand the connection between their needs and our role as an energy provider and employer. The company regularly schedules public open houses when planning major infrastructure projects. In addition, we monitor and respond to stakeholder feedback at public hearings, forums or town halls hosted by regulators and public officials who are assessing our operations.

In 2019, PPL enhanced stakeholder engagement related to sustainability by conducting a customer survey to gauge awareness of environmental, social and governance issues. The company also participates in industry events related to sustainability such as Electric Power Research Institute sustainability working groups and serves as co-chair of the Edison Electric Institute environmental social and governance investor workshops.

STAKEHOLDER GROUP	TYPE OF ENGAGEMENT
<b>Communities</b>	<ul style="list-style-type: none"> <li>• Support for events and programs of nonprofits, chambers and associations</li> <li>• Support for community energy groups in the U.K.</li> <li>• Volunteerism (board service, events, long-term programs)</li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>• Websites</li> <li>• Consumer advisory panels</li> <li>• Customer commitment advisory forums</li> <li>• Market research</li> <li>• Demand-side management/energy efficiency advisory groups</li> <li>• Billing statements and messaging</li> <li>• Email newsletters</li> <li>• News releases and local media</li> <li>• Customer feedback (surveys, online comments, phone calls)</li> <li>• Account management</li> <li>• J.D. Power survey</li> </ul>
<b>Employees</b>	<ul style="list-style-type: none"> <li>• Company intranet</li> <li>• Training events</li> <li>• Town hall meetings</li> <li>• Employee feedback (via surveys)</li> <li>• Volunteer programs</li> <li>• Business resource groups</li> <li>• Performance reviews</li> </ul>
<b>Facility neighbors</b>	<ul style="list-style-type: none"> <li>• Plant advisory committees</li> <li>• Newsletters for plant neighbors</li> </ul>
<b>Government (local, state, federal)</b>	<ul style="list-style-type: none"> <li>• Continuous dialogue</li> <li>• Attendance at and participation in meetings and hearings with regulators and policymakers</li> </ul>
<b>Industry associations</b>	<p>Attendance at regular meetings and conferences and active participation in organizations such as:</p> <ul style="list-style-type: none"> <li>• Edison Electric Institute</li> <li>• Electric Power Research Institute</li> <li>• American Gas Association</li> <li>• Energy Networks Association (U.K.)</li> <li>• State chambers of commerce and industry associations</li> </ul>
<b>Environmental groups</b>	<ul style="list-style-type: none"> <li>• Ongoing discussions and partnerships around specific topics related to operational activities</li> </ul>
<b>Shareowners</b>	<ul style="list-style-type: none"> <li>• Continuous dialogue</li> <li>• Quarterly earnings news releases</li> <li>• Investor relations website</li> <li>• Active outreach including meetings at investor conferences, roadshows and conference calls</li> </ul>
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>• Supplier meetings</li> <li>• Supplier networking summits</li> </ul>



Meeting face-to-face with our stakeholders reinforces our commitment to collaboration, investing in our communities and putting customers first.

GREG DUDKIN, PRESIDENT-PPL ELECTRIC

## Connecting with stakeholders

PPL Electric President Greg Dudkin took the company's show on the road in 2019, holding six meetings with community and business leaders throughout the company's service territory to update them on everything from reliability to innovation to community involvement.

"While it's important that community leaders hear directly from me about what we're doing on grid reliability, innovation and customer service, and how we're giving back as a company, it's equally imperative that I hear about their experiences working with PPL employees in the regions," Dudkin said.

Dudkin's presentation touched on topics like reliability improvements, the value of PPL's electric delivery compared to state, regional and national costs, innovation like a breakthrough system that safely and automatically cuts power to downed conductors, and more.

Dudkin also shared examples of partnerships PPL Electric has with community groups and nonprofit organizations, including how grants from the PPL Foundation are supporting local initiatives.

In question and answer sessions after Dudkin's presentations, audience members responded with queries on topics ranging from cybersecurity to the recent failed attempt in the state legislature to enact subsidies for nuclear power plants. PPL Electric came out against those subsidies over customer cost concerns. After each meeting, Dudkin continued to speak with audience members who lined up for more personal conversations.

"The engagement we get at these meetings indicates a genuine appreciation for the work that PPL does on behalf of its customers and communities every day," Dudkin said. "And that's a credit to every employee."

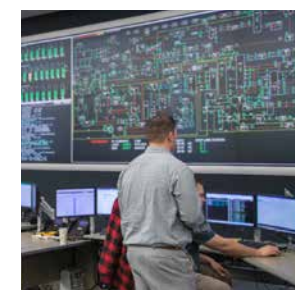
# Create extraordinary shareowner value



## SIGNIFICANT OPERATIONAL AND REGULATORY HIGHLIGHTS



**WPD** became the first U.K. distribution network operator to launch an electric vehicle strategy. The company also completed the U.K.'s largest electric vehicle smart charging research project. Known as Electric Nation, the trial collected data from more than 140,000 electric vehicles.



**Vincent Sorgi** was promoted to president and chief operating officer. Sorgi is a 25-year veteran of the utility industry who served as PPL's chief financial officer since June 2014.

**LG&E and KU** reached an agreement with the Kentucky Public Service Commission in the utilities' rate reviews. Overall, the utilities are investing \$2.2 billion in infrastructure improvements to benefit customers. This includes investments in equipment that enables the companies to more quickly detect and respond to power outages.

**PPL Electric** completed a \$471 million project to replace meters for the utility's more than 1.4 million customers. The new meters offer advanced capabilities to benefit customers.

**LG&E and KU** completed modernization efforts of the company's historic Ohio Falls Hydroelectric Generating Station in Louisville, increasing the renewable energy output at the nearly 100-year-old facility.

**WPD** published its Distribution System Operator Forward Plan in June, providing details on its innovation projects and work to roll out flexibility services across its service territory.

### FINANCIAL

	2019	2018
Operating revenues (millions)	\$7,769	\$7,785
Net income (millions)	\$1,746	\$1,827
Earnings from ongoing operations (millions)	\$1,806	\$1,705
Total assets (millions)	\$45,680	\$43,396
Earnings per share - Diluted	\$2.37	\$2.58
Earnings from ongoing operations per share - Diluted	\$2.45	\$2.40

### OPERATING - DOMESTIC ELECTRICITY SALES (GWh)

Retail delivered	67,238	68,686
Wholesale supplied	1,154	2,461

### OPERATING - INTERNATIONAL ELECTRICITY SALES (GWh)

United Kingdom	72,061	74,181
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For the years ended December 31



# Governance

Strong leadership and well-managed operations are the cornerstones of a successful business. PPL's corporate governance practices are designed to ensure long-term value for our shareowners, customers and the communities in which we operate.

The board of directors' responsibilities include overseeing the management of PPL, selecting the company's leaders, approving long-range strategic plans and advising senior management.

The board has designated its Governance and Nominating Committee (GNC) as the body responsible for overseeing PPL's practices and positions to further ESG performance and sustainability.

Committed to diversity, the GNC considers skills, expertise, background, professional experience, education and other individual characteristics, such as race, gender and ethnicity, as well as a variety of attributes that contribute to the board's collective strength. Two of the board's four independent committees are led by women.

PPL Corporation's Guidelines for Corporate Governance are posted online on the corporate website at [www.pplweb.com/governance](http://www.pplweb.com/governance).

Additional details about the role of the board, independence of the directors, role of the independent directors, the presiding or "lead" director, and selection of directors can be found in the Guidelines for Corporate Governance.



## INCENTIVES AND REMUNERATION

### Director Compensation

The board believes that to continue to attract talent to the board, outside directors should be remunerated for their services at a level competitive with that provided by other comparable publicly traded corporations. Directors who are company employees (currently only PPL's chief executive officer) do not receive any separate compensation for service on the board of directors or its committees. Information regarding compensation of PPL's directors can be found in the [2020 Proxy Statement](#), beginning on page 21.

### 2019 Executive Compensation

Information regarding PPL's executive compensation program and compensation philosophy and objectives, and a discussion of how executive compensation decisions affecting our named executive officers were made for 2019, is included in "Compensation Discussion and Analysis" section of the 2020 Proxy Statement. Additional details about specific compensation of the named executive officers are included in the 2020 Proxy Statement, beginning on page 54.

## ENTERPRISE RISK MANAGEMENT

PPL maintains a robust enterprise risk management (ERM) process that provides a business portfolio view of material risks that may impact achievement of PPL's business strategy.

Each operating company has a representative involved in the enterprise risk management process, which provides a business portfolio view of material risks that may impact achievement of PPL's business strategy including climate-related and broader ESG risks. The ERM process is overseen by the chief financial officer, with PPL Corporation's board of directors receiving quarterly updates.

## BUSINESS CONTINUITY AND CRISIS RESPONSE PLANNING

PPL has a Corporate Crisis Plan to ensure the company is prepared to respond quickly in the event of a corporate-level crisis; to protect the public, environment, employees, facilities and operations; to mitigate impacts; to define roles for response and recovery; and to establish internal and external communications protocols.

The plan establishes the PPL Executive Crisis Team (ECT), which sets policy, directs crisis preparedness by the company's various business lines and operations, assesses and directs the provision of corporate-level resources and coordinates activities with regional company locations in the event of a major crisis.

The standing members of the ECT are the chairman and chief executive officer; the president and chief operating officer; the executive vice president, general counsel and corporate secretary; the senior vice president and chief financial officer; the vice president-public affairs and sustainability; the senior director-corporate communications; and the director-protective services and chief physical security officer. Additional members can be added to the ECT as needed, depending on the situation. If the crisis involves operations, the team would typically include the business line president whose operating company is involved.

The team maintains various crisis planning scenarios and robust notification tools and procedures. In addition, it conducts periodic plan exercises, refining protocols after each event.



# Compliance and ethics

To fulfill our obligation to shareowners and all others who have a stake in PPL's business and the communities we serve, we (and our contractors) must adhere to high ethical standards, work safely and responsibly, and comply with both the spirit and the letter of all laws and regulations that govern our business. We recognize that to do otherwise would be costly to our company – not just financially, but also in terms of the strong reputation built by generations of PPL employees.

PPL has established a compliance and ethics program that is founded upon PPL's *Standards of Integrity*. The *Standards of Integrity*, along with our *Vision and Values*, define the way we conduct our business. They apply in all situations, at all times, guiding the decisions we make and the actions we take.

## WORKING WITH INTEGRITY

The board expects its directors and all PPL officers to act ethically at all times and adhere to the policies set forth in the *Standards of Integrity*. Every member of the Board of Directors receives a copy of the *Standards of Integrity*. It is the responsibility of each director to advise the corporate secretary of any actual or potential conflict of interest and any affiliation with public or privately held enterprises, including for-profit and nonprofit entities that may create a potential conflict of interest to the company or inconsistency with applicable laws, company policies or values.

Every employee is expected to read, understand and comply with the *Standards of Integrity* and associated company policies. In addition, employees are expected to report any compliance or ethics concerns to their immediate supervisors or via another appropriate reporting mechanism, including anonymous reporting mechanisms that are in place and publicized to employees. PPL takes any instance of noncompliance seriously. Failure to obey laws and regulations or violations of

## GOVERNANCE OF COMPLIANCE AND ETHICS



company policies may result in employee discipline to the extent permissible under applicable law, up to and including termination.

Employees receive annual training on the *Standards of Integrity*. As part of the training, every employee is required to certify that he or she understands the expectation to report misconduct and understands that PPL will not tolerate any form of retaliation for any report made in good faith. All training is tracked, recorded and reported to executive leadership and the Audit Committee. Targeted communications on key compliance and ethics topics are also issued as needed.

## REPORTING AND HANDLING OF VIOLATIONS

Employees are expected to ask questions or raise concerns about the application or interpretation of the *Standards of Integrity*.

The company does not discriminate against, or tolerate any form of retaliation toward, employees who ask questions or raise

concerns in good faith, and provides an "EthicsHelpline" for confidential and, if desired, anonymous reporting of concerns. PPL's EthicsHelpline toll-free phone number and internet site are available 24 hours a day, seven days a week. The EthicsHelpline, which is managed by an external vendor to promote confidence in confidentiality, is also accessible on the internet. In addition to employees, suppliers, customers and other external parties can use the EthicsHelpline to report concerns.

Guidelines are in place for promptly responding to allegations of misconduct and include notifying the vice president and global chief compliance officer of the allegations, and this position has a dotted-line reporting relationship to the chair of the Audit Committee. Issues and trends are identified and reported to the Audit Committee. Allegations are handled and key statistics are reported to the Audit Committee each quarter, with the most serious allegations being reported on an expedited basis to the chair of the Audit Committee as soon as reasonably practicable after initial intake discussions.



## Public policy engagement

Laws and policies enacted at the federal, state and local levels can have a significant impact on PPL and our customers, employees and shareowners. PPL actively encourages public policy that furthers our ability to provide reliable and affordable electricity to our customers and our ability to function efficiently, safely and economically. Our active participation in the public policy arena is appropriate to ensure that public officials are informed of key issues that affect the interests of our stakeholders.

PPL's Public Affairs department is in regular communication with executive leadership and provides an annual report to the board on key issues and advocacy positions. Additionally, on an annual basis, the board receives a report of corporate political contributions.

Details regarding PPL's approach to public policy engagement, including compliance, trade association membership, political action committees and contributions to certain tax-exempt organizations are available online at [pplweb.com/who-we-are/public-policy](http://pplweb.com/who-we-are/public-policy).

The company's transparent reporting has earned a first-quartile ranking by the CPA-Zicklin Index, which benchmarks the political disclosure and accountability policies and practices of leading U.S. public companies.

PPL does not engage in lobbying or make political contributions in the U.K. WPD works with trade organizations to collectively represent industry views across a range of areas, including U.K. legislation, government and regulatory bodies. One of those trade organizations is Energy Networks Association (ENA), which represents the transmission and distribution network operators for gas and electricity in the U.K. and Ireland. ENA's overriding goals are to promote the U.K. and Ireland energy networks ensuring the networks are the safest, most reliable, most efficient and sustainable in the world.

WPD also conducts regular outreach to its Members of Parliament and engages with the Office of Gas and Electric Markets (Ofgem), the U.K.'s electric utility regulator, on regulations, customer programs and the advancement of low-carbon initiatives.

## Legislative and policy priorities

*In 2019, these were PPL's top U.S. and U.K. public policy issues:*

### SECURITY AND SAFETY

- **Physical and cybersecurity** – Policymakers continually assess and examine the reliability and security of the bulk power system from both a physical security and cybersecurity perspective. The electricity sector is one of the only critical infrastructure sectors with mandatory and enforceable federal cybersecurity and reliability standards. These standards were developed through the North American Electric Reliability Corporation's standards-setting process. Grid owners and operators are involved in developing these standards, which must be approved by the North American Electric Reliability Corporation and the Federal Energy Regulatory Commission.
- **Spectrum availability (6 GHz)** – The Federal Communications Commission has proposed opening spectrum availability on the 6 GHz band to unlicensed users, which is currently used by 65 utilities across the country, for critical infrastructure operations. PPL and other operators and owners of critical infrastructure do not support the proposal and have concerns about the potential for unlicensed devices to interfere with mission-critical communications, which could threaten system reliability.
- **Pipeline safety** – The Pipeline and Hazardous Materials Safety Administration is finalizing extensive and highly anticipated pipeline safety regulations for gas pipelines. PPL supports pipeline safety and has proactively taken steps to replace aging gas pipelines with new, more durable materials. The company believes additional efforts to expand safety rules should include both the benefits and costs to customers.
- **Unmanned aircraft systems** – PPL was one of the first utilities in the country to incorporate unmanned aircraft systems into company operations, and the company continues to work with policymakers to broaden the ways in which we can safely and reliably use the technology beyond the current restrictions. This includes advocating for a more efficient waiver application process, operating unmanned aircraft systems beyond visual line of sight, and encouraging greater cooperation between the private sector and federal, state, and local governments so that unmanned aircraft systems can be deployed most effectively to assist in emergency and power restoration activities.
- **Low-Income Home Energy Assistance Program** – PPL supports the Low-Income Home Energy Assistance Program and works with federal policymakers to secure adequate funding for this important program, which provides assistance for our most vulnerable customers during the winter heating season.



## CLIMATE-RELATED POLICY AND GRID MODERNIZATION

- **Carbon emissions legislation and regulations** – Should Congress act on climate legislation, PPL believes such legislation should be economy-wide, market-based, and provide for regional flexibility. PPL also supports a federal carbon rule that is based on "inside the fence" or unit-specific reductions that are demonstrated to be achievable.
- **Adaptation and grid resilience** – The resilience of the bulk power system is a growing issue of policy focus due to the critical importance of the energy sector for national and economic security. PPL supports a definition of resilience that values robust transmission and reliable energy supply, including 24/7 generation resources. The company also supports policies that preserve flexibility of local solutions to optimize utilities' own resource portfolios.
- **Distribution System Operator transition** – The U.K. government and Ofgem have encouraged distribution network operators to transition to distribution system operators to actively manage the energy system. This supports the U.K.'s transition to a low-carbon economy, with increasing energy resources connecting directly to the distribution network, including generation and electric vehicles. WPD has engaged stakeholders throughout the planning process, publishing a Distribution System Operator Forward Plan in June 2019 that outlines the company's transition strategy and ongoing project developments.
- **Integration of distributed energy resources** – PPL will continue to advocate for funding levels that allow federal agencies to fund additional research and development grants and effectively administer projects like PPL Electric's Keystone Solar Future Project.
- **Federal infrastructure permitting** – PPL supports federal legislation that creates a more efficient and predictable permitting process for large infrastructure projects and a more transparent and accountable regulatory system that promotes economic development while maintaining necessary safety, environmental and public health protections.

- **Investment tax credit for energy storage** – PPL supports efforts to provide the same investment tax credits for energy storage as is currently available for solar and other technologies.
- **Net metering** – PPL supports the development of private distributed energy resources with a compensation structure that is fair to all customers.

## UTILITY REGULATION

- **R110-ED2** – U.K. regulator Ofgem is seeking feedback through a consultation process to establish the R1102 framework and methodology. This regulatory framework will outline the high-level issues for determining the price controls for the next five-year regulatory period, running from 2023-2028. WPD is providing input to Ofgem through the consultation process, taking into account stakeholder feedback.
- **Public Utility Regulatory Policies Act** – The Federal Energy Regulatory Commission has proposed to modernize its 40-year-old Public Utility Regulatory Policies Act regulations, focusing on providing more flexibility to state regulatory authorities and closing loopholes. PPL supports efforts to update the act, particularly its proposal to better align rates paid to a qualifying facility with actual utility avoided costs.
- **Pole attachments** – Federal and state regulators continue to examine at what cost and in what manner telecommunication companies and other entities may attach their equipment to poles owned by utilities. PPL advocated that any new rules ensure that attachers operate in a safe manner, do not unfairly shift costs to utility customers and do not negatively impact electric service reliability. In late 2019, Pennsylvania's Independent Regulatory Review Commission approved the rulemaking giving the Public Utility Commission jurisdiction. The final regulation was published and became effective in January 2020.



## Addressing the threats of today and staying vigilant for tomorrow

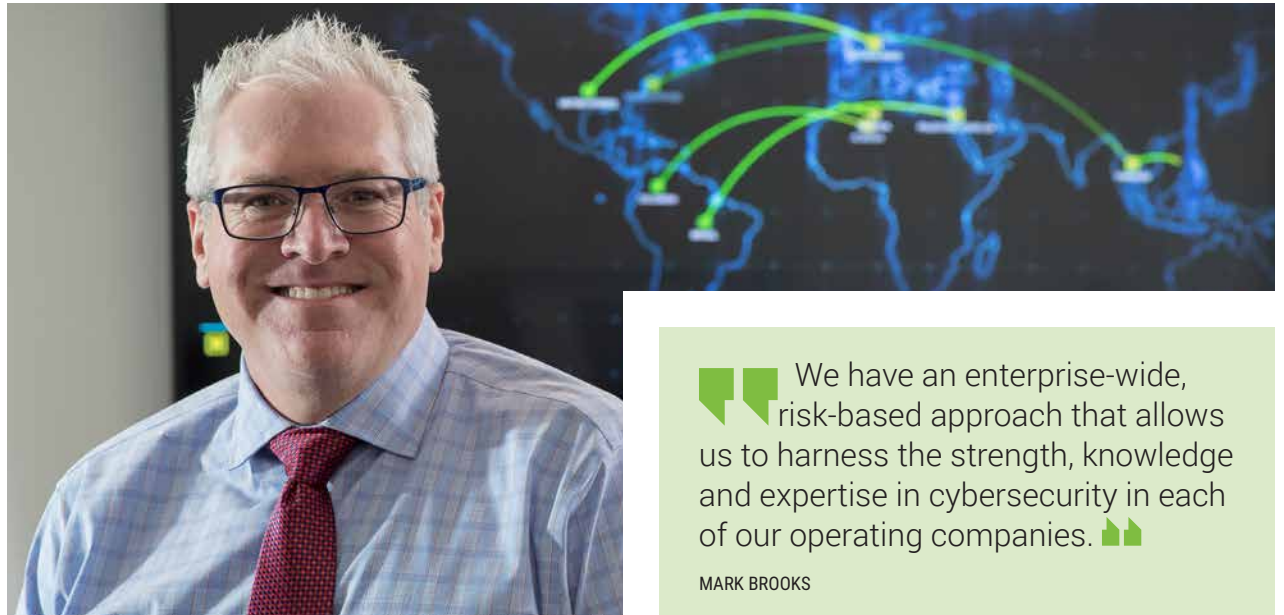
Securing and protecting the grid is not new for the utility industry, but cybersecurity poses unique and constantly changing challenges. Mark Brooks, PPL's vice president and chief information security officer, provides his perspectives and insights on the company's approach to cybersecurity.

### **What are some of the key challenges related to cybersecurity?**

We can't defend and protect against threats we aren't aware of, so one of the biggest challenges we face is collecting and digesting the latest information on security vulnerabilities and cybersecurity threat intelligence to inform our actions.

Our cybersecurity strategy helps us understand and stay abreast of cyberthreats and helps us make the right choices on where to invest to best protect the grid.

Some of the other key challenges requiring our significant focus include maintaining vigilance in updating our systems to mitigate vulnerabilities, dealing with insider threats and third-party risk management.



“We have an enterprise-wide, risk-based approach that allows us to harness the strength, knowledge and expertise in cybersecurity in each of our operating companies.”

MARK BROOKS

### **What is the company doing to address these challenges?**

We have an enterprise-wide, risk-based approach that allows us to harness the strength, knowledge and expertise in cybersecurity in each of our operating companies.

For example, having operations in both the U.S. and U.K. extends PPL's capability to more quickly and effectively respond to security threats through sharing information and intelligence across our different operating companies. I've seen this play out time and time again, and it is an area that we will continue to leverage to address cyber threats.

We are also making significant investments in advanced cybersecurity threat intelligence that uses machine learning and artificial intelligence to help us see and understand the latest security threats and quickly respond to those threats using tools and automation.

When it comes to keeping our systems up to date, dealing with insider threats and managing third-party risk, we continue to invest in education and awareness, enhanced security protections and oversight and solutions in next-generation monitoring and reporting.

### **Can you discuss the company's governance of cybersecurity-related matters?**

We've adopted and implemented a governance model that provides multiple lines of defense to help PPL oversee and manage cybersecurity risks. At the heart of the model is our use of the National Institute of Standards and Technology Cybersecurity Framework, which was developed by government agencies in partnership with industry experts. That framework provides principles and practices to protect critical infrastructure, such as the electric grid.

Our senior management team and the board of directors are actively engaged in cybersecurity-related matters.

As chief information security officer, I chair our Corporate Security Council, which includes representation from each of our operating companies. We meet regularly to review PPL's overall progress on our cybersecurity strategy and program, to test our protocols and to identify areas for improvement.

# Drive best-in-sector operational performance



## Come hail or high water, resilient network up to task

Network resilience is at the forefront of Western Power Distribution's operation.

Through continued investment, use of innovation and technology and a committed and hardworking workforce, the company has been able to significantly decrease the number and duration of power outages.

WPD is also addressing physical risks through climate adaptation actions such as investing in flood defense measures to mitigate weather-related impacts on our facilities and to make the grid more reliable and resilient.

This resiliency strategy was put to the test in 2019, when the Steeping River in Wainfleet, Lincolnshire, burst its banks, forcing the evacuation of almost 600 homes and threatened to flood eight WPD substations.

WPD staff worked around the clock, alongside other members of the Lincolnshire Resilience Forum and countless volunteers, to protect people and property, including two substations vital to flood response efforts.



When faced with a steaming transformer, we had to reconsider plans to de-energize it, which would cut off electric supply to the local fire station. The station was being used as a command center to coordinate the multi-agency response on the ground and was vital to the emergency response, so any loss of power would mean loss of a critical communication hub.

Thanks to WPD's investment in network resiliency, which allows the company to quickly restore power by remotely redirecting power via unaffected sections of the network, the total time of disconnection for the command center was limited to just 2½ minutes. All efforts could then be focused on battling rising flood waters.

"The events at Wainfleet were unique and had an immense impact on the people living there. The multi-agency response swung quickly into action and remained for over a week to facilitate a relatively swift return to normality," said Carl Henshaw, emergency planning officer. "WPD played a massive role in the response, again demonstrating our commitment to protect our customers."

WPD's investment in network resiliency includes an increasing amount of remotely operated technology, which allows the company to restore power to customers quickly by redirecting power via unaffected sections of the network.





# Reliability and resiliency

Falling trees, raging floodwaters or even curious squirrels can affect the performance of the grid. That's why PPL's utilities work continuously to monitor, maintain and enhance the reliability and resiliency of the transformers, power lines, substations and other equipment used to transport electricity to customers.

PPL's utilities continue to use technology to work smartly and more efficiently, whether it's using big data to help drive improvements or studying how best to approach the growing appetite for distributed energy resources like solar.

We continue to invest in our networks to make our already strong reliability record even better. PPL plans to invest approximately \$14 billion from 2020 through 2024 in infrastructure investments to modernize and strengthen the grid, with projects including:

- Replacement of aging system equipment
- Installation of smart grid technology
- Construction of new lines and substations
- Rebuilding of existing lines with stronger poles and wires
- Line clearing
- Devices to guard against damage from lightning and animals
- Assessing flood risks at critical facilities, such as substations and power plants, and installing defenses where necessary

In 2019, these investments included:

### PPL Electric

- Completed a \$471 million project to replace all 1.4 million meters on its network with advanced digital meters.
- Developed a system to safely and automatically cut power to downed lines. [See page 25 for more details on this project.](#)
- Developed a distributed energy resource management system that allows better management of renewable power coming onto the grid.

### LG&E and KU

- Continued work on ongoing transmission system improvements that included replacing aging equipment such as wooden poles, cross arms, lines and substation controls.
- Implemented cycle-based tree trimming and continued focused efforts to remove dead, dying and diseased trees around transmission infrastructure.
- Continued investments in new technology to automate the utilities' electric distribution system and enhance service reliability. The advanced technology, which detects faults and reroutes power, restoring power to as many customers as possible, has already helped prevent nearly 123,000 electric service interruptions.

### WPD

- Installed flood defenses at 69 substations.
- Improved substation battery life to ensure power is available for 72 hours after a major, network-wide power loss.
- Cleared trees from more than 480 miles of overhead lines in 2018-2019.
- Contracted 132 megawatts of demand-side flexibility under its Flexible Power program to accommodate increasing demand for electricity without having to build a larger network. As a result, customers benefit from a resilient energy supply and reduced future energy costs.



**\$14<sup>B</sup>**  
 INVESTMENT IN  
 INFRASTRUCTURE FROM  
 2020 THROUGH 2024

**1.4<sup>M</sup>**  
 ADVANCED METERS  
 INSTALLED ON PPL  
 ELECTRIC'S NETWORK

**123<sup>K</sup>**  
 SERVICE INTERRUPTIONS  
 PREVENTED FOR LG&E  
 AND KU CUSTOMERS

**132<sup>MW</sup>**  
 DEMAND-SIDE FLEXIBILITY  
 WPD CONTRACTED  
 FOR ITS NETWORK



## VEGETATION MANAGEMENT

Millions of people served by PPL's utilities depend on having reliable power for their homes and businesses. Effective vegetation management along distribution and transmission lines is a critical part of maintaining that reliability. Our vegetation management programs are designed to promote the safe and reliable operation of the electric grid, while making sure that we are sensitive to the concerns of property owners and our obligations to electricity customers. We work with conservation, land management and environmental groups to advance common goals of electric reliability and environmental stewardship.

Trees and other tall vegetation need to be kept away from power lines. If they get too close, power outages can result. Tree-related outages can potentially affect thousands of customers for extended periods of time. Keeping overhead power lines clear of limbs and brush also enables our crews to detect and repair

issues that impact service during storms. Tree interference also poses potentially significant safety risks to our employees and the public.

All PPL utilities conduct tree clearance trimming throughout their service areas on a consistent and planned cycle to maintain reliable service. All the utilities use integrated vegetation management practices, which reduce the need for pesticides, promote healthy ecosystems, and provide measurable results, such as greater natural species diversity along rights-of-way and better control of invasive species.

The utilities also are using lidar technology that maps individual trees along transmission rights-of-way. This helps identify a tree that is damaged or diseased before it falls across a power line. The system also assesses tree growth rates, so tree crews can be deployed more precisely. Similarly, data analytics on bird interactions with transmission lines is helping to enhance avian management efforts, protecting birds and saving money.

## SUPPLY CHAIN

Relationships with contractors and suppliers are vital to PPL's successful operations. PPL's supply chain organizations negotiate and secure contracts to procure materials, labor and services necessary to support the business.

PPL's operating companies require suppliers and contractors to observe our high standards of business ethics and professional and personal integrity when bidding or providing materials or services to PPL.

The company's enterprise-wide Supplier Code of Conduct, which applies to anyone supplying goods or services for PPL, includes guidelines on a variety of topics including diversity, corruption, ethics and cybersecurity. We also expect our suppliers to extend these standards to their own supply chains.

PPL and its operating companies actively reach out to find diverse businesses – including those owned by minorities, women and veterans. PPL Electric, LG&E and KU host annual supplier networking events to attract business leaders who will help expand the diversity of our supplier base.

**\$258M**

TOTAL CORPORATE  
SPEND ON  
DIVERSE SUPPLIERS

**\$3.3B**

TOTAL CORPORATE  
SPEND ON GOODS AND  
SERVICES IN 2019

**\$1.3B**

TOTAL CORPORATE  
SPEND ON LOCALLY  
BASED SUPPLIERS

**39%**

OF CORPORATE  
SPEND ON LOCALLY  
BASED SUPPLIERS



23,359,302  
TOTAL HOURS WORKED

0.21  
LOST TIME INCIDENT  
RATE WITH  
1.02 RECORDABLE  
INCIDENT RATE

1  
WORK-RELATED  
FATALITY



## Safety

One of PPL's primary goals is to maintain a work environment that promotes the health and safety of our employees and the communities where we work and live. No job is too important or so urgent that precautions, laws or regulations concerning health and safety can be bypassed. Our goal is simple: zero accidents or incidents adversely affecting employees, contractors or the public. All of our operating companies have robust safety policies and procedures in place. Employees own the concept of health and safety at a grassroots level, and that commitment to health and safety enables employees to hold each other accountable while sharing good practices. We strive for continuous improvement, engaging with others in our industry and elsewhere to learn and incorporate best practices that can enhance our existing programs.

### INJURIES AND ACCIDENTS

Safety is the top priority at PPL – something we consider an obligation to our employees, contractors and the public. That attitude has created a strong accident-prevention culture through all of our operating companies. Employees are focused on reducing risks to eliminate workplace accidents. Even with extensive training, however, accidents can occur. The statistics above outline our safety performance.

### SAFETY PROGRAMS

To reinforce PPL's ongoing commitment to safety, we carried out programs throughout the year focused on safety and health performance, near-miss reporting, employee engagement, emergency preparedness, vehicle safety, best practice sharing, and prevention of slips, trips and falls. Some highlights include:

#### ***In Kentucky, LG&E and KU:***

- Hosted more than 1,200 employees and business partners for its annual Safety Summit, which included interactive safety and technical training exhibits.
- Rolled out the 2019 safety campaign "Safety: Decide!" to remind employees about what should motivate them to work safely.
- Conducted company-wide "Safety Call to Action" to discuss incident trends and promote safety prevention efforts.
- Experienced the lowest employee motor vehicle incident rate in the last five years because of the safe-driving initiative that included mandatory online training and an employee pledge.
- Opened a new training facility for gas and electric distribution employees.

#### ***In Pennsylvania, PPL Electric:***

- Conducted safety assessments that provided feedback about the safety culture and programs within regional operations. The assessments are being used to develop plans for future improvement.

- Chose two groups of bargaining unit employees to serve as safety advocates, observing peers in the field over a six-month period and expanded the program from eight to nine advocates per group. Since the program's inception, more than 70 workers have participated in the program.

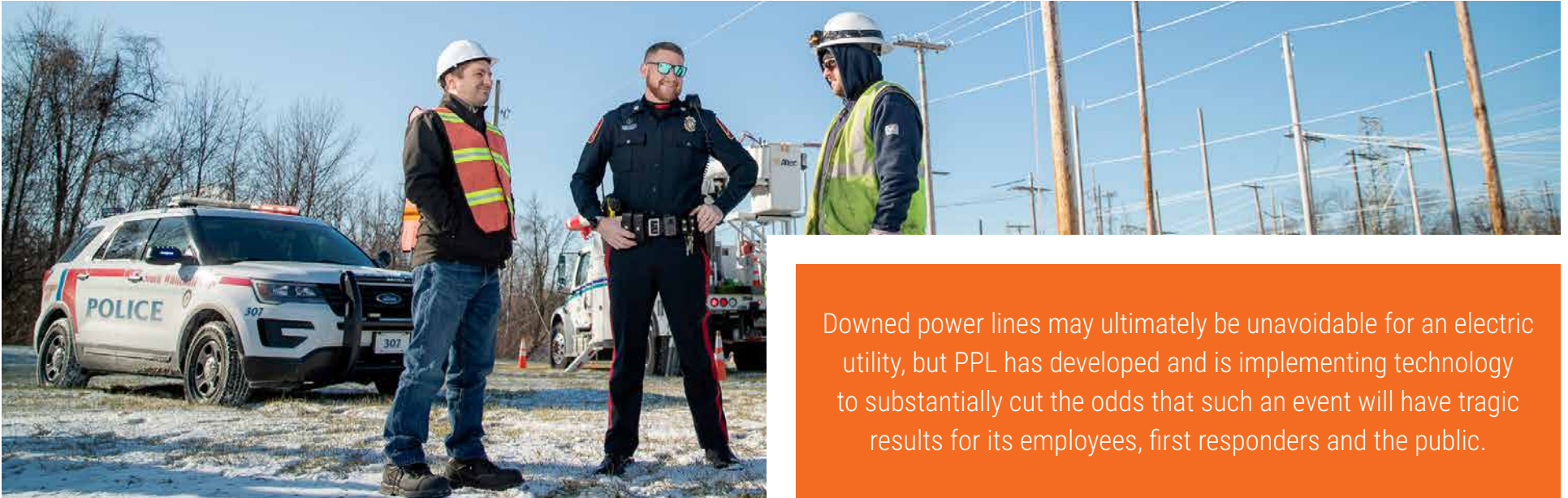
- Continued a company-wide injury prevention campaign.
- Hosted the company's fourth Safety Summit, which drew 200 employees and focused on the importance of maintaining situational awareness, remaining focused and regularly using human performance tools.

#### ***In the U.K., WPD:***

- Implemented a Climate Survey Action Plan covering policies, communication, engagement, employee development and risk assessment. Programs implemented included standard monthly safety briefings, an investigation training program and policy improvements.
- Undertook a public safety campaign to raise awareness of how to stay safe around electricity.
- Implemented the Safety Sharing Program to increase collaboration and sharing of best practices with safety teams of PPL's operating companies.
- Completed 10 safety conferences, including the first joint contractor and WPD conference and first all trainee conference.

Our commitment to safety also extends to our contractors, who are contractually obligated to comply with stringent safety and health requirements.





Downed power lines may ultimately be unavoidable for an electric utility, but PPL has developed and is implementing technology to substantially cut the odds that such an event will have tragic results for its employees, first responders and the public.

## Downed lines: cut the power, cut the risk

As an electric utility with a primarily above-ground grid, PPL Electric understandably takes notice when the weather turns rough.

Despite best practices in vegetation management, high winds and falling trees can bring down power lines, cutting power to customers and potentially exposing the public to a live electric line.

Determined to reduce the risk from those downed power lines, PPL Electric embarked on a journey that today has positioned it as an industry leader in implementing workable, practical solutions to a set of circumstances that can prove deadly, and a situation that has existed since man first started transporting electrons over wires to change the world.

When it comes to downed power lines, public safety is paramount for any electric utility and for the public it serves.

PPL Electric has developed, tested and implemented a system it believes is the first of its kind in the world, a system that not only accurately detects the fault from a downed power line, but also quickly acts to cut power to that line.

Working with Schweitzer Engineering Laboratories, PPL Electric first piloted Arc Sense™ high-impedance fault detection on its distribution system in 2014. PPL and Schweitzer Engineering Laboratories spent the next 30 months testing the technology on its distribution grid.

PPL Electric's innovation was being able to build on Arc Sense™ and develop a system to safely and automatically trip protective relays and cut current to downed lines. The implementation technology that allows relays to trip and power to be cut is being patented by PPL Electric.

During a windstorm in late February 2019, PPL recorded the first successful operation of its new system, successfully powering off a line that came down in a remote, wooded area.

By the end of 2019, PPL Electric had installed the new technology in about 1,500 locations across its service territory, wherever protective relays are involved. The technology earned PPL Electric an Association of Edison Illuminating Companies 2019 Achievement Award and an Electric Power Research Institute Technology Transfer Award.



# Advance a cleaner energy future



## Safari Energy boosts clients' solar goals

Safari Energy, PPL's renewable energy development company, recently helped one client reach a brilliant milestone.

Safari completed 100 solar projects with Extra Space Storage. Spanning over a dozen states and more than 10 megawatts of capacity, the projects have to date produced more than 33 gigawatt-hours of solar power, the equivalent of offsetting emissions from 5,000 cars driven each year.

"At Extra Space, we are committed to sustainability. Solar is a key piece of our sustainability initiatives, and we're glad to work with great partners like Safari Energy," said Joe Margolis, chief executive officer of Extra Space Storage. "We've found solar projects – like the 100 we've installed with Safari – to be an easy decision for us, because it's at the intersection of what is good for the environment, what is good for the community and what is good for our shareholders."

The largest of the 100 projects is a 531-kilowatt rooftop solar system located in Central Valley, New York, where the project team was able to leverage a net energy metering program to provide excess electricity from the system to neighboring grid customers. On average, the solar projects that Safari Energy developed for Extra Space offset more than 80% of each site's energy use, with approximately 20 sites offsetting more than 95% of their energy use.

Safari Energy's sophisticated approach to financial structuring, coupled with its extensive real estate expertise, has translated into attractive yields and savings for commercial and industrial clients. These clients span multiple industry sectors, including the self-storage, retail, warehousing, business center, medical office and public sectors. In addition to developing solar projects, as Safari Energy did for Extra Space Storage, the company also provides funding for solar projects developed by partners and clients throughout the project lifecycle.

Since 2008, Safari Energy has developed hundreds of commercial-scale solar projects that have generated approximately 300 million kilowatt hours of electricity, or the equivalent of avoiding more than 200,000 metric tons of CO<sub>2</sub> emissions.

# Climate change

As the world considers climate change, PPL is committed to assessing climate-related risks and opportunities, cutting the company's carbon emissions and advancing a sustainable energy future.

Our actions, and our approach to climate change, reflect these commitments:


- We have set a goal to reduce PPL's overall carbon emissions (CO<sub>2</sub>e) 80% from 2010 levels by 2050 and 70% by 2040.
- We have conducted a comprehensive climate assessment. Our assessment, published in November 2017, included a scenario analysis consistent with keeping global warming to no more than 2°C, and our effort carefully considered the recommendations of the Task Force on Climate-Related Financial Disclosures. We expect to update this climate assessment in 2021 in conjunction with our next Integrated Resource Plan in Kentucky.
- We have cut PPL's carbon emissions by 56 percent since 2010. Our actions have included retiring approximately 1,200 megawatts of coal-fired generation in Kentucky and divesting another 4,000 megawatts of competitive coal-fired generation. In 2019, less than 25% of the company's revenues and about 15% of our rate base was contributed by the generation segment of our business.
- We have invested more than \$27 billion over the past decade to strengthen grid resilience in the face of future storms, reduce power plant emissions and prepare networks to better integrate more distributed energy resources, including renewables and energy storage. We expect to invest an additional \$14 billion through 2024 to further advance these efforts.

PPL's carbon emissions reductions are on a path consistent with a less than 2°C change in global temperatures. Importantly, they are meaningful reductions, able to be achieved in an economic manner with today's technology and current legislative and regulatory construct.

As technology advances, it may become possible for PPL to achieve even greater carbon reductions than our current targets, while at the same time ensuring the best value and reliability for our customers. As always, we will continuously assess our strategy and adjust, as appropriate.



**GOAL TO CUT  
THE COMPANY'S  
CARBON  
EMISSIONS  
80 PERCENT  
FROM 2010 LEVELS  
BY 2050.**



**INCREASED  
USE OF  
CLEAN ENERGY  
SOURCES AND  
LOWER-EMITTING  
TECHNOLOGIES.**

**RETIRED  
APPROXIMATELY  
1200  
MEGAWATTS  
OF COAL CAPACITY  
IN KENTUCKY.**



## RISKS AND OPPORTUNITIES

As a result of our actions over the past decade, PPL has reduced its risk associated with climate change. The company's portfolio is now heavily focused on electricity delivery, with more than 80% of our rate-regulated asset base consisting of transmission, distribution and non-coal-fired generation. We believe there will be significant future investment opportunities in our delivery infrastructure and cleaner energy resources, which are expected to further decrease the percentage of our rate-regulated asset base from coal-fired generation assets.

As PPL looks to the future, we will continue to take steps to identify, understand and manage risks and opportunities associated with climate change and the transition to a cleaner energy future. This includes evaluating different options to inform business strategy, using modeling and input from our internal experts and third parties, as needed, and reviewing assessments with senior management and our board on an ongoing basis.

Methods for managing various risks and strategies while realizing opportunities are highlighted to the right.

[See PPL's CDP response for further detail.](#)

Risk	Management Method
Transition risk: Increased pricing of GHG emissions	Integrated resources planning process and engagement with regulators and policymakers at state and federal levels. Regulatory processes across operating companies allow cost recovery for prudent costs. Costs of U.K. carbon credits/tax included in customer rates.
Transition risk: Mandates on, and regulation of, existing products and services that could increase costs and reduce demand for products and services	Advocacy and engagement with policymakers and regulators (reasonable regulations and affordable rates; alternative rate designs), economic development programs and expanded customer offerings.
Transition risk: Impacts to grid reliability due to transition to lower emissions technology	Conduct planning studies based on sensitivity analyses looking at impacts to the system from renewables and distributed generation under various scenarios to inform cost-effective grid enhancements.
Physical risk: Change in precipitation patterns and extreme variability in weather patterns	Monitor reliability performance and conduct planning analyses of systems, looking at trends in weather, vegetation management and other impacts; infrastructure investments to modernize and strengthen grid; maintain adequate on-site fuel supply, substation flood defense.

Opportunity	Strategy to Realize
Investments in grid assets due to severe weather events	Enterprise-wide monitoring of reliability performance and system planning and analyses; about \$14 billion in planned infrastructure investments from 2020-2024.
Investments in grid assets due to increase in distributed generation	Studies inform decisions on grid enhancements to enable increased renewables and distributed generation; demonstration projects for solar, storage and electric vehicles; transition to distribution system operator in U.K.
Investments in cleaner generation	Strategy groups evaluating new and enhanced business opportunities, as well as options to serve shifting customer demands.
Greater demand for power and delivery	System enhancements necessary to meet long-term electricity demand; studying system impacts of greater electrification.

## CLEANER ENERGY OPTIONS

PPL's operating companies are making investments to expand customer access to renewable and distributed resources and research low-carbon technologies.

### ***In the U.K., WPD:***

- Supports the U.K.'s Net-Zero goal by participating in the U.K. Network Innovation Allowance and Competitions, which has launched projects that test innovative methods to enable the widespread adoption by customers of low-carbon technologies. This includes technology such as solar panels, heat pumps and electric vehicles.
- Announced a commitment to reduce its business carbon footprint 5% from 2012/2013 levels by 2023. In 2018/2019, WPD achieved a 17% reduction from 2012/2013 levels.
- Has connected 6.2 gigawatts of renewable energy to its network.
- Regularly reports to regulators regarding climate adaptation and progress toward reducing its business carbon footprint, including the following efforts:
  - Taking steps to prevent substation flooding.
  - Developing the capability to respond to flood events using portable equipment and mobile pumps.
  - Altering specifications for pole-mounted transformers to improve their resilience to lightning.
  - Amending overhead line design standards to account for a potential rise in temperature.

### ***In Kentucky, LG&E and KU:***

- Have built a utility-scale solar photovoltaic facility at the companies' E.W. Brown Generating Station. The solar facility features more than 45,000 solar panels on approximately 50 acres. The panels produce more than 17,000 megawatt hours of energy, enough to power more than 1,400 homes based on a usage of 1,000 kilowatt hours per month. The company makes data from the project available to the public, allowing individuals to view energy production in real time.

- Offer a Green Tariff to support the growth of renewable energy and economic development in Kentucky. New or existing businesses can choose from several options to meet their renewable energy goals, including purchasing renewable energy certificates through the Green Energy Program, building a solar array or purchasing solar, hydro or wind power through the utility's renewable power agreement.
- Recently completed upgrades at its hydroelectric power plants, boosting the generating capacity at Ohio Falls by 25% and at Dix Dam by 38%.
- Issued a request for proposal in February 2019 for up to 200 megawatts of renewable energy that could potentially grow the utilities' renewable energy portfolio and help attract businesses with sustainability goals.
- Offer a Solar Share program, which gives residential, business and industrial customers the opportunity to share in local solar energy and receive credits on their monthly bills.
- Began construction of the first 500-kilowatt section of LG&E and KU's Solar Share Program in early 2019 thanks to founding partner Ford Motor Company and other participating business and residential customers. The nearly 1,400-panel array became fully operational and began serving up solar energy in July 2019.
- Continue to collaborate with the Electric Power Research Institute on an energy storage research and demonstration site to allow utilities to develop, test and evaluate the potential benefits and operating needs of large-scale battery technologies. The site includes testing bays for up to 3 megawatts of energy storage.

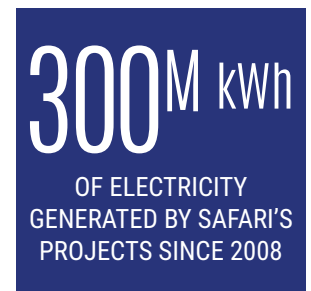
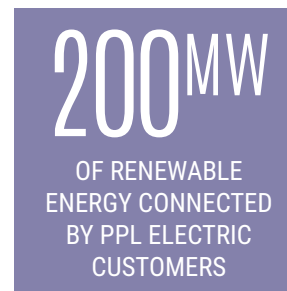
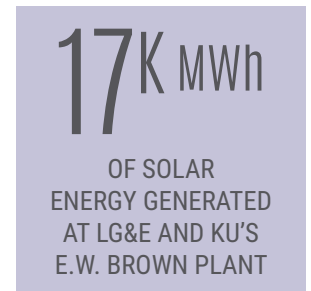
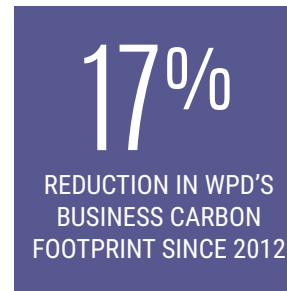
### ***In Pennsylvania, PPL Electric:***

- Participates in a statewide alternative-energy portfolio standard. From June 2018 to May 2019, alternative power sources comprised 15.2% of the power PPL Electric bought for customers who had not chosen a competitive supplier. This included 7% from solar, wind and hydropower energy sources. The projected renewable energy obligation for June 2019 through May 2020 is 15.7%.

- Developed and implemented an advanced Distributed Energy Resource Management System designed to manage solar, wind and other renewable power coming onto the grid. The system will help the company ensure good power quality and reliability and keep the grid running smoothly. Moving forward, it will also help PPL Electric better integrate more distributed energy resources like private solar, while preserving network reliability and power quality.
- Made it easier for customers to apply to connect solar panels and other generation systems to the grid through a user-friendly Renewable Energy Connection website. To date, PPL Electric has connected more than 200 megawatts of renewable energy to the grid through the program.

### ***Across the U.S., PPL's renewable energy development company, Safari Energy:***

- Has developed hundreds of commercial-scale solar projects since 2008 that have generated approximately 300 million kilowatt-hours of electricity, or the equivalent of avoiding more than 200,000 metric tons of CO<sub>2</sub> emissions.





## Managing resources, addressing environmental impact

PPL has a longstanding commitment to carry out all of our business activities in ways that preserve and promote a clean, safe and healthy environment. Our environmental commitment is part of our *Standards of Integrity*, which define how we conduct PPL's business. We abide by the environmental laws and regulations of the locations in which we operate and have invested in environmental upgrades at PPL power plants, carbon-free generation projects and programs to encourage energy efficiency.

### CONSERVING AND PROTECTING WATER

PPL carefully manages the water it uses and monitors the impact of wastewater discharged into waterways. No water is sourced from regions with high or extremely high baseline water stress. In fact, PPL's only operations with any significant water usage are the power generation operations in Kentucky. All but one of LG&E and KU's power plants are located on the Ohio River, which is not adversely affected by drought. The National Oceanic and Atmospheric Administration predicts the Ohio River's water levels daily and has never required LG&E and KU to reduce non-hydro generation due to river temperature or water volume issues. There is only one power plant, the Ohio Falls hydroelectric plant, that could be impacted by low water volume because it is a run-of-river dam. However, that plant accounts for only about 1% of the company's power generation.

LG&E and KU support programs that protect waterways and the ecosystems that depend on them in the service areas where the utilities operate. The utilities collaborate with a variety of stakeholders and state agencies to ensure that watersheds and reservoirs meet both the needs of the utilities and other stakeholders, including the public.

For example, KU's Dix Dam hydroelectric plant and the adjacent Herrington Lake is a public recreation area and serves to provide water for the city of Danville. The facility staff works with the Kentucky Department of Fish and Wildlife Resources and Trout Unlimited to improve fish habitat in the area and the Dix River, which is connected to the lake. The staff also works with the Herrington Lake Conservation League, which holds local volunteer events for shoreline cleanups and other public activities.

In 2019, LG&E and KU submitted a comprehensive water quality study on Herrington Lake to the Kentucky Energy and Environment Cabinet. The study was conducted by Ramboll, an internationally recognized independent environmental consulting firm. The in-depth study, which took more than a year and a half, confirmed the water quality of Herrington Lake is safe for recreational use and meets safe drinking water standards for the community. Results from the study are available online at [lge-ku.com/HLstudy](http://lge-ku.com/HLstudy).

LG&E and KU have greatly reduced the volume of cooling water withdrawn from the region's watershed by utilizing closed-cycle cooling instead of once-through cooling at all but one generating plant. Each facility also has a Groundwater Protection Plan, a Stormwater Best Management Practices Plan, and a Spill Prevention Control and Countermeasure plan that facilitates the safe storage of chemicals and oils on site. Proper secondary containment and monthly tank inspections ensure these chemicals remain out of the watershed and groundwater.

The companies continue to decrease consumptive water use as they improve power plant efficiency and transition to dry-ash handling at remaining coal-fired power plants in Kentucky. LG&E and KU pay consumptive use fees to cover the costs of reservoir projects and storage space designed to benefit all users and maintain adequate river levels during low-flow periods.



89%  
AMOUNT OF  
WATER RECYCLED  
AND REUSED

0.75%  
IMPACT OF WATER WITHDRAWN  
(REFLECTS PLANT WITH HIGHEST IMPACT OF  
WITHDRAWAL COMPARED TO WATERBODY SIZE)

## REDUCING AIR EMISSIONS

We invest in technology, facility upgrades, renovations and new construction projects that reduce emissions. We are transitioning our Kentucky power generation from coal to lower-emissions sources, such as natural gas and solar. And we are adding lower-emission vehicles to our own fleet, including electric and natural-gas vehicles.

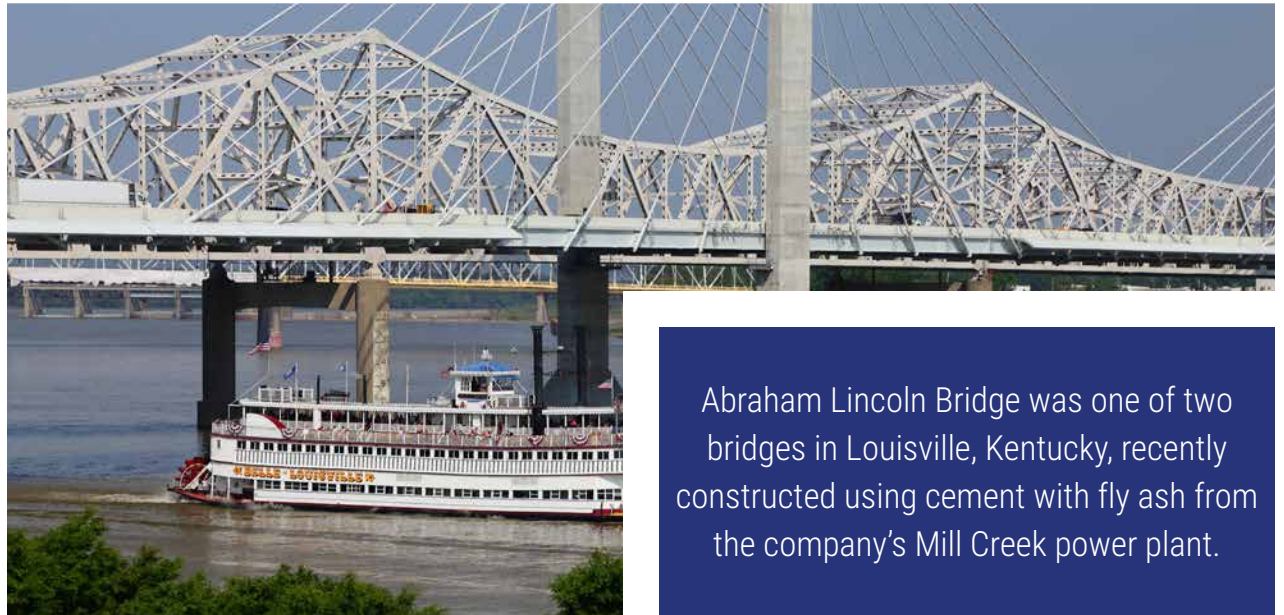
In February 2020, PPL announced a goal to cut the company's carbon emissions 80% from 2010 levels by 2050. This goal covers CO<sub>2</sub> and other greenhouse gases (methane, nitrous oxide and sulfur hexafluoride) from Scope 1 and Scope 2 activities.

In the U.K., WPD has made a commitment to reduce their overall carbon footprint by 5% by 2023. In 2018/2019, WPD achieved a 17% reduction in their business carbon footprint compared with 2012/2013.

LG&E and KU, whose power generation capacity includes a mix of coal, natural gas and renewables, have also completed a multi-year, \$2.8 billion project to add environmental controls to four of the company's coal-fired power plants to further reduce emissions and improve operations. The company is economically retiring existing coal-fired generation and replacing that generation with cleaner resources.

Collectively, PPL's operating companies are working to reduce emissions through a number of initiatives, including:

- Making our fleet vehicles cleaner and more efficient by switching to hybrid vehicles when possible, converting to bucket trucks with electric lifts and using GPS and monitoring software to control idling and optimize routes.
- Reducing Sulfur Hexafluoride (SF<sub>6</sub>) gas emission through predictive analytics. When not managed properly, circuit breakers and other equipment can leak SF<sub>6</sub>, a greenhouse gas. The utilities work to predict failure rates of circuit breakers so they can be proactively replaced or repaired before SF<sub>6</sub> is released.
- Providing solar power solutions for commercial customers in the U.S. through Safari Energy, PPL's renewable energy company. Safari has developed hundreds of solar energy projects, helping customers reduce their own air emissions and save on energy costs.



Abraham Lincoln Bridge was one of two bridges in Louisville, Kentucky, recently constructed using cement with fly ash from the company's Mill Creek power plant.

## WASTE MANAGEMENT

PPL has high standards for managing waste from our operations. In keeping with the company's commitment to advance a cleaner energy future and encourage responsible stewardship, we seek innovative solutions and opportunities to reduce, reuse and recycle waste materials.

PPL Electric and LG&E completed a major effort in the 1980s and 1990s to remove known polychlorinated biphenyls (PCBs) from their networks. All new transformers contain mineral oil and are classified as non-PCB.

Other waste streams include e-waste, cardboard, municipal trash, scrap metals and wooden utility poles.

Since 2003, more than 23 million tons of waste materials generated at LG&E and KU's power plants have been recycled, or beneficially used, to make concrete, cement, agricultural fertilizer, porcelain tile, gypsum wallboard and roofing shingles. Louisville's recent \$2 billion Bridges Project used cement with fly ash from Mill Creek.

Recycling these materials preserves virgin natural resources that would otherwise have been mined for cement and wallboard. It also benefits customers because revenue generated from recycling goes directly back as credit on their bills – more than \$15 million since 2016.

In the U.K., WPD set a goal to reduce the amount of waste sent to landfills by 20% by 2017 from 2015 levels, and 5% annually after that. As of 2019, the percentage of waste being sent to landfills is approximately 14% of waste produced, with the majority of waste being recycled or recovered at waste-to-energy plants. The company is also investing in solutions to identify and remove PCB-contaminated equipment across its network.

WPD is an ISO 14001 certified organization. The company conducts annual environmental awareness training for employees throughout the organization and tracks key performance indicators related to environmental outputs such as waste management, energy use, fleet vehicle fuel use, reportable environmental incidents and SF<sub>6</sub> emissions.



### BIODIVERSITY INITIATIVES

All facets of the daily operations of electric power companies – from water discharges and atmospheric emissions to transmission line rights-of-way – can potentially affect ecosystems. We take a lot of steps to ensure the environment is protected while work is being done on the electrical system, especially in sensitive resource areas.

We routinely relocate structures and access roads to avoid negatively impacting sensitive areas like wetlands, waterways and critical habitat for rare, threatened or endangered flora and fauna.

Across our service territories in Kentucky, Pennsylvania and the U.K., our teams work with various partners to protect biodiversity. Some highlights include:

#### IN KENTUCKY, LG&E AND KU:

- Have partnered with Kentucky Department of Fish and Wildlife Resources for more than 20 years as part of a comprehensive Avian Protection Plan and through efforts to promote native vegetation growth in Kentucky.
- Have been a corporate sponsor of the Ohio River Sweep since 1995. Employee volunteers join thousands of people across a multi-state region each year to remove litter and debris from the banks of the Ohio River.

- Offer one-year grants, ranging from \$500 to \$5,000, for urban, suburban or rural projects in forests and parks and along parkways or roadways that meet program objectives.
- Support research intended to help boost the population of the endangered Indiana bat. The company installed 10 utility poles several years ago that are used as artificial roosting structures at Fort Knox. The project is a coordinated partnership that includes Copperhead Environmental Consulting, the United States Fish and Wildlife Service and Fort Knox.

#### IN PENNSYLVANIA, PPL ELECTRIC:

- Is a member of the Edison Electric Institute Pollinator Working Group, which hopes to play a major role in managing pollinator habitat and protection initiatives. The utility continued its own pollinator research and development project to test native seed blends for possible use in right-of-way restoration and substation development.
- Has adopted a comprehensive Avian Protection Plan to protect birds from contacting electrical equipment and power lines.
- Partners with the Pennsylvania Game Commission on projects to protect birds of prey such as peregrine falcons, osprey and eagles.

- Donated 261 acres of prime bat habitat land to the Pennsylvania Game Commission to protect the habitat for the eastern small-footed bat from future development.
- Provided trees to county and municipal parks, environmentally focused groups and schools through its Community Roots program. In 2019, the program provided nearly 20,000 trees to 100 agencies throughout Pennsylvania.

#### IN THE U.K., WPD:

- Provides support to communities across the network area with the aim of encouraging energy conservation, promoting recycling initiatives and enhancing the landscape for wildlife through its Keen to be Green program.
- Works with Natural Resource Wales and Natural England to develop mutually beneficial worksite development plans that integrate habitat protection for various species such as great crested newts, grass snakes, breeding birds, dormice and bats.
- Maintains an invasive species management plan to ensure appropriate measures are in place to minimize the spread of any invasive species present on work sites to avoid disrupting local biodiversity.
- Works closely with local ecologists to ensure best practices are followed and habitat enhancement is assured.



## HELPING OUR CUSTOMERS GO GREEN

Our companies offer a variety of services to help customers save energy, calculate their indirect greenhouse gas and carbon emissions and adopt renewable energy. Our customer programs use advisory and educational resources from our team members, rebates and incentives, and technology such as meters and online tools.

Examples of program offerings include:

- Online resources to make it easier to connect renewable energy resources
- Smartphone apps that allow customers to trace their carbon footprint
- Conservation/home energy performance monitoring
- Low-income weatherization
- High-efficiency lighting
- HVAC test and tune-up
- New construction advisory services
- Education resources on electric vehicles
- Load management options with financial incentives to reduce demand during peak hours
- Appliance removal with incentives for replacement with EnergySmart appliances
- Smart energy profiles and dashboards for monitoring usage and performance
- Energy efficiency education

For more details on energy efficiency programs and savings, [see page 42](#).



*LG&E and KU's weatherization team teaches customers how to save through energy efficiency.*



## Power plant projects protecting Kentucky's resources

LG&E and KU manage their businesses, not just to meet stricter regulations, but to be mindful of environmental impacts to land, air and water.

As environmental regulations have evolved, LG&E and KU have made significant investments in their generation fleet to meet new requirements. These include over \$1 billion on a program that is well underway to comply with EPA's Coal Combustion Residuals Rule.

"As we evaluated our compliance plans for these federal standards, we considered not only the total costs to comply with impoundment closures and future water treatment needs, but also which options would be least impactful to our community and best for the environment long-term," said Scott Straight, vice president-Project Engineering.

LG&E and KU first embraced dry management for its materials in 2008. Projects were later completed at Ghent (2014), E.W. Brown (2016) and Mill Creek (2018). A new facility was commissioned at Trimble County in late 2019.

The company is also systematically closing remaining ash ponds and wet surface impoundments at its active and retired coal-fired plants. Approximately half of the 19 impoundments across Kentucky are already closed and most of the remaining impoundments are under construction for closure.

Additionally, new process water treatment facilities were constructed at Mill Creek, Trimble County, Ghent and E.W. Brown – projects totaling nearly half a billion dollars. Systems at Mill Creek and Trimble began commercial operation in October 2019. Ghent's system has been commissioned, and performance testing is planned through early 2020. E.W. Brown's system will be commissioned and tested in early 2020.



Materials left after coal is burned to make electricity are recycled, or beneficially used, to make products we see every day.

# Build tomorrow's energy infrastructure



*PPL Electric customer Brandon Smoker is excited to help the company study the impact of solar power on the grid as a participant in the Keystone Solar Future Project. His farm's system produces 70,000 kWh of solar power annually and is able to supply surplus power to the grid.*

## Getting ready for a renewable energy future

As the energy landscape evolves, more and more customers are adopting distributed energy resources like solar power.

PPL Electric is not only making it easier for them to connect to the grid, we are continuously pushing the envelope and bolstering our distribution system for a distributed energy resources-enabled smart grid future.

Over the past five years, PPL Electric has demonstrated its foresight and leadership through the development of its industry-leading smart grid and distribution management system. This system, which comprises centrally managed control and modelling systems, is informed and operated by more than 4,500 distribution automation smart devices across the utility's 10,000-square-mile service territory.

Years of experience with this distribution management system, along with a commitment to reliability and customer satisfaction,

have positioned PPL Electric to create and innovate products that will define the grid of the future, especially those related to automated distributed energy resources and grid interactions.

One of those innovations is the utility's Distributed Energy Resource Management System.

PPL Electric's Distributed Energy Resource Management System is a marriage of cutting-edge technologies: a control system for massive aggregations of distributed energy resources and a fully integrated distribution management system. Its development resulted in PPL Electric being named the Smart Electric Power Alliance's Investor-Owned Utility of the Year in 2019.

PPL Electric's distributed energy resource management system and solar forecasting engine were fully operational in early October 2019.

PPL Electric is implementing technologies to prepare for and enable a flexible grid that can accommodate the maximum amount of energy resources possible while providing customers with highly reliable service.



## Investing today for a smarter, more resilient future grid

The power grid has two main parts – distribution, akin to the roads serving your neighborhood – and transmission, linking regions like highways. The wires and poles of transmission are the backbone of the electric grid, and the future will require the power system's spine to be both strong and nimble.

As more power comes from wind, solar and other renewable resources, the transmission grid will serve an increasingly vital function – balancing the system across distant expanses and a wider variety of electric generating resources.

In 2019, PPL invested \$3 billion in infrastructure improvements and is on track to invest an additional \$14 billion through 2024 in projects that strengthen reliability, make the grid smarter and ensure the flexibility needed for future renewable energy resources.



PPL's utilities are actively monitoring and maintaining their systems, updating aging power lines and substations, building new ones, and incorporating advanced technology to keep power flowing to our 10 million customers.

Advanced technology enables us to monitor and address the constantly changing conditions on the grid. We're installing sensors and relays across the system to send back information in real-time, allowing us to isolate problems and re-route power so the fewest people are affected for the shortest amount of time.

To help reduce maintenance costs, we are harnessing the power of digital science and analytics to tell us when parts need replacement. We can now reliably tell from corrosion rates and other data when a piece of equipment might fail, and replace it preemptively, thus avoiding a power outage.

As technology plays an increasing role in our business, we're especially attentive to cyber threats and other potential dangers to the grid. We plan and operate our system with the latest intelligence around cyber and physical intrusion and regularly evaluate our security by testing our system's defenses. Read an interview with our chief information security officer on page 20.

In addition to upgrades to the electric grid, PPL's utility in Kentucky is also making significant investments to upgrade its natural gas distribution system and waste treatment systems at its power plants.

To enhance the safe and reliable delivery of natural gas service, LG&E has a goal of replacing 45,000 steel customer service lines by 2030. About 5,925 customer services lines have already been replaced since the project was initiated in 2018.

# Ensuring cyber and physical security of the grid

A robust power grid results in a resilient system that limits the adverse impact of natural, physical and cyber events. The investments we are making help secure the flow of power to our customers and defend the bulk electricity system – and our customers’ data and privacy – from attack.

As the threats to our business and energy infrastructure evolve, our strategies and approaches for how we respond to those threats also need to evolve. We have made – and continue to make – significant investments in people, processes and technology to strengthen our security protections and enhance grid reliability and resiliency. We continually assess the risk landscape and improve our understanding of potential threats, motivations and techniques. Using this knowledge, we layer on physical and cyber protections to further reduce risk, increase resiliency and maintain the integrity of our systems.

The ability to share sensitive information with government agencies about power grid facilities and operations, including information about threats and vulnerabilities associated with such infrastructure, is a crucial part of our strategy to protect the grid and make it more resilient. PPL participates in mutual-assistance security measures, including the Electricity Information Sharing and Analysis Center and Cybersecurity Risk Information Sharing Program, two important information-sharing efforts to bolster situational awareness and reduce risk.

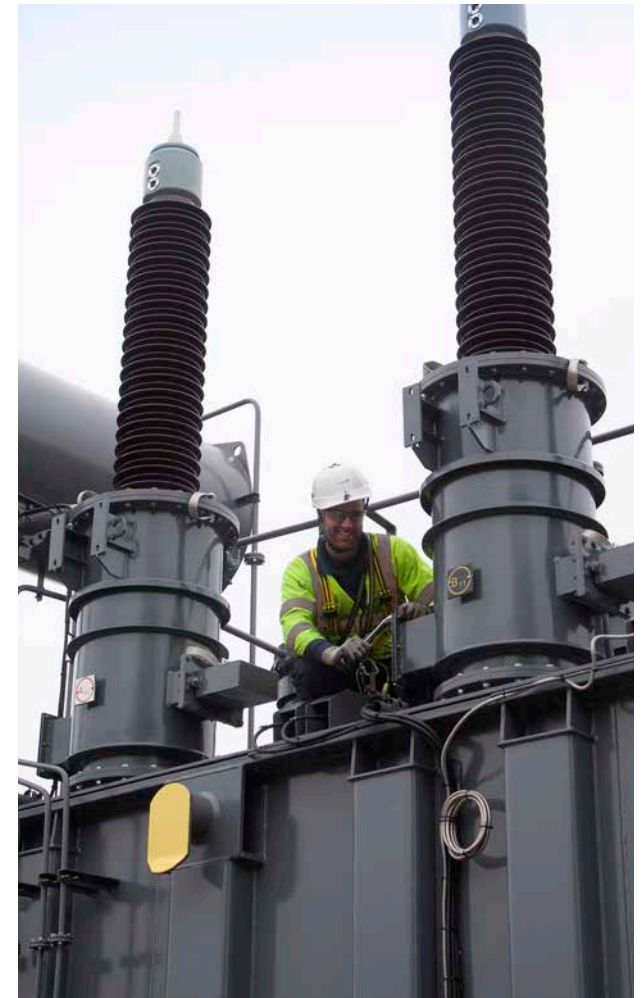
In the U.S., PPL complies with all mandatory cybersecurity standards, developed through the Federal Energy Regulatory Commission and the North American Electric Reliability Corporation, including new security controls for supply chain risk management. PPL also regularly assesses our processes and procedures against voluntary standards and cybersecurity

frameworks such as the National Institute of Standards and Technology’s Cybersecurity Framework. In PPL’s U.K. operations, efforts are aligned to the Network and Information Systems Regulations that provide cybersecurity requirements for operators of essential services, such as distribution network operators. In addition, our U.K. operations align and adhere to all European Union and U.K. data privacy laws and regulations to provide protections for our customers’ personal and commercial data.

Protecting our critical infrastructure isn’t a singular effort – it is a shared responsibility. Our industry is committed to working across the public and private sector to protect the energy grid. PPL takes an active role in collaborative efforts. PPL provides strategic guidance and input to the Electricity Sub-Sector Coordinating Council. The council serves as the principal liaison between the electricity sector and the federal government for coordinating efforts to prepare for and respond to national-level disasters or threats to critical infrastructure. We are also actively engaged in security and resiliency efforts as members of the Edison Electric Institute. One of those efforts involves helping foster and drive a culture of security across the electric industry. That’s something that PPL takes seriously both for the industry and for the company’s operations.

Crisis management plans are also critical to resiliency and timely restoration. Testing those plans is essential. PPL conducts a variety of exercises and drills, spanning both U.S. and U.K. operations, to help test our incident protocols and critical functions and identify areas for improvement.

PPL will continue to make investments in new power lines, substations and smart technologies to help strengthen the power grid and make it more resistant to security threats.





## Preparing for electrification

Greater electrification of the economy to reduce carbon, in particular the widespread adoption of electric vehicles, could present opportunities for increased electricity sales and require additional investments in distribution networks. PPL is working to make system enhancements necessary to meet electricity demand over the long term to support electrification efforts, including the adoption of electricity-fueled transportation.

### ELECTRIC NATION

WPD completed the Electric Nation innovation project in 2019.

Working in collaboration with partners EA Technology, DriveElectric, Lucy Electric GridKey and TRL, WPD recruited 700 electric vehicle owners to test residential smart chargers, learn about the human behavior related to car charging and analyze the effect increased use of electric vehicles could have on the electricity network. [See page 39 for more details on this program.](#)

### BATTERY-POWERED BUCKET TRUCKS

As part of an initiative to reduce fuel emissions, vehicle maintenance and worksite noise, PPL Electric is outfitting its bucket trucks with electric-powered bucket lifts.

The new technology uses battery power to operate the boom, bucket and lifts used by lineworkers, reducing the need for engine idling. This reduces fuel consumption and maintenance costs and minimizes job site noise. Fuel consumption is reduced by as much as a gallon of diesel fuel per hour of eliminated idling.

The company also has 15 plug-in Chevy Volt vehicles in its business fleet and 22 electric vehicle charging stations in its service territory for use by employees.

### Electric vehicle charging

LG&E and KU have installed 20 public electric vehicle charging stations across the state, 10 in LG&E's service territory and 10 in KU's service territory.

Through the utilities' program, commercial customers also can host electric vehicle charging stations at their locations for public or private use.

The utilities have also added hybrid and electric vehicles to their transportation fleet.

## Research and development

Research and development into providing reliable and sustainable electricity is an important part of today's energy landscape.

PPL's operating utilities participate in a variety of research and development activities throughout the year, including company research, industry-wide studies and partnerships with educational institutions and research organizations.

In 2019, activities included:

- PPL Electric partnered with Electric Power Research Institute on research related to energy storage, distribution systems, integration of distributed energy resources and crisis communications.
- PPL Electric continued the Keystone Solar Project in partnership with Drexel University to model the effects of distributed energy on the grid.
- PPL Electric and LG&E and KU participate in industry research projects aimed at advancing understanding, technical research and multi-industry efforts to more effectively consider pollinators in day-to-day business operations.
- LG&E and KU continued its project with Electric Power Research Institute on an energy storage demonstration facility co-located with the E.W. Brown Solar Plant. Research conducted includes studies designed to understand integration benefits and challenges for battery energy storage.
- LG&E and KU have conducted several studies to understand emissions and cost benefits for converting customer end use technologies to electric from other fuel sources (i.e., natural gas, propane, diesel, gasoline).
- LG&E and KU partnered with the University of Kentucky to develop technologies that can capture carbon dioxide from coal generation.
- As part of its Innovation Strategy, WPD conducts research and development activities across five broad areas: network performance and efficiency, low carbon networks, smart grid and meters, the environment and customer service. Progress is tracked and published on an annual basis through WPD's Future Networks Program.

## Enabling the future of electric transportation

WPD is gearing up its network to provide smart charging for a predicted 3 million electric vehicles across its license area by 2030. The move comes ahead of U.K. government plans to ban the sale of new gas and diesel cars by 2040.

In 2019, WPD became the first U.K. electricity network operator to publish its electric vehicle strategy, which sets out how it will meet demands for smart charging. Steps include introducing a range of electric vehicle charging solutions tailored to the individual needs of electric vehicle drivers.

These include connections to rapid chargers that can charge a vehicle in 15 minutes at public charging points and usually require investment in a new transformer. Other solutions feature domestic chargers that take about seven hours to provide the same charge but often require no network upgrades.

The electric vehicle strategy, which was drawn up in partnership with stakeholders, including local and national government representatives, homebuilders and vehicle manufacturers, also outlines considerations such as on-street charging, electric vehicle clustering and emissions.

As part of WPD's vision for electric vehicles, charging hubs will be built in public car parks, supermarkets and taxi ranks. It is



predicted that up to 217,000 chargers will be connected to WPD's network by 2023.

WPD was also a major force behind Electric Nation, the largest electric vehicle trial in the U.K.

Completed in 2019, Electric Nation gathered data from almost 700 electric vehicle owners during an 18-month trial, building on insights from dozens of previous innovation projects.

The data, which came from more than 2 million hours of car charging, will now help network operators prepare for and manage the growth of plug-in electric vehicles.

"The results from Electric Nation have global significance because they take us from assumptions to facts," said Roger Hey, systems and project manager. "These facts will underpin how the networks accommodate home electric vehicle charging now and, in the future, to ensure drivers always have the ability to charge when they need to."

Drivers involved in Electric Nation, a national electric vehicle trial in the U.K., were able to provide first-hand feedback to network operators like WPD on what it was like living with an electric vehicle and what they thought of the smart charging experience.



# Exceed customer expectations

## Helping customers meet their sustainability goals

PPL's companies maintain an award-winning customer experience by anticipating customer needs and providing options customers want.

With both residential and business customers increasingly expressing a desire to participate in renewable energy programs that support renewable generation in their communities and help meet their sustainability goals, LG&E and KU have created and continue to expand their portfolio of renewable energy programs.

In February 2019, LG&E and KU issued a request for proposals for up to 200 megawatts of renewable energy that could potentially grow the utilities' renewable energy portfolio and help attract businesses with sustainability goals.

Separately, the utilities officially cut the ribbon on the first 500-kilowatt section of the new Solar Share facility in Simpsonville, Kentucky, in July 2019. The subscription-based Solar Share Program is a cost-effective option available to residential, business and industrial customers who want to support solar energy. When energy is produced by the facility, customers earn credits on their monthly bills based on their subscription level, enabling them to reap the benefits from solar energy without the up-front cost and long-term maintenance that come when installing a private solar system. The program's first 1,400-panel array reached full subscription thanks to participation from founding partner Ford Motor Company and about 300 other participating business and residential customers.



"This is another example of how utilities, including LG&E and KU, are investing in the future of the commonwealth and growing locally-produced renewable energy," said former Kentucky Energy and Environment Cabinet Secretary Charles Snavelly. "These technologies are making our state a leading contender to retain and attract new business and meet the growing demands for a diverse energy future."

In addition to Solar Share, LG&E and KU's Business Solar offering marked a milestone of its own in 2019, announcing a partnership with Maker's Mark, one of the world's leading bourbon producers, in its commitment to sustainable energy. Through the partnership, KU constructed a new 560-panel solar array that will produce about 268,000 kWh per year at the bourbon distillery's property in Loretto, Kentucky. The energy production will offset the energy required to maintain the distillery's rickhouses where bourbon is stored for aging. This includes energy for security, lighting, barrel elevators and office spaces.

Lisa Keels, manager of Emerging Business Delivery, helps customers learn about the benefits of the subscription-based Solar Share Program, cost-effective option available to the utilities' residential, business and industrial customers who want to support solar energy.



## Our customers

The PPL family of companies provides essential energy services to more than 10 million customers in the U.S. and U.K. Through its regulated utility subsidiaries, PPL delivers electricity to customers in the U.K., Pennsylvania, Kentucky and Virginia; delivers natural gas to customers in Kentucky; and generates electricity from power plants in Kentucky. We strive to provide the highest quality service, safely and reliably, to our customers at a reasonable cost, improving quality of life in the areas we serve.

Below is information about our customers, by operating company:

LG&E and KU are engaged in the regulated generation, transmission, distribution and sale of electricity in Kentucky and, in KU's case, Virginia. LG&E engages in the distribution and sale of natural gas to 329,000 customers in Kentucky. LG&E and KU provide electric service to 1.3 million customers throughout central, southeastern and western Kentucky, as well as parts of southwestern Virginia. Overall, LG&E's and KU's service territories span approximately 9,400 non-contiguous square miles. In Virginia, KU operates under the name Old Dominion Power Company.

PPL Electric delivers electricity to approximately 1.4 million customers in a 10,000-square mile territory in 29 counties of eastern and central Pennsylvania. PPL Electric customers can choose to purchase their electricity from various suppliers, including from PPL Electric as a Provider of Last Resort under the state's Electric Competition Act.

WPD in the U.K. provides regulated electricity distribution services to licensed third-party energy suppliers (its customers) who use WPD's networks to transfer electricity to approximately 7.9 million end-users in a 21,428-square-mile region covering the East Midlands, South West and West Midlands regions of England and South Wales. WPD bills the energy supplier for this service, and the supplier is responsible for billing the end-users.

### CUSTOMER SATISFACTION

PPL's utilities provide an outstanding service experience for customers, consistently ranking among the best for customer satisfaction in the regions we serve.

Customer feedback is important to us as we look to continuously improve. For that reason, PPL relies on independent market research firms to conduct periodic customer satisfaction surveys.

In addition, we subscribe to syndicated studies, such as J.D. Power, as another way to gain insight about our customers from an objective source. Customer feedback is obtained through telephone and online surveys, advisory boards, focus groups, online panels, mail surveys and customer service lines. We use the results of this feedback to evaluate our service, identify customer interests and concerns, determine critical needs and offer our customers an opportunity to communicate their interests and concerns.

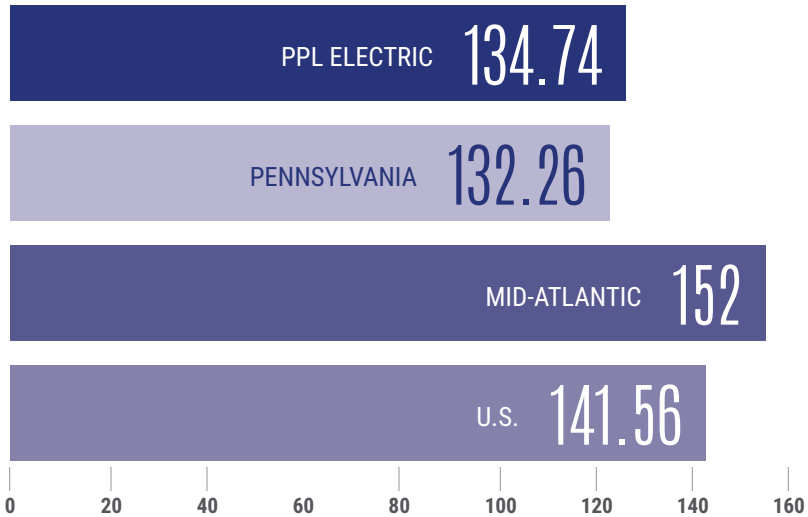
### Customer satisfaction results

- In 2019, KU was named the top ranked midsize electric utility in Midwest residential and business customer satisfaction in the J.D. Power study.
- LG&E ranked first in J.D. Power's 2019 Midwest Gas Utility Business Customer Satisfaction study.
- PPL Electric ranked highest among large electric utilities in the eastern U.S. for residential customer satisfaction for the 8th year in a row, according to J.D. Power.
- WPD was ranked among the best performers in Ofgem's Broad Measure of Customer Satisfaction for the 8<sup>th</sup> year in a row, with average customer satisfaction of 9.1/10.

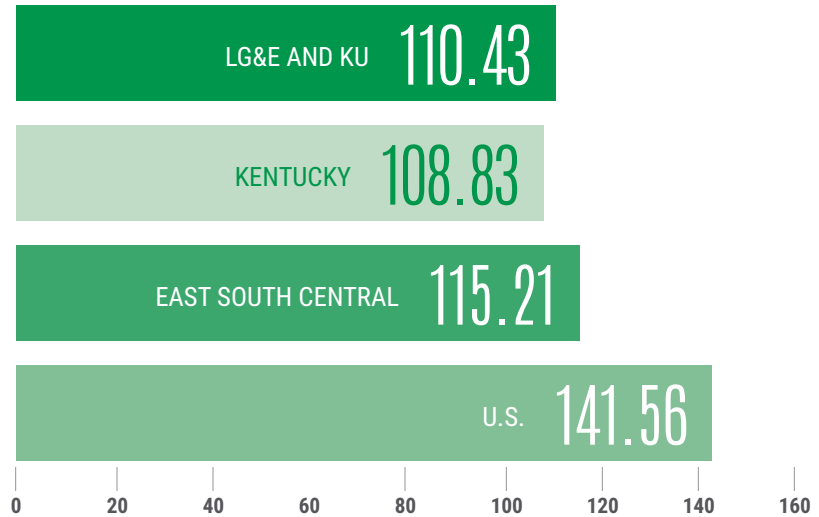
Customers	LG&E and KU Electric	LG&E (Gas)	PPL Electric	WPD	TOTAL
Residential	827,067	302,204	1,266,925		2,396,196
Large Commercial	130,852	25,398	182,266		338,516
Large Industrial	2,377	403	3,426		6,206
Public Authorities	1,818	1,206			3,024
Street Lights	13,956				13,956
Municipals/Wholesale	3				3
Gas Transport		82			82
End users				7,935,613	7,935,613
<b>TOTAL</b>	<b>976,073</b>	<b>329,293</b>	<b>1,452,617</b>	<b>7,935,613</b>	<b>10,693,596</b>



### AVERAGE RESIDENTIAL BILL (BASED ON 1,000 KWH)



### AVERAGE RESIDENTIAL BILL (BASED ON 1,000 KWH)



Source: 2019 Edison Electric Institute Typical Bills and Average Rates Report

### AFFORDABLE ENERGY

PPL's utilities continuously review operations to improve efficiency and control costs. This helps to keep energy rates affordable for customers.

PPL Electric customers' costs are below the average of the mid-Atlantic region (18 companies in New Jersey, New York and Pennsylvania). The company's goal is to continue to reduce operating and maintenance expenses to further benefit customers.

LG&E and KU's average electricity rates rank among the lowest in the U.S., according to the Energy Information Administration.

WPD, PPL's operating company in the U.K., does not directly charge customers. The company's charges for maintaining and operating the distribution network represent 17% of an average electricity bill for a residential customer or on average £8.17 a month (the equivalent of \$10.66).

### EDUCATING CUSTOMERS ABOUT ENERGY EFFICIENCY

PPL's utilities share important energy efficiency information with both commercial and residential customers on a regular basis. This information is distributed through online and television advertising, by mail, through digital means and in person. It includes home-energy analytics, energy-savings tips and information about available energy-efficiency rebates.

Energy efficiency programs across PPL's utilities helped customers save more than 538,000 megawatt-hours of electricity and reduced peak demand by more than 179 megawatts across our business.

Below are examples of tools and programs we offered in 2019 to help customers save:

- LG&E and KU offer demand conservation programs for residential and business customers. The programs allow customers to save energy and earn bill credits for allowing the utility to install a demand conservation device on their

property. These devices allow LG&E and KU to safely cycle connected equipment off and on for brief periods during peak usage summer days.

- PPL Electric offers customers free online energy assessments. Customers provide basic information to get personalized tips on how to save energy. Participants also receive a free energy efficiency kit containing a variety of energy-saving products.
- WPD launched a new energy saving program that will give up to 100 primary schools the chance to earn financial rewards for reducing their energy consumption. WPD also rolled out a demand response program for business customers. The program allows them to curtail usage or shift demand to off-peak hours to help save energy.

# Special services for customers

A number of special services are available to meet the broad range of residential and commercial customer needs. Here are some examples:

## LANGUAGE ASSISTANCE

LG&E and KU provide live call translation that allows customer representatives to conference in a translator for customers who would prefer to conduct business in their native language instead of English. The service offers translation in 140 different languages.

PPL Electric wants to ensure that customers can receive assistance in the language they prefer. The company's call centers use a translation service that allows customers to communicate with associates about their account in over 75 languages. Additionally, the company makes many of its customer brochures and communications available in both English and Spanish.

WPD's website includes the "speak or translate me" functionality, which allows for translation in 102 languages, reads text aloud and uses larger fonts. Letters and publications can be provided in a range of languages, including Braille, on request. Additionally, customers can request an interpreter to join their conversation.

## FINANCIAL ASSISTANCE

PPL's utilities have contributed more than \$2.6 million to various customer assistance programs to help vulnerable customers.

In Kentucky and Virginia, **Winterhelp** (LG&E), **WinterCare** (KU) and **WinterShare** (ODP) are third-party heating assistance programs that provide heating assistance for the utilities' qualifying customers. The assistance offered by the programs is contributed by customers through tax-deductible donations. In addition, the companies make contributions to the programs. Both LG&E and KU have relationships with local charities, community action groups and government assistance offices to help customers. In 2019, the companies contributed more than \$1.6 million in grants to various assistance programs to help customers with higher bills due to colder winter weather.

In Pennsylvania, **Operation HELP** provides financial aid to PPL Electric residential customers to help pay energy bills for low-income families with financial hardships. The program, which is funded jointly through contributions from PPL Electric, employees, retirees and customers, contributed more than \$1 million to vulnerable customers in 2019. More than 104,000 families have been helped since 1983 and 2,175 were helped in 2019. Operation HELP also supports **CARES**, the Customer Assistance and Referral Evaluation Service program. CARES is a special referral service for customers with temporary hardships such as illness, injury, loss of job or high medical bills.

**OnTrack** is a special payment plan for PPL Electric's low-income customers that offers reduced monthly payments, protection from shutoffs, debt forgiveness and referrals to other assistance programs. It is funded through residential customer rates in Pennsylvania. At the end of 2019, nearly 66,000 customers were enrolled in the program.

## ENERGY SAVINGS

**WeCare** (Weatherization, Conservation Advice and Recycling Energy) is designed to create savings through weatherization and energy education to help LG&E and KU income-eligible customers in need.

**WRAP** – PPL Electric's Winter Relief Assistance Program – helps customers with limited incomes reduce their home energy use and lower their electric bills. WRAP provides energy education and energy saving measures for customers, when applicable. All measures and services are free.

**Power Up** and **Affordable Warmth** are WPD's fuel poverty referral programs. The utility works with partner agencies to refer customers in need of support to help pay their energy bills. In 2018/2019, the programs helped over 17,000 customers directly save over \$8.4 million through various actions such as switching customers to different energy tariffs.



85K+  
CUSTOMERS RECEIVED  
ASSISTANCE

\$2.6M+  
FOR CUSTOMER  
FINANCIAL  
ASSISTANCE

## VULNERABLE CUSTOMERS

WPD offers a Priority Services Register for customers who rely on electricity for medical equipment, are elderly, are disabled, have specific communication needs or would be distressed or feel vulnerable in the event of a power outage. The register provides participating customers a direct number to call in the event of a power outage, a password to be used for any needed home visits, special help through the British Red Cross and proactive messages about planned electricity supply interruptions.



WPD worked with local partners on an innovative community project in Cannock, Staffordshire, that helped public housing tenants in the U.K. use solar panels to generate clean, renewable energy and store and sell power back to the grid to help offset their energy costs.

## A collaborative approach to community energy

An innovative community solar program has helped WPD to reduce the bills of public housing tenants who would otherwise be facing fuel poverty.

WPD worked with local stakeholders in Cannock, Staffordshire – an area badly affected by deprivation – to feed surplus energy onto the network, helping residents save 20% on their annual energy bills.

Community energy group Chase Community Solar had already placed solar panels onto houses in the area, in partnership with the local council, but missed the deadline for the distributed energy system subsidy. This meant that residents could only benefit when they used power directly from their own panels. With nearly 60% of solar power not used at the point of generation, the group wanted to develop a more collaborative and innovative model to support residents.

WPD participated in a trial, led by Green Energy Networks, to test new arrangements and to explore the benefits to residents of using the generation or storing it to sell back to the grid.

The project partners installed batteries that can be automatically controlled to discharge at times of peak network demand, helping to manage the demand and generation for local residents without causing them any disruptions.

WPD helped identify the technical requirements to enable residents to share generation across properties. The company also highlighted opportunities for residents to earn additional money by selling flexibility services. The project also enabled surplus energy to be directed to fuel-poor residents in the community.

“This project delivered real benefits directly to customers, in the form of energy bill savings, with no disruption and no need for them to have an in-depth understanding of industry rules and codes,” said Andy Pickering, distribution manager. “We also helped Green Energy Networks to develop a new market model for the social housing sector, which can be rolled out to similar communities. We hope this will become a template for councils, housing associations and community energy groups to work with innovative energy companies to deliver renewable energy to communities, while guaranteeing cost savings to deprived or fuel poor residents.”

# Foster an exceptional workplace



## Keeping families strong

The launch of PPL's expanded family leave program couldn't have come at a better time for the growing Altimare family.

Mike Altimare, senior analyst-financial planning for PPL Services, had just learned he was going to be a first-time dad when PPL announced it was implementing a paid parental leave program for employees.

"PPL's parental leave program was a huge benefit to our family," said Altimare. "We don't have grandparents available to fully devote to watching our son, so daycare was always in our plans. Now we can delay full-time daycare for a bit because I'll be able to stay home to care for my son after my wife returns to work."

Family bonding time is important, and PPL recognizes that by providing mothers and fathers up to six weeks of paid parental leave following the birth or adoption of a child. In 2019, more than 400 PPL, LG&E and KU and WPD employees used parental leave, 80% of whom were fathers.

The expanded family leave benefits also include financial assistance for adoption and more flexibility with sick time, allowing employees to tend to family members or aging parents if the need arises.

For Mike and Lindsay Altimare, the time they are spending with their newborn son is priceless.

"I'm excited for Mike to have this time bonding with the baby because it's often not a privilege many dads have the opportunity to take," said Lindsay Altimare.

As she changes a diaper, she adds that she is also eager for Mike to catch up on diaper duty and learn that staying home caring for an infant is not an easy job.

As for Mike Altimare, he appreciates having the opportunity to bond with his son at this age.

"At this young age, every day you come home and they did something new or look a little bit different, so it's nice to be there and not miss a thing," Mike Altimare said.

He's also inspired by the company's commitment to employees' work-life balance.

"It's really motivating to work for a leading company that also cares about employees and their families," he said.



“It was such a rewarding experience to be with my son every day during this stage in life, and I will always remember this time together. I am grateful to PPL for giving me this opportunity.”

MIKE ALTIMARE, SENIOR ANALYST-FINANCIAL PLANNING FOR PPL SERVICES



## Our corporate culture

PPL recognizes culture begins at the top, and we expect our leaders to serve as positive role models for our employees when it comes to living our corporate values.

We have long emphasized and continually communicate our corporate values – safety and health, customer focus, diversity and employee engagement, integrity and openness, performance excellence and corporate citizenship.

These values are not only important to us, but directly support our focus on sustaining high-performing, customer-focused operations with constructive regulatory relationships.

### HOW WE MEASURE AND MANAGE EMPLOYEE ENGAGEMENT

Issues related to corporate culture are overseen by the company's expanded corporate leadership council, which provides updates to the Board of Directors.

Board and senior management oversight of corporate culture occurs in the following ways:

**Diversity and inclusion** – The expanded corporate leadership council reviews demographic metrics and diversity objectives and their associated programs semi-annually. We review all pay annually to identify and correct any disparities based on gender or race. The director of diversity, inclusion and talent management also reported to the board on the company's diversity strategy in 2019.

**Compliance** – The Corporate Compliance Committee of senior executives meets quarterly to discuss metrics and other matters related to the compliance and ethics culture. Among the items discussed are statistics regarding EthicsHelpline reports and employee concerns. This information is also reviewed with the Audit Committee of the board quarterly.

**Employee engagement** – In 2019, PPL conducted an enterprise-wide employee engagement survey and results were shared with PPL's leadership. Company leaders are developing action plans to enhance PPL culture and employee engagement. PPL's operating companies also conduct additional assessments related to safety and culture. PPL Services conducted multiple leader and employee sessions in an effort to develop the company's Employee Value Proposition. This Employee Value Proposition assesses what both the company and employees expect from each other's relationship and allows the company to address gaps in an effort to attract and retain talent.

**Safety** – The board annually reviews safety programs and results. The board is also immediately engaged in the event of a fatality.

**Access to employees** – Board members are given full access to our employees and operations and have taken advantage of opportunities to interact with employees while learning about different areas of the company first-hand.

12,280

EMPLOYEES

21.9%

FEMALE  
EMPLOYEES

6.6%

MINORITY  
EMPLOYEES



## Our people

PPL is supported by more than 12,000 talented employees, who are focused on providing safe, reliable energy at the lowest reasonable cost to our customers. In turn, PPL is committed to providing employees with a diverse and engaging workplace, rich with opportunities that foster innovation and personal success.

### DIVERSITY AND INCLUSION

PPL's family of companies have a shared commitment to foster a workplace built on mutual respect, understanding and an appreciation for each person's differences.

Multiple perspectives, backgrounds and experiences make an organization stronger. We are proud to provide opportunities for employees with diverse perspectives and experiences to come together to thrive and grow.

We support the principles of non-discrimination and equal opportunity.

PPL Chairman and Chief Executive Officer Bill Spence was among the first business leaders in the U.S. to sign the CEO Action for Diversity & Inclusion Pledge, the largest CEO-driven business commitment to advance diversity and inclusion in the workplace.

PPL joins more than 500 companies in the pledge to cultivate a workplace where diverse perspectives and experiences are welcomed and respected, and where employees feel encouraged to discuss diversity and inclusion.

### Additional highlights in 2019 included:

- PPL's Pennsylvania operations received a score of 100% on the Human Rights Campaign Foundation's 2019 Corporate Equality Index, a national benchmarking survey and report on corporate policies and practices relating to lesbian, gay, bisexual and transgender workplace equality.
- PPL received a score of 100% on the 2019 Disability Equality Index, making it one of the 2019 Best Places to Work for Disability Inclusion.
- PPL's CEO participated in a coalition of community leaders supporting a community-wide initiative to combat racism and strengthen diversity and inclusion. The Color Outside the Lines initiative will seek to create a five-to-seven-year strategic plan for diversity and inclusion in Pennsylvania's Lehigh Valley region.
- LG&E and KU expanded the number of business resource groups (BRGs) available to employees to further support inclusion, professional development and employee engagement.
- WPD signed on as a business partner to support a Welsh government campaign to foster generational diversity. See more details on page 50.

### BUSINESS RESOURCE GROUPS

PPL empowers its employees to form and participate in business resource groups to foster an environment of inclusion and provide an opportunity for employees with common experiences and perspectives to network and engage in professional development opportunities. PPL's companies have a combined 15 business resource groups.

Throughout the year, business resource group members organize employee events to educate fellow employees and build awareness on diversity and inclusion as well as professional development. Members are also actively involved in various cultural and community programs that enable them to extend their reach outside their workplaces. Members have taught leadership skills to Girl Scouts, hosted cultural awareness workshops, handed out first-aid kits to homeless veterans, run tech-focused summer camps for middle school girls and sponsored job-shadowing opportunities for Latino high school students.



**15%**  
UNDER 30

**32%**  
OVER 50

**53%**  
30-50 YEARS OLD

### WORKFORCE PLANNING

Although PPL has a relatively low turnover rate of 7.4%, the company has a strong focus on workforce planning. This enables PPL to:

- Forecast ebbs and flows in workforce requirements
- Determine the size and type of workforce required for future business success
- Identify and address talent gaps and plan for future talent needs
- Develop plans, sourcing strategies and tactics

Workforce planning results are integrated into the business planning process.

PPL is focused on continually developing current employees, while also building a strong pipeline of skilled workers for the future. The company has also continued efforts to build a more inclusive workforce.

### GENERATIONAL DIVERSITY

To attract top talent, PPL supports a strong internship program that engages students in career-specific work experience, informational interviews, fun activities, exposure to PPL executives and community service. On average, about 60% of our interns become regular employees. In 2019, PPL Corporation and PPL Electric hosted 46 interns who represented 22 different universities. The students are studying a variety of fields, including engineering, information technology, supply chain management, paralegal studies and business administration. PPL's intern program also serves as an excellent source of diversity. In 2019, there were 46 interns (36% women, 20% minorities).

LG&E and KU have a robust co-op and internship program for college students pursuing a bachelor's degree. In 2019, there were 177 students in the college relations co-op/intern program (36% women, 14% minority). Additionally, in 2019 there were 24 former co-op/intern students hired into full-time positions (29% women, 17% minority). Students are provided not only real-world work experiences, but also opportunities to learn about different

areas of the business and network with other employees at all levels of the organization.

PPL participates in many outreach activities focusing on underrepresented populations such as women, ethnic and racial minorities, LGBTQ+, veterans and individuals with disabilities. Career fairs, multicultural leadership conferences, university leadership summits, mock interviews, resume reviews, panel discussions, career bootcamps, networking and affinity group sponsorships are part of our ongoing efforts to maintain PPL's position as an employer of choice.

### MILITARY VETERANS

As PPL develops its workforce planning strategy, the company recognizes that military veterans can offer important qualities of leadership, dedication, confidence and discipline.

PPL's U.S. operations have business resource groups for employee veterans. These groups focus on the needs of veterans and their families. Members participate in veteran outreach projects, mentoring of veterans, professional development and recruitment activities.

In addition to allowing time off for active duty and for periodic military training, the company also supports employees who are members of a military reserve organization in the following ways:

- Pays the difference between the regular pay they would have received, if they had worked, and their government pay for a period of six months.
- Provides additional time off to take care of personal affairs, if necessary, before reporting for duty.
- Implements retroactively any step and merit increases that were deferred during the leave of absence.

PPL's operating companies have earned a trusted reputation among the military community as preferred employers. LG&E and KU were recognized for their support of military veterans, receiving a 2019 Pro Patria Award for the third consecutive year. LG&E and KU also received the 2019 Secretary of Defense Employer Support Freedom Award. One of only 15, the Freedom Award honors employers who provide exceptional support to their Guard and Reserve employees.



## COLLECTIVE BARGAINING AND FREEDOM OF ASSOCIATION

PPL supports its employees' right to freedom of association as well as the right to form or join a union, bargain collectively and engage in union activities. Nearly half of PPL's workforce is represented by a labor union, and the company's operating utilities collaborate with union leadership to enhance workplace safety, meet the growing expectations of our customers, and adapt to the challenges of rapidly changing technologies.

Among other things, employees are encouraged to participate in health and safety groups such as the safety advocate program and to join one or more business resource groups, which are employee-driven organizations formed around common experiences and perspectives.

Bargaining unit employees have access to a grievance procedure for internal dispute resolution. The grievance procedure promotes a prompt and responsible conclusion of issues raised by bargaining unit employees.

## HUMAN RIGHTS

We respect the human rights of our employees and expect our suppliers to respect human rights as well, as described in subsidiary company policies required by our Supplier Code of Conduct. We support employees' right to freedom of association as well as the right to form or join a union, bargain collectively, or engage in union activities.

## BENEFITS

In addition to challenging careers and competitive salaries, PPL offers an excellent benefits program that helps to attract and retain talent and supports employees' well-being.

PPL offers competitive vacation time, a comprehensive and voluntary retirement program, and internal and external development opportunities, including tuition reimbursement offerings for undergraduate and certain graduate degrees.

Our partnership with employees has successfully powered PPL for decades and has fostered an environment that encourages

employees to directly contribute to the overall success of PPL. As we look toward the future, PPL is looking for team members who embrace and foster new ideas and perspectives to build upon our strong, value-based culture.

For information on benefits packages at PPL's companies, visit [www.pplweb.com/careers/life-at-ppl](http://www.pplweb.com/careers/life-at-ppl).

## HEALTH AND WELLNESS

PPL values the well-being of employees and offers many programs and activities to support its employees' pursuit of happier, healthier lives, including:

- Comprehensive health-care benefits
- Discounted gym memberships
- Employee assistance programs
- Ergonomics consultations
- Financial wellness programs
- Mental health support services
- Telehealth and online medical services
- Employee health fairs

## TRAINING

PPL's operating companies are committed to creating a workplace atmosphere that rewards performance and encourages professional development. Beyond occupational training, the companies offer:

- Craftworker and lineworker development programs
- Leadership development programs
- Personal skills and management training courses
- Mentoring programs
- Skill development opportunities

## AVERAGE EMPLOYEE TRAINING HOURS

552,458

TOTAL TRAINING HOURS

45

AVERAGE HOURS PER EMPLOYEE



5,958

NUMBER OF TRAINING COURSES OFFERED ANNUALLY TO EMPLOYEES

94%

PERCENTAGE OF EMPLOYEES WHO COMPLETED TRAINING COURSES



## Nurturing talent across generations

From trainees and apprentices to long-serving staff with decades of experience in the industry, WPD prides itself on supporting and rewarding staff at all stages of their careers. It's part of a culture that welcomes and promotes generational diversity.

"We have 16-year-olds working here and, at the other end, we value the huge contributions made by older staff," said Bev Dwyer, employee relations manager. "We invest just as much in mature staff as we do in our youngest recruits."

Every year, WPD marks the outstanding achievements of its apprentices and trainees at a special ceremony, culminating in awards for Apprentice of the Year and Technical Trainee of the Year.

These accolades recognize the hard work and commitment shown by some of the company's newest recruits, as well as their willingness to go above and beyond what is required.

At the other end of the generational spectrum, the company is backing a Welsh government campaign to encourage more businesses to hire older workers.

The campaign called "People Don't Have a Best Before Date" was set up to reflect a changing workforce in which one in three people of working age in Wales will be over 50 by 2022.

Long-serving staff are presented with service awards after 20 years, and at 10-year intervals after that, to mark these important career milestones.

"There are not many jobs for life these days, but we are proud that our industry has a strong track record of holding on to people," Dwyer said.



WPD supports a Welsh government campaign to encourage more businesses to hire older workers. The campaign called "People Don't Have a Best Before Date" was set up to reflect a changing workforce in which one in three people of working age in Wales will be over 50 by 2022.

WPD's support for the campaign was highlighted by 68-year-old Linesman Les Davies, who has worked for the company for 41 years and, like many older workers, brings a wealth of experience to the job.



# Connecting students with future career opportunities

Thousands of elementary, middle and high school students flooding the halls of the Junior Achievement (JA) of Kentuckiana's West Louisville facility experienced a new and improved LG&E storefront in the organization's "BizTown" area beginning in 2019.

The 26,000 square-foot facility opened in 2004 and since then has prepared nearly 188,000 children for success by fostering confidence and providing a sense of purpose to overcome life's challenges.

As part of its overall partnership with the organization, LG&E has been a proud sponsor of JA of Kentuckiana's "BizTown" for the past 15 years. The program gives fifth-grade students an introduction to managing finances, exploring a variety of careers and thinking like an entrepreneur.

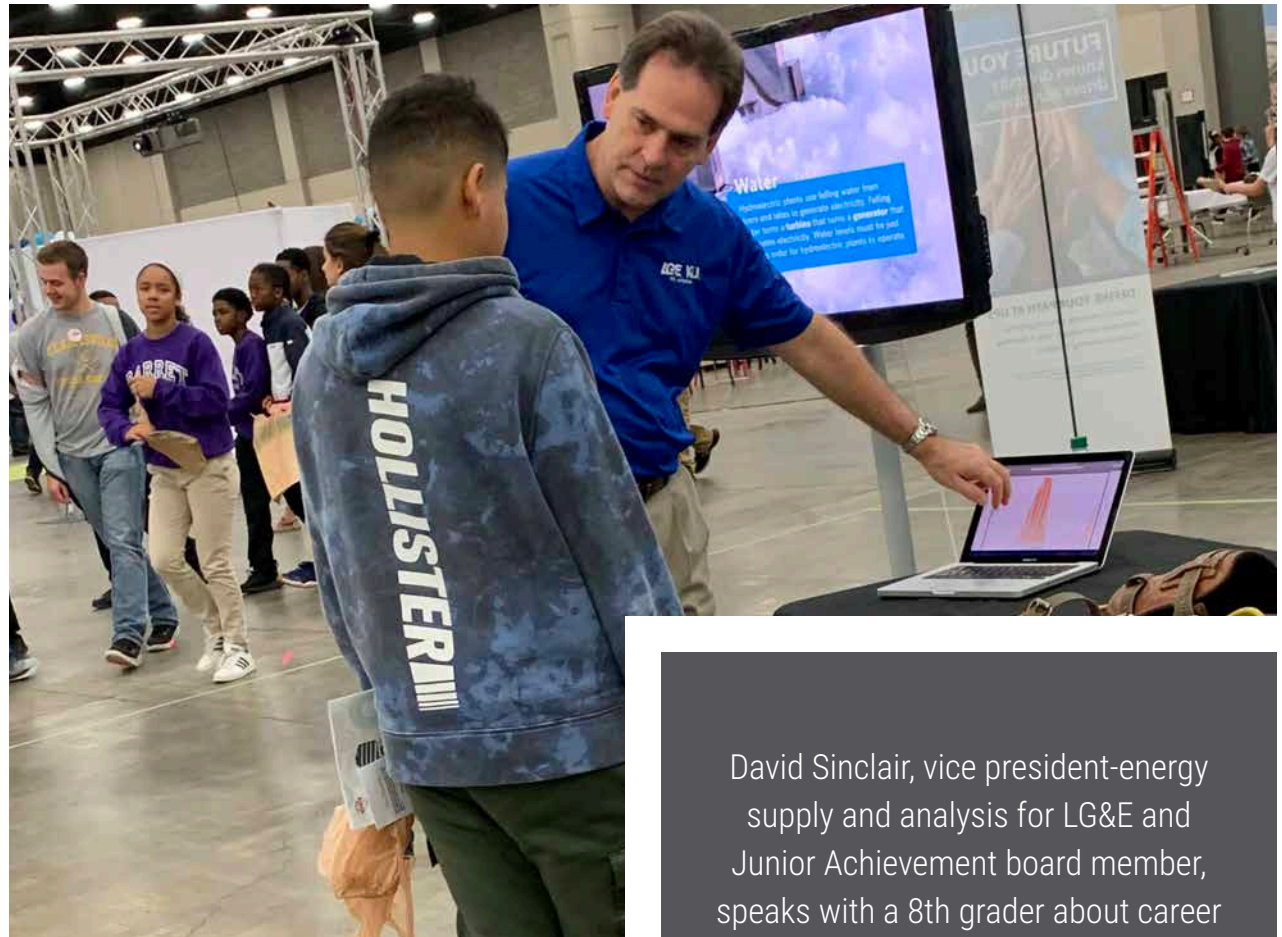
The LG&E storefront serves as BizTown's electric service provider, keeping the lights on for all the businesses in the program's mock community. Students from each BizTown class are designated to work at the LG&E storefront in a variety of roles: chief executive officer, accountant, customer services manager, safety engineer and meter reader.

The revamped LG&E exhibit educates students, parents and volunteers about the energy business, the people and jobs necessary to make it work, and the variety of generation technologies that power our community's changing energy needs. A new energy demand dashboard allows students to see real generation data from the generation fleet and how it matches customer demand throughout the day.

"The new LG&E storefront at BizTown allows students to not only garner workplace readiness and financial literacy skills, but learn about our energy business through an experiential, hands-on curriculum," said David Sinclair, vice president-energy supply and analysis and Junior Achievement board member. "We hope they walk away with a basic understanding of the economics of energy supply and demand for our community, as well as the role that both fossil fuels and renewables play in our generation mix."

In addition to "BizTown," the company also mentors students as it

# Strengthen communities



connects with them during the organization's annual JA Inspire event. The event hosts nearly 13,000 eighth- and ninth-grade students from Kentucky and Indiana at the Kentucky Fair and Exposition Center, providing hands-on, career exploration through 100 interactive career stations. Mentors share career advice and engage students with equipment, technology and the opportunity to step into the shoes of employees from all industries.

The company also sponsors JA of the Bluegrass in Lexington, Kentucky, where it also maintains a Kentucky Utilities "Biztown" storefront.

David Sinclair, vice president-energy supply and analysis for LG&E and Junior Achievement board member, speaks with a 8th grader about career opportunities. As part of its overall partnership with the organization, LG&E has been a proud sponsor of Junior Achievement of Kentuckiana's "BizTown" for the past 15 years.



# Dedicated Community Partners

Delivering power safely, reliably and affordably to our customers is our primary role, but we know there are other ways to empower a community. Supporting innovative educational programs, helping to revitalize neighborhoods and fostering the development of the future workforce strengthens communities.

PPL goes beyond its core business by focusing its energy on being a good neighbor through a long-standing commitment to corporate citizenship. Our commitment to the environment, philanthropic contributions and the dedicated volunteerism of our employees allow us to improve the communities in which we live, work and serve.

## VOLUNTEERING

PPL employees are known for their dedication to the community, serving on the boards of hundreds of organizations throughout our service areas and taking an active role in our communities through volunteerism.

These efforts are recognized by the company through various initiatives. In the U.S., PPL enables employees to earn company contributions for organizations where they volunteer. In the U.K., WPD supports employees' efforts through the Pound for Pound initiative. Collectively, PPL's companies contributed more than \$78,000 to nonprofits in 2019 in recognition of employee volunteer efforts.



## PHILANTHROPY

We partner with nonprofit organizations working to improve the quality of life in the communities we serve with an emphasis on education, community development and environmental stewardship. PPL's contributions to charitable organizations totaled more than \$10.6 million in 2019.

Funded solely by PPL Corporation, the PPL Foundation awards grants to qualified nonprofit organizations working to improve the community through initiatives focused on education and sustainable communities.

In 2019, the PPL Foundation provided grants to more than 100 nonprofit organizations throughout the 29 counties in Pennsylvania served by PPL Electric.

Additionally, PPL's employees make meaningful contributions – both in time and monetary contributions.

We are active supporters of United Way in Pennsylvania and Kentucky. In 2019, giving to United Way in Pennsylvania was more than \$4 million, including a corporate match of employee donations. Coupled with financial support from the LG&E and KU Foundation, the employee giving campaign in Kentucky – Power of One – raised more than \$2 million in contributions.

Collectively, the company's employee-giving campaigns helped support more than 300 nonprofit organizations in the communities we serve in 2019.

## CHARITABLE GIVING



## POWERING LOCAL ECONOMIES

Mapping out long-term energy plans that contribute to economic well-being is part of the way PPL's companies work to provide a bright future for the communities we serve. We understand enhancement and construction of utility infrastructure, at a reasonable cost, is vital to attracting and retaining businesses that create jobs for our communities.

PPL's subsidiaries and their executives are actively involved in business organizations, such as the Chamber of Commerce and economic development organizations.

We provide incentives to support economic development efforts. For example, LG&E and KU's Economic Development Rider – an incentive rate for existing industry expansions, new project locations and redevelopment initiatives within the service area – continues to be recognized as an exemplary business attraction tool.

The company's economic development and major accounts team works with state, county and local officials, regional partners, site consultants, real estate developers and industry associations on potential business relocations and expansions.

In the U.K., WPD supports local energy plans and works collaboratively with local authorities and businesses as part of Energy Capital, a smart energy innovation partnership. Energy Capital facilitates public/private investment projects across the region and works closely with local communities in the West Midlands region.

In Pennsylvania, PPL Electric key account managers work to engage business and industrial customers to help them get the most from their energy dollar through the utility's energy efficiency programs. They also serve as liaisons with operations to assist with the electrical power needs of large customers and proactively address potential reliability issues. In addition, PPL Electric's regional affairs directors are actively involved in various organizations throughout central and eastern Pennsylvania dedicated to helping communities thrive.

## DISASTER READINESS

We work closely with public safety and emergency preparedness organizations to coordinate responses to emergency events.

To help restore electric service to communities after catastrophic emergencies or significant natural events, PPL Electric, LG&E and KU were among the utilities that developed RESTORE, or Regional Equipment Sharing for Transmission Outage Restoration.

The RESTORE program establishes a proactive approach to providing critical equipment for utilities that need additional resources during disaster recovery. Participating utilities identify and share spare transformers and other transmission equipment that may then be purchased by other participants in the event of a major disaster within their service areas.

RESTORE is designed to enhance the resilience and reliability of the power grid and provide additional sources for utilities seeking critical equipment during disaster recovery and does not replace existing programs or agreements already in place.

## EMERGENCY PREPAREDNESS AND MANAGEMENT

PPL's emergency management plan is based on an annual hazard vulnerability and risk analysis. The plan summarizes the prevention, mitigation, preparedness, response, business continuity, and recovery activities that serve as the comprehensive integrated approach to establishing and maintaining an effective response to and recovery from internal or external disasters.

The emergency management plan also provides guidance for the company's role in supporting the National Infrastructure Protection Plan and National Response Framework and outlines PPL's processes for dealing with an all-hazards approach to an actual or perceived disaster.

The all-hazards approach allows PPL to remain compliant with North American Electric Reliability Corporation and the electric sector with regard to natural disasters, terrorism, sabotage, cyber attacks, and other criminal activity posing a risk to the organization.

An Executive Crisis Team is maintained at the corporate level and, when activated, reviews the appropriateness of the response and recovery effort and ensures adherence to the Emergency Management Plan. The Executive Crisis Team also ensures that the appropriate corporate resources are being deployed to a



response and recovery effort, including those necessary to safeguard protection of the public and the environment.

In 2019, the Executive Crisis Team completed multiple exercises. This included testing the company's response to a simulated natural gas emergency and participating in GridEx V, a nationwide grid security exercise that takes place every two years.

With a focus on safety and reliability, PPL's operating companies maintain business continuity plans and policies and procedures for responding to a variety of emergencies as required by regulatory agencies.

Additionally, the companies collaborated and conducted outreach programs with state and local public safety agencies and conducted numerous drill exercises to ensure preparedness for many types of events.

### **Highlights in 2019 include:**

- PPL Electric and LG&E and KU participated in GridEx, which provided an opportunity for utilities to test their response to cyber and physical security attacks. The exercise also included a break-out session with federal, state, and local government representatives to discuss how the scenario would impact the community as a whole and various response and support considerations.

- LG&E and KU aided with the planning and execution of a tabletop exercise for the Louisville Levee Regional Resiliency Assessment Program, collaborating with the U.S. Department of Homeland Security and the Metropolitan Sewer District. This exercise focused on government activities and messaging and the impact to facilities, hospitals and associated critical infrastructure that these facilities depend on, including electricity and natural gas.
- LG&E and KU developed an app – In Case of Crisis – to make it easier for employees to access critical emergency management information on their smartphones.
- WPD participated in Exercise Powerplay, a national exercise to test the utility industry's response and recovery from a cyberattack. The exercise focused on communications across departments, with other utilities and with government emergency response centers.
- WPD also played a key role in Ex Artic, the U.K.'s annual test for the gas industry to better understand the implications and actions required should the U.K. experience a significant shortage of gas. WPD's participation provided insight into the impact a gas shortage would have on electricity generation and distribution.

## GLOBAL REPORTING INITIATIVE INDEX

PPL Corporation is committed to reporting on our sustainability performance annually, using the Global Reporting Initiative Sustainability Reporting Framework with the Electric Utilities Sector Supplement. This index details where specific Global Reporting Initiative indicators appear in this report or in other publicly available filings or posts to PPL's website. All data reflects information as of Dec. 31, 2019.

General Disclosures		2019 Response
<b>ORGANIZATIONAL PROFILE</b>		
102-1	Name of the organization	PPL Corporation
102-2	Primary brands, products, and/or services	Headquartered in Allentown, Pa., PPL Corporation is one of the largest companies in the U.S. utility sector. PPL's high-performing, award-winning utilities -- Western Power Distribution (East Midlands) plc, Western Power Distribution (South Wales) plc, Western Power Distribution (South West) plc and Western Power Distribution (West Midlands) plc (together, WPD), Louisville Gas and Electric Company (LG&E), Kentucky Utilities Company (KU) and PPL Electric Utilities Corporation (PPL Electric) -- provide an outstanding service experience for our 10 million customers, consistently ranking among the best in the United States and United Kingdom.
102-3	Location of organization's headquarters	Allentown, Pa.
102-4	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	PPL operates utilities in the United States and the United Kingdom.
102-5	Nature of ownership and legal form	PPL Corporation is an investor-owned utility holding company.
102-6	Markets served (including geographic breakdown, sectors served and types of customers/beneficiaries)	For information on the markets we serve, see <a href="#">page 6</a> .
102-7	Scale of the reporting organization	See At a Glance on page 6. More detailed information can be found in <a href="#">PPL's 2019 Form 10-K</a> .
102-8	Total workforce by employment type, employment contract and region, broken down by gender	PPL has 12,280 employees. For more details on employees, see <a href="#">page 47</a> .
102-9	Describe the organization's supply chain	See Supply Chain on <a href="#">page 23</a> .
102-10	Significant changes during the reporting period regarding size, structure or ownership	There were no significant changes from the previous reporting period.
102-11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	See Governance on <a href="#">page 16</a> .
102-12	List externally developed economic, environmental and social charters, principles or other initiatives to which the organization subscribes or which it endorses	PPL Corporation is not party to externally developed charters.
102-13	Memberships in associations (such as industry associations) and/or national/international/advocacy organizations	PPL's operating utilities are members of various industry associations including the Electricity Producers Research Institute and the Edison Electric Institute.
<b>STRATEGY AND ANALYSIS</b>		
102-14	Statement from the most senior decision-maker of the organization	For a message from our chairman and CEO, see <a href="#">page 4</a> .
102-15	Description of key impacts, risks and opportunities	For a message from our chairman and CEO, see <a href="#">page 4</a> .

**GRI INDEX**

General Disclosures		2019 Response
<b>ETHICS AND INTEGRITY</b>		
102-16	Describe the organization's values, principles, standards and norms of behavior, such as codes of conduct and codes of ethics	See Compliance and Ethics on <a href="#">page 17</a> .
102-17	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistle-blowing mechanisms or hotlines	See Compliance and Ethics on <a href="#">page 17</a> .
<b>GOVERNANCE</b>		
102-18	Report the governance structure of the organization, including committees of the highest governance body	PPL Corporation's corporate governance structure is posted online on the corporate website at <a href="http://www.pplweb.com/governance">www.pplweb.com/governance</a> . For more information on corporate governance, see <a href="#">page 16</a> of this report, and pages 11-12 of <a href="#">PPL's 2020 Proxy Statement</a> .
102-19	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	The Board has designated its Governance and Nominating Committee (GNC) as the body responsible for overseeing PPL's practices and positions to further its corporate citizenship, including sustainability, environmental and corporate social responsibility initiatives.
102-20	Report whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether post holders report directly to the highest governance body	The Board has designated its GNC as the body responsible for overseeing PPL's practices and positions to further its corporate citizenship, including sustainability, environmental and corporate social responsibility initiatives. PPL's Vice President of Public Affairs and Sustainability is the executive level position responsible for economic, environmental and social topics, reporting to senior leadership and presenting to the GNC and the full board.
102-21	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body	Anyone wishing to make their concerns known to PPL's board or independent directors may contact the PPL lead director, currently John W. Conway, or the board of the independent directors as a group, by writing to such person or persons in care of the Corporate Secretary's Office at: PPL Corporation, 2 N. Ninth St., GENTW4, Allentown, PA 18101. Senior management and certain directors meet regularly with investors to discuss matters of interest with shareowners, such as financial performance, strategic direction, corporate governance, executive compensation, environmental and social topics.
102-22	Composition of highest governing body	Information regarding our Board of Directors is available on pages 5-10 of <a href="#">PPL's 2020 Proxy Statement</a> . We use the U.S. Census definition of minority classifications to determine the composition of our board in this report.
102-23	Is chair of highest body also an executive officer?	Yes. See Board Leadership Structure on pages 11-12 of <a href="#">PPL's 2020 Proxy Statement</a> .
102-24	Report the nomination and selection processes for highest governance body members	See Director Nomination Process and Proxy Access on pages 17-18 of <a href="#">PPL's 2020 Proxy Statement</a> .
102-25	Report processes for the highest governance body to ensure conflicts of interest are avoided	The Board of Directors determines the independence of each director before the director joins the board and on an annual basis thereafter. Disclosure of other board memberships and PPL's policy on related-person transactions, together with any disclosures, are included each year in the annual proxy statement.
102-26	Report the highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies and goals related to economic, environmental and social impacts	The Board has designated its GNC as the body responsible for overseeing PPL's practices and positions to further its corporate citizenship, including sustainability, environmental and corporate social responsibility initiatives.

General Disclosures		2019 Response
<b>GOVERNANCE (continued)</b>		
102-27	Report the measures taken to enhance the board's collective knowledge of economic, environmental and social topics	See Governance on <a href="#">page 16</a> .
102-28	Report the process for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not and its frequency. Report whether such evaluation is a self-assessment. Report actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, including, at a minimum, changes in membership and organizational practices	See Board and Committee Evaluations on page 12 of <a href="#">PPL's 2020 Proxy Statement</a> .
102-29	Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks and opportunities	See Governance on page 16 and The Board's Role in Risk Oversight on page 19 of <a href="#">PPL's 2020 Proxy Statement</a> .
102-30	Report the highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental and social topics	See Governance on page 16 and The Board's Role in Risk Oversight on page 19 of <a href="#">PPL's 2020 Proxy Statement</a> .
102-31	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks and opportunities	See Governance on <a href="#">page 16</a> .
102-32	Report the highest committee of position that formally reviews and approves the organization's sustainability report and ensures that all material aspects are covered	Senior executive leaders review and approve sustainability reports and discuss with GNC.
102-33	Process for communicating critical concerns to the highest governance body	See Compliance and Ethics on <a href="#">page 17</a> .
102-34	Remuneration policies for the highest governance body and senior executives	PPL's approach to compensation of its directors and executives can be found in <a href="#">PPL's 2020 Proxy Statement</a> (pages 21-22 for directors and beginning at page 27 for executive officers).
102-36	Process for determining remuneration including use of consulting	PPL's process for determining compensation of its directors and executives, including the use of consultants, can be found in <a href="#">PPL's 2020 Proxy Statement</a> (pages 16-17).
102-37	Report how stakeholder views are sought for determining remuneration	See pages 13 and 31 of <a href="#">PPL's 2020 Proxy Statement</a> .
<b>STAKEHOLDER ENGAGEMENT</b>		
102-40	List of stakeholder groups engaged by the organization	PPL engages with a variety of stakeholder groups, including customers, community groups, shareholders, potential investors, employees, retirees, labor unions, contractors and others in our supply chain as well as various professionals in academia, industry and government. For more information on stakeholder engagement, see <a href="#">page 13</a> .
102-41	Percentage of employees covered by collective bargaining agreements	As of the end of 2019, 47% of our employees were covered by collective bargaining agreements.
102-42	Basis for identification and selection of stakeholders with whom to engage	For more information on stakeholder engagement, see <a href="#">page 13</a> .
102-43	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	PPL is committed to keeping our stakeholders informed through various formal and informal groups, forums and events. For more information on stakeholder engagement, see <a href="#">page 13</a> .
102-44	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting	For more information on stakeholder engagement, see <a href="#">page 13</a> .



## GRI INDEX

General Disclosures		2019 Response
<b>REPORTING PRACTICE</b>		
102-45	List all entities included in the organization's consolidated financial statements or equivalent documents.	PPL Corporation's utility subsidiary operating companies are WPD, LG&E, KU and PPL Electric. For a listing of significant subsidiaries, see <a href="#">PPL's 2019 Form 10-K</a> .
102-46	Process for defining report content	For details on our process for defining report content, see <a href="#">page 10</a> .
102-47	List all the material aspects identified in the process for defining report content	For details on our process for defining report content, see <a href="#">page 10</a> .
102-48	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	PPL had no significant restatements to report in 2019.
102-49	Report significant changes from previous reporting periods in scope and aspect boundaries	There were no significant changes from the previous reporting period.
102-50	Reporting period (e.g., fiscal/calendar year) for information provided	This report focuses on calendar year 2019.
102-51	Date of most recent previous report (if any)	PPL's last Corporate Sustainability Report was published in 2019. It focused on calendar year 2018.
102-52	Reporting cycle (annual, biennial, etc.)	PPL prepares this report annually.
102-53	Contact point for questions regarding the report or its contents	Questions and comments about this report can be directed to <a href="mailto:community@pplweb.com">community@pplweb.com</a> .
102-54	Claims of reporting in accordance with GRI Standards	This report has been prepared in accordance with the GRI Standards: Comprehensive option.
102-55	Table identifying the location of the standard disclosures in the report	Disclosures are included in the GRI Index of this report, beginning on <a href="#">page 54</a> .
102-56	Policy and current practice with regard to seeking external assurance for this report	External assurances for this report have not been conducted.
<b>MANAGEMENT APPROACH</b>		
103-1	For each material aspect, report the aspect boundary within the organization	For information about how material aspects were determined, see <a href="#">page 10</a> .
103-3	Evaluation of management approach	See Governance on page 16 and Climate Change on <a href="#">page 27</a> .
<b>ECONOMIC</b>		
<b>PERFORMANCE</b>		
201-1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments	For 2019 Financial Highlights, see page 15. Additional financial information can be found in <a href="#">PPL's 2019 Form 10-K</a> .
201-2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Refer to <a href="#">PPL's 2019 Form 10-K</a> .
201-3	Coverage of the organization's defined benefit plan obligations	Refer to <a href="#">PPL's 2019 Form 10-K</a> .
201-4	Significant financial assistance received from government	None.

General Disclosures		2019 Response
<b>MARKET PRESENCE</b>		
202-1	Range of ratios of standard entry-level wage by gender compared to local minimum wage at significant locations of operation	PPL Corporation hires all employees, including interns, at a rate significantly above minimum wage.
202-2	Proportion of senior management hired from the local community at significant locations of operations	Hiring and promotion is based on merit, not whether a candidate is from a particular locality.
<b>INDIRECT ECONOMIC IMPACTS</b>		
203-1	Development and impact of infrastructure investments and services supported	See more about infrastructure investments on <a href="#">page 35</a> .
203-2	Significant indirect economic impacts, including the extent of impacts	See Strengthening Communities on <a href="#">page 51</a> .
204-1	Proportion of spending on local suppliers at significant locations of operations	See Supply Chain on <a href="#">page 23</a> .
<b>ANTI-CORRUPTION</b>		
205-1	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	All business units are subject to corruption risks analysis.
205-2	Communication and training on anti-corruption policies and procedures	All employees receive regular anti-corruption training as well as training on a variety of important policies and procedures. PPL's <i>Standards of Integrity</i> , which highlights certain key policies and procedures, can be accessed online at any time.
205-3	Confirmed incidents of corruption and actions taken	PPL does not publicly disclose this information.
<b>ANTI-COMPETITIVE BEHAVIOR</b>		
206-1	Total number of legal actions for anti-competitive behavior, anti-trust and monopoly practices and their outcomes	PPL does not publicly disclose this information.
<b>ENVIRONMENTAL</b>		
<b>MATERIALS</b>		
301-1	Materials used by weight or volume	For information on material handling, see <a href="#">page 31</a> .
301-2	Report the percentage of recycled input materials used to manufacture the organization's primary products and services	We continue to investigate opportunities to incorporate recycled fuels in our operations.
<b>ENERGY</b>		
302-1	Energy consumption within the organization	For information on energy consumption, see <a href="#">page 66</a> .
302-2	Energy consumption outside the organization	For information on energy consumption, see <a href="#">page 66</a> .
302-3	Energy intensity	For information on energy intensity, see <a href="#">page 67</a> .
302-4	Reduction of energy consumption	For information on PPL's efforts to reduce energy consumption within our operations, see <a href="#">page 29</a> .
302-5	Reductions in energy requirements of products and services	For information on programs that help customers save energy, see <a href="#">page 33</a> & <a href="#">43</a> .

## GRI INDEX

General Disclosures		2019 Response
<b>WATER</b>		
303-1	Total water withdrawal by source	For information on water consumption, see <a href="#">page 68</a> .
303-2	Water sources significantly affected by withdrawal of water	For information on PPL's approach to water management, see <a href="#">page 68</a> .
303-3	Percentage and total volume of water recycled and reused	For information on PPL's approach to water management, see <a href="#">page 68</a> .
<b>BIODIVERSITY</b>		
304-1	Operational sites owned, leased, managed in or adjacent to protected areas and areas of high biodiversity value outside protected areas	For information on PPL's approach to biodiversity, see <a href="#">page 32</a> .
304-2	Description of significant impacts of activities, products and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	For information on PPL's approach to biodiversity, see <a href="#">page 32</a> .
304-3	Habitats protected or restored	For information on PPL's approach to biodiversity, see <a href="#">page 32</a> .
304-4	Total number of IUCN Red List species and national conservation lists species with habitats in areas affected by operations, by level and extinction risk	For information on PPL's approach to biodiversity, see <a href="#">page 32</a> .
<b>EMISSIONS</b>		
305-1	Direct greenhouse gas (GHG) emissions (Scope 1)	For information on PPL's approach to emissions, see <a href="#">page 67</a> .
305-2	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	For information on PPL's approach to emissions, see <a href="#">page 67</a> .
305-3	Indirect greenhouse gas (GHG) emissions (Scope 3)	For information on PPL's approach to emissions, see <a href="#">page 67</a> .
305-4	Greenhouse gas (GHG) emissions intensity	For information on PPL's approach to emissions, see <a href="#">page 67</a> .
305-5	Reduction of greenhouse (GHG) emissions	For information on PPL's approach to emissions, see <a href="#">page 67</a> .
305-6	Emissions of ozone-depleting substances (ODS)	This is not material to PPL.
305-7	NOx, SOx, and other significant air emissions	For information on PPL's approach to emissions, see <a href="#">page 67</a> .
<b>EFFLUENTS AND WASTE</b>		
306-1	Total water discharge by quality and destination	For information on PPL's approach to water management, see <a href="#">page 68</a> .
306-2	Total weight of waste by type and disposal method	For information on PPL's approach to waste management, see <a href="#">page 31</a> .
306-3	Total number and volume of significant spills	PPL had 11 reportable spills with a total volume of 3,532 gallons. All spills were cleaned in full compliance with established spill policies.
306-4	Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII, and percentage of transported waste shipped internationally	This is not material to PPL, as the company's operations do not transport any hazardous waste across international borders.
306-5	Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	Discharges to lakes and rivers are by regulatory permits. With our operating practices, discharges are designed to protect aquatic species and the environment.

General Disclosures		2019 Response
<b>COMPLIANCE</b>		
307-1	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	No significant fines (defined as more than \$100,000).
<b>SUPPLIER ENVIRONMENTAL ASSESSMENT</b>		
308-1	Percentage of new suppliers that were screened using environmental criteria	PPL contractually requires supplier adherence to environmental terms and conditions.
308-2	Significant actual and potential negative environmental impacts in the supply chain and actions taken	PPL contractually requires supplier adherence to environmental terms and conditions.
<b>SOCIAL</b>		
<b>LABOR PRACTICES</b>		
401-1	Total number and rates of new employee hires and employee turnover by age group, gender and region. See G4-10 for data on this indicator	For information on PPL's workforce, see <a href="#">page 47</a> .
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	For information on benefits provided to employees, see <a href="#">page 49</a> .
401-3	Return to work and retention rates after parental leave, by gender	A total of 86 women and 361 men used parental leave. A total of 446 employees returned to work, resulting in a 99.8% retention rate.
<b>LABOR/MANAGEMENT RELATIONS</b>		
402-1	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	Notice periods vary by collective bargaining agreement. We comply with applicable laws, regulations and collective bargaining agreements.
<b>OCCUPATIONAL HEALTH AND SAFETY</b>		
403-1	Percentage of total workforce represented informal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	PPL has voluntary employee safety committees across the company in virtually every business unit that plan and execute safety improvement activities. These committees, with representatives from first line and management, communicate safety messages to employees and hold regular safety meetings.
403-2	Type of injury and rates of injury, occupational diseases, lost days and absenteeism, and total number of work-related fatalities, by region and gender	For information on PPL's safety program, see <a href="#">page 24</a> .
403-3	Workers with high incidence or high risk of diseases related to their occupation	No high risks or incidents identified.
403-4	Health and safety topics covered in formal agreements with trade unions	All collective bargaining agreements contain language that references the need for a strong health and safety program and a joint health and safety advisory committee.
<b>TRAINING AND EDUCATION</b>		
404-1	Average hours of training per year per employee by gender and by employee category	For information on professional development, see <a href="#">page 49</a> .
404-2	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	For information on professional development, see <a href="#">page 49</a> .
404-3	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	PPL's expectations are that all eligible employees receive an evaluation of their skills and performance on an annual basis. The company's business units have formal performance appraisal processes that cover 100% of eligible active, full-time and part-time employees.

GRI INDEX

General Disclosures		2019 Response
<b>DIVERSITY AND EQUAL OPPORTUNITY</b>		
405-1	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership and other indicators of diversity	For information on diversity at PPL, see <a href="#">page 47</a> .
405-2	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operations	PPL complies with all state, national and local laws and regulations prohibiting discrimination.
<b>HUMAN RIGHTS</b>		
414-2	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	PPL's Standards of Conduct and Integrity for Suppliers requires that all suppliers adhere to all applicable labor and human-rights laws.
412-3	Total number and percentage of significant investment agreements and contracts that include human-rights clauses or that underwent human-rights screening	PPL and its subsidiary companies in the U.S. and U.K. operate in compliance with applicable laws and regulations. In the U.K., WPD complies with the Modern Slavery Act 2015 and its commitment to prohibiting any form of forced labor or slavery throughout its business and its supply chain.
412-2	Total hours of employee training on human-rights policies or procedures, concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	All employees are trained on PPL's <i>Standards of Integrity</i> , which includes topics on respect in the workplace, nondiscrimination and compliance with laws.
406-1	Total number of incidents of discrimination and corrective actions taken	This is not publicly disclosed information. Company policies prohibit discrimination and set forth a robust procedure for reporting, investigating and responding to allegations of discrimination.
407-1	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	No risks to, or violations of, the right to freedom of association or the right to form or join a union, bargain collectively, or engage in union activities were identified. Nearly half of PPL's workforce is represented by a labor union and the company's operating utilities collaborate with union leadership to enhance workplace safety, meet the growing expectations of our customers, and adapt to the challenges of rapidly changing technologies.
408-1	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	None. We comply with applicable laws, rules and regulations wherever we operate.
409-1	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contributed to the elimination of all forms of forced or compulsory labor	None. We comply with applicable laws, rules and regulations wherever we operate.
410-1	Percentage of security personnel trained in organization's human-rights policies or procedures that are relevant to operations	All domestic Corporate Security personnel complete corporate <i>Standards of Integrity</i> training on an annual basis. Additionally, all domestic Corporate Security personnel complete a training program on indicators and response to workplace violence events at least bi-annually. All contract security personnel working domestically complete training programs on ethics, conduct and cultural diversity administered by their employer.
414-1	Percentage of new suppliers that were screened using human-rights criteria	PPL's Standards of Conduct and Integrity for Suppliers requires that all suppliers adhere to all applicable labor and human rights laws.
414-2	Significant actual and potential negative human rights impacts in the supply chain and actions taken	PPL's Standards of Conduct and Integrity for Suppliers requires that all suppliers adhere to all applicable labor and human rights laws.
413-1	Percentage of operations with implemented local community engagement, impact assessments and development programs	100% of PPL's operations have programs for local community engagement. For more information on community engagement, see <a href="#">page 51</a> .

General Disclosures		2019 Response
<b>PUBLIC POLICY</b>		
415-1	Total value of political contributions by country and recipient/beneficiary	For information on PPL's public policy approach, see <a href="#">page 18</a> .
<b>CUSTOMER HEALTH AND SAFETY</b>		
416-1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	Electricity and natural gas can be dangerous if handled incorrectly. Safety programs are part of our ongoing operations. We have extensive training and safety education programs for customers, contractors and employees.
416-2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcome	PPL does not publicly disclose this information.
<b>PRODUCT AND SERVICE LABELING</b>		
417-1	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	Electric and natural gas service cannot be labeled. We provide regular and detailed safety information to customers via bill inserts, public service announcements, presentations, social media and the company's websites.
417-3	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship, by type of outcomes	PPL does not publicly disclose this information.
<b>CUSTOMER PRIVACY</b>		
418-1	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	PPL does not publicly disclose this information.
<b>COMPLIANCE</b>		
419-1	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	Refer to the <a href="#">PPL's 2019 Form 10-K</a> .

**GRI INDEX**

Electric Utilities Sector Disclosures		2019 Response
EU1	Installed capacity, broken down by primary energy source and regulatory regime	For details on installed capacity, see <a href="#">page 66</a> .
EU2	Net energy output broken down by primary energy source and regulatory regime	For details on net energy output, see <a href="#">page 66</a> .
EU3	Number of residential, industrial, institutional and commercial accounts	For details on PPL's customers, see <a href="#">page 41</a> .
EU4	Length of above and underground transmission and distribution	See the infrastructure overview on <a href="#">page 35</a> .
EU5	Allocation of CO <sub>2</sub> emissions allowances, or equivalent, broken down by carbon trading framework	None.
G4-DMA Availability & Reliability	Management approach to ensure short- and long-term electricity availability and reliability	PPL addresses availability and reliability in our integrated resource plans that are submitted to regulatory agencies. More information is also available in our <a href="#">PPL's 2019 Form 10-K</a> .
EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	Forecast demand for LG&E and KU is 6,319 MW, and LG&E and KU generation capacity is currently 7,876 MW, providing a 24.6% reserve margin.
G4-DMA Demand Side Management	Demand-side management programs including residential, commercial, institutional and industrial programs	Where applicable, PPL addresses planned capacity and projected demand in integrated resource plans that are submitted to regulatory agencies. For information about demand-side management programs for customers, see <a href="#">page 42</a> .
G4-DMA Research & Development	Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development	Research and development activities addressing short- and long-term electricity availability and reliability include investigations of advanced fossil generation, flexible plant operations, distributed energy resource integration, grid scale energy storage and advanced grid technologies to support the integrated grid. The research spans from paper studies to pilot demonstrations. The information supports the integrated resource-planning and business-planning processes across the organization. For more information on research and development initiatives, see <a href="#">page 38</a> .
EU11	Average generation efficiency of thermal plants by energy source and regulatory regime	In 2019, the average generation efficiency for LG&E and KU was 9.9 (MMBTU/Net MWh).
EU12	Transmission and distribution losses as a percentage of total energy	PPL's operating utilities use standard utility industry practices to review and identify line losses that are outside of industry norms and take necessary steps to mediate those issues as they occur. In 2019, line loss as a percentage of total energy was 4.16% for LG&E (electric), 2.21% for LG&E (gas), 5.84% for KU, 5.81% for PPL Electric and 4.84% for WPD.
EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas	For information on habitat-protection efforts, see <a href="#">page 32</a> .
G4-DMA Skilled Workforce	Programs and processes to ensure the availability of a skilled workforce	For information on how PPL is ensuring the availability of a skilled workforce, see <a href="#">page 48</a> .
EU15	Percentage of employees eligible to retire in next 5 and 10 years, broken down by job category and region	PPL has developed strategic workforce plans to identify key functions and proactively implement plans to assure a ready and qualified workforce. For information on generational diversity and turnover rates, see <a href="#">page 48</a> .
EU17	Days worked by contractor and subcontractor employees involved in construction, operation and maintenance activities	PPL does not publicly disclose this information.

Indicator	Description	Response
EU18	Percentage of contractor and subcontractor employees who have undergone relevant health and safety training	PPL provides required health and safety-related training for 100% of the contractors performing physical work on our electric systems.
G4-DMA Water	At the watershed or hydrological basin level, include collaborative approaches to managing watersheds and reservoirs for multiple uses (e.g., irrigation, drinking water, ecosystem conservation, etc.). Also report long-term planning for securing water resources, for meeting the needs of both the utility and other stakeholders (e.g. local communities). This includes describing the criteria for managing maximum/minimum flow of surface water and volume of ground water and how these are determined and maintained.	For information on PPL's approach to water management, see <a href="#">page 30</a> .
G4-DMA Vegetation Management	Report approaches for pest and vegetation management along transmission and distribution corridors (e.g., use of Integrated Pest Management and Integrated Vegetation Management)	For information on PPL's approach to vegetation management, see <a href="#">page 23</a> .
G4-DMA Local Communities	Stakeholder participation in decision making processes related to energy planning and infrastructure development	For information on stakeholder engagement, see <a href="#">page 13</a> .
EU22	Number of people physically or economically displaced and compensation, broken down by type of product	We avoid displacement of anyone to the extent feasible by careful planning during the siting process of major projects. If displacement is unavoidable, we make fair compensation for any property transactions.
G4-DMA Emergency Planning	Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans	For information on PPL's disaster and emergency management planning, see <a href="#">page 53</a> .
G4-DMA Customer Support Programs	Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services.	For information on customer programs, see <a href="#">page 40</a> .
EU26	Percentage of population unserved in licensed distribution or service areas	PPL's utilities have an obligation to serve all that want electrical service in their service territory.
EU27	Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime	In 2019, PPL's U.S.-based utilities had 188,909 residential disconnections.
EU28	Power outage frequency	For information on reliability, see <a href="#">page 69</a> .
EU29	Average power outage duration	For information on reliability, see <a href="#">page 69</a> .
EU30	Average plant availability factor by energy source and by regulatory regime	LG&E and KU's plant availability factor is 84.87%. The unplanned outage rate for LG&E and KU plants in 2019 was 4.72%.
G4-DMA Customer Access	Practices to address language, cultural, low literacy and disability related to barriers to accessing and safely using electricity and customer support services	For information on customer programs, see <a href="#">page 40</a> .



# PPL's contribution to the U.N. Sustainable Development Goals

As a multinational business, PPL understands we have a role to play in contributing to the United Nations Sustainable Development Goals (UNSDGs). As we developed our own sustainability commitments, we considered how our commitments would support the UNSDGs in their objective to achieve a better world for all. PPL also participated in the United States Council for International Business initiative "Business for 2030," which aims to promote opportunity for the private sector to drive progress toward sustainable development and act as a partner to help provide the financing and technical capabilities needed to achieve the UNSDGs.

## U.N. SUSTAINABLE DEVELOPMENT GOALS



## PPL COMMITMENTS

PPL COMMITMENTS	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	13 CLIMATE ACTION
Create extraordinary shareowner value			✓	✓	✓
Drive best-in-sector operational performance		✓		✓	
Advance a cleaner energy future	✓	✓			✓
Build tomorrow's energy infrastructure				✓	
Exceed customer expectations		✓		✓	
Foster an exceptional workplace			✓		
Strengthen communities		✓	✓	✓	

**Installed Capacity**

Year	Total Net Summer Rating at end of year (MW)	Coal Total Net Summer Rating <sup>1</sup> (MW)	Natural Gas Net Summer Rating (MW)	Hydroelectric Net Summer Rating (MW)	Solar Net Summer Rating (MW)
2019	7,561	4,715	2,742	96	8

<sup>1</sup> Ownership or other interests includes 75% Trimble County Unit 1 & 2 ownership and does not include OVEC.

Note: In addition to installed capacity, in 2019, Safari Energy, LLC acquired solar generation with a nameplate capacity of 17.529 MW (AC), which produced 3,798 MWh.

**Energy Consumption and Output**

YEAR	Owned Gross Generation <sup>1</sup> (MWh)	Owned Net Generation <sup>1</sup> (MWh)	Total BTU Consumed at Plant	Generation Efficiency (BTU/Owned Net Generation)	Percentage Change in Generation Efficiency	Small Plant Stationary (Subpart C) Combustion Sources (liters)	Plant Mobile Fuel Combustion Sources (liters)	Organization Building Electricity Use (kWh)	Organization Building Gas Use (kWh)	Organization Fleet Vehicle Energy Use (liters)
2015	36,937,034	33,880,343	371,360,145	11.0	-3.13%	659,227,583 <sup>A,B</sup>	1,882,854 <sup>A</sup>	113,735,235 <sup>A</sup>	101,156,024 <sup>A</sup>	18,392,459 <sup>A</sup>
2016	36,857,210	33,968,857	360,888,362	10.6	-3.07%	659,227,583 <sup>A,B</sup>	1,882,854 <sup>A</sup>	108,898,199 <sup>A</sup>	101,078,573 <sup>A</sup>	17,816,820 <sup>A</sup>
2017	35,759,848	32,704,879	330,071,507	10.1	-5.00%	659,227,583 <sup>B</sup>	1,882,854	116,693,279	101,227,880	17,919,631
2018	36,682,634	34,546,832	348,595,825	10.1	-0.02%	528,994,712	2,472,059	118,879,329	110,712,724	17,145,414
2019	34,999,039	32,282,872	321,101,952	9.9	-1.43%	2,035,303,593	2,720,202	123,570,138	98,696,944	18,380,956

<sup>1</sup> Owned Gross and Net Generation data excludes Purchase Power. Includes 75% Trimble County Unit 1 & 2 ownership.

<sup>A</sup> Estimated data for Kentucky Operations.

<sup>B</sup> 2017 corrected and prior years' data estimated based on 2017 data.

## Carbon Emissions and Intensity

Year	Scope 1: Gross MWh of Owned Generation Includes CO <sub>2</sub> , N <sub>2</sub> O and CH <sub>4</sub> (metric tonnes of CO <sub>2</sub> e)	Scope 1: Fleet Vehicles (metric tonnes of CO <sub>2</sub> e)	Scope 1: Small Plant Stationary Fuel Combustion Sources not included in Stack Emissions (metric tonnes of CO <sub>2</sub> e)	Scope 1: Plant Mobile Equipment (metric tonnes of CO <sub>2</sub> e)	Scope 1: Gas Operations (metric tonnes of CO <sub>2</sub> e)	Scope 1: Electric Substation and Distribution SF <sub>6</sub> (metric tonnes of CO <sub>2</sub> e)	Scope 2: Purchased Power Net of Wholesale (MWh)	Scope 2: Purchased Power Net of Wholesale (metric tonnes of CO <sub>2</sub> e)	Scope 2: Electricity Use in Buildings (metric tonnes of CO <sub>2</sub> e)	Scope 2: Gas Use in Buildings <sup>2</sup> (metric tonnes of CO <sub>2</sub> e)	Scope 3: Electricity Purchased for End Use Customers (MWh)	Scope 3: Electricity Purchased for End Use Customers (metric tonnes of CO <sub>2</sub> e)	Scope 3: Gas Purchased for End Use Customers (MMCUFT)	Scope 3: Gas Purchased for End Use Customers (metric tonnes of CO <sub>2</sub> e)	Total Goal Related Emissions (metric tonnes of CO <sub>2</sub> e)	USD Million Sales (in millions)	Revenue Carbon Intensity <sup>3</sup> (CO <sub>2</sub> e/revenue)	Owned Net Generation <sup>4</sup> (MWh)	Gross Generation Carbon Intensity <sup>5</sup> (CO <sub>2</sub> e/net MWh)
Goal <sup>1</sup>	✓	✓	✓	✓		✓		✓	✓	✓									
2010	60,736,086 <sup>A</sup>	48,343 <sup>B,C</sup>	2,515	4,893 <sup>B</sup>		114,727 <sup>C</sup>	1,906,442	1,597,157	89,732 <sup>B</sup>	18,250 <sup>B</sup>	12,980,340	7,263,132	44,546	2,389,400	62,577,296				
2015	30,199,495	49,727 <sup>B</sup>	5,610	4,893 <sup>B</sup>	35,622	86,940	482,359	395,828	70,472 <sup>B</sup>	18,326 <sup>B</sup>	9,082,309	4,177,384	44,835	2,304,800	30,796,883	\$7,669	0.00402	33,880,343	0.89
2016	28,737,028	46,633 <sup>B</sup>	32,645	4,893 <sup>B</sup>	35,376	85,195	619,191	558,092	67,022 <sup>B</sup>	18,311 <sup>B</sup>	9,272,725	4,172,432	43,287	2,225,952	29,515,412	\$7,517	0.00393	33,968,857	0.85
2017	28,407,677	47,630	8,984	4,893	28,132	90,107	530,829	470,110	69,781	18,311	9,134,536	4,110,251	40,656	2,034,406	29,083,085	\$7,447	0.00391	32,704,089	0.87
2018	29,480,129	43,256	1,097	6,459	29,040	49,513 <sup>E</sup>	273,821	241,199	67,316	20,058	10,263,461	4,415,253	46,474	2,267,656	29,873,408	\$7,785	0.00384	34,546,832	0.85
2019	26,740,576	46,646 <sup>D</sup>	4,056	5,898	27,909	26,556	594,506	532,952	30,646 <sup>F</sup>	17,914	10,884,062	4,383,993	45,182	2,230,727	27,405,245	\$7,769	0.00353	32,282,872	0.83

<sup>1</sup> Our CO<sub>2</sub>e Goal includes columns identified with a checkmark.

<sup>2</sup> Note: There is not a material difference in the conversion formulas utilized in our U.K. Operations (DECC Conversion Factor) vs. our Kentucky Operations (EIA's Conversion Factor).

<sup>3</sup> Total CO<sub>2</sub>e goal-related emissions.

<sup>4</sup> Net Generation data excludes purchased power. Includes 75% Trimble County Unit 1 & 2 ownership.

<sup>5</sup> Total CO<sub>2</sub>e associated with gross owned generation divided by net generation.

<sup>A</sup> 2010 Scope 1 Plant Emissions is the only data point that includes PPL Energy Supply, LLC.

<sup>B</sup> Estimated data for Kentucky Operations.

<sup>C</sup> Estimated data for Pennsylvania Operations.

<sup>D</sup> 2019 utilizes enhanced data collection as compared to previous years.

<sup>E</sup> 2018 data updated to reflect the WPD Environment & Innovation Report.

<sup>F</sup> LG&E-KU's emissions captured in Scope 1 Gross MWh.

## Other Air Emissions

Year	Owned Net Generation <sup>1</sup> (MWh)	Total NOx Emissions (metric tonnes)	Total NOx Emissions Intensity (metric tonnes/owned net MWh)	Total SO <sub>2</sub> Emissions (metric tonnes)	Total SO <sub>2</sub> Emissions Intensity (metric tonnes/owned net MWh)	Total HG Emissions (kg)	Total HG Emissions Intensity (kg/owned net MWh)	Particulate Matter (metric tonnes)
2015	33,880,343	22,365	0.00066	40,075	0.00118	230	6.79E-06	4,168
2016	33,968,857	18,380	0.00054	16,398	0.00048	70	2.06E-06	2,634
2017	32,704,879	15,710	0.00048	13,499	0.00041	77	2.35E-06	1,900
2018	34,546,832	17,329	0.00050	16,698	0.00048	71	2.06E-06	2,241
2019	32,282,872	14,633	0.00045	13,487	0.00042	55	1.70E-06	1,653

<sup>1</sup> Net Generation data excludes Purchased Power. Includes 75% Trimble County Unit 1 & 2 ownership.

## 2019 Total Water Withdrawal by Source

Plant	2019 Withdrawal (megaliters/year)	% Impact (water withdrawn compared to waterbody size)	2019 Discharge <sup>1</sup> (megaliters/year)	Water body	Waterbody Size (lake-megaliters or river-megaliters/day)	Consumption (megaliters/year) (withdrawal-discharge)	Total Volume of Water Recycled and Reused as a Percentage of Total Water Withdrawal
KU-Brown	17,000	0.014%	12,000	Herrington Lake (created by Dix River Dam)	324,405 <sup>A</sup>	5,000	70.59%
KU-Ghent	107,000	0.265%	113,000	Ohio River	110,829 <sup>B</sup>	-6,000 <sup>C</sup>	105.61%
LG&E-Cane Run	5,000	0.011%	2,000	Ohio River	119,882 <sup>B</sup>	3,000	40.00%
LG&E-Mill Creek	329,000	0.752%	298,000	Ohio River	119,882 <sup>B</sup>	31,000	90.58%
LG&E-Trimble County	36,000	0.089%	16,000	Ohio River	110,829 <sup>B</sup>	20,000	44.44%
<b>TOTALS</b>	494,000		441,000			53,000	89.27%

<sup>1</sup> These numbers were calculated from annual averages of the NPDES-KPDES reported values for the (DMR) Discharge Monthly Reports or using process-specific flow information. Flows include discharges from ashponds, cooling tower blowdown streams, once-thru cooling flows and accumulated stormwaters within impoundments or collected/drainage process areas. These flows were returned to the same water bodies from which they were withdrawn; there are a number of other users located downstream and upstream of plant locations.

<sup>A</sup> Volume of lake during 10Q7 low flow conditions.

<sup>B</sup> Flow at relevant locations during 10Q7 low flow conditions.

<sup>C</sup> Discharge exceeds withdrawal due to rainfall.

## Ash Use Trends

Year	Ash-Use Trends Production <sup>1</sup> (million metric tonnes)	Ash-Use Trends Reuse <sup>1</sup>	Owned Net Generation <sup>2</sup> (MWh)	Ash-Use Trends (million metric tonnes/owned net MWh)
2015	1.184	25.7%	33,880,343	0.035
2016	1.134	34.2%	33,968,857	0.033
2017	1.113	34.1%	32,704,879	0.034
2018	1.059	33.5%	34,546,832	0.031
2019	0.981	39.8%	32,282,872	0.030

<sup>1</sup> Includes Kentucky operations only.

<sup>2</sup> Net Generation data excludes purchased power. Reflects 75% Trimble County Unit 1 & 2 ownership.

## Waste

Year	Hazardous Waste <sup>1,2</sup> (total tonnes)	Non-Hazardous Waste <sup>3</sup> (total tonnes)
2015	460.20	16,099.39
2016	743.97	136,124.63
2017	829.03	45,347.15
2018	790.67	25,684.24
2019	473.37	6,846.90

<sup>1</sup> All Operations.

<sup>2</sup> Poles are designated as hazardous waste in the U.K.

<sup>3</sup> Includes Pennsylvania and U.K. operations only. Note: Kentucky does not track Non-Hazardous Waste other than ash.

**2019 Safety**

	2016	2017	2018	2019
Total Hours Worked	24,700,051	24,157,564	23,602,105	23,359,302
Number of lost day cases	24	18	15	24
Lost Time Incident Rate	0.19	0.15	0.13	0.21
Recordable Incident Rate	1.297	1.08	1.18	1.02
Work related fatalities	0	1	0	1

**2019 Reliability***SAIFI - System Average Interruption Frequency Index*

	2016	2017	2018	2019
LG&E and KU	1.04	0.84	0.92	1.06
PPL Electric	0.70	0.60	0.73	0.66
WPD	0.52	0.50	0.53	0.50

\*SAIFI is the average number of interruptions per customer, excluding major events, per IEEE definition 1366.

*SAIDI - System Average Interruption Duration Index*

	2016	2017	2018	2019
LG&E and KU	100.47	75.41	95.24	93.59
PPL Electric	71.23	69.68	80.60	74.30
WPD	28.28	29.29	30.71	34.31

\*SAIDI is the average outage duration (in minutes), excluding major events, per IEEE definition 1366.

*CAIDI - Customer Average Interruption Duration Index*

	2016	2017	2018	2019
LG&E and KU	96.53	89.92	103.17	88.60
PPL Electric	101.98	115.61	110.29	112.20
WPD	55.50	58.09	57.99	68.66

\*CAIDI represents the average time (in minutes) required to restore service after a sustained interruption occurs, per IEEE definition 1366.



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