

Together, Building a Better California

Corporate Responsibility and Sustainability Report

2017



Explore the report at: www.pgecorp.com/sustainability



Sustainability

PG&E's commitment to sustainability begins with our customers. They have told us—and we agree—that our responsibilities as an energy provider go beyond delivering energy that is safe, reliable, affordable and clean. They also look to us to be a force for innovation and progress, economic development and growth, community investment and vitality, and environmental leadership.

PG&E's role in the energy economy, and the scale at which we work, means that we have a unique ability to achieve these goals. With an unwavering focus on safety, excellence in our operations and combating the long-term challenge of climate change, we are working every day to serve our customers in a way that builds a better, more sustainable California.



PG&E's future vision

Geisha Williams, CEO and President of PG&E Corporation, shares PG&E's future vision—highlighting the nexus between sustainability and PG&E's path ahead. She shares how building a sustainable energy future is fundamental to our long-term success and reinforces PG&E's ongoing commitment to delivering energy that is safe, reliable, affordable and clean.

Learn more about how PG&E is delivering clean energy, modernizing our energy system, integrating emerging technologies and serving the diverse needs of our customers.



Our Approach

As an energy provider for 16 million Californians, we face choices every day with environmental, social and economic dimensions—and the decisions we make can have a profound impact. For PG&E, sustainability means striking the right balance in those decisions so that we achieve our goals of providing safe, reliable, affordable and clean energy—today and into the future.

To guide these decisions, we have adopted a revitalized Mission, Vision and Culture framework, developed through extensive outreach and interactions with our employees, customers and other stakeholders. Importantly, it places a sustainable energy future at the center as our North Star.

Our Mission

To safely and reliably deliver affordable and clean energy to our customers and communities every single day, while building the energy network of tomorrow.

Our Vision

With a sustainable energy future as our North Star, we will meet the challenge of climate change while providing affordable energy for all customers.

Our Culture

We put safety first.

We are accountable. We act with integrity, transparency and humility.

We are here to serve our customers.

We embrace change, innovation and continuous improvement.

We value diversity and inclusion. We speak up, listen up and follow up.

We succeed through collaboration and partnership. We are one team.



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Governance

At PG&E, sustainability is managed on three levels:

Boards of Directors

The Compliance and Public Policy Committee of PG&E Corporation's Board of Directors has primary oversight of corporate sustainability issues, such as environmental compliance and leadership, climate change, community investments and workforce development. This includes an annual review of PG&E's sustainability practices and performance. Other committees of the PG&E Corporation Board and the full PG&E Corporation and Pacific Gas and Electric Company Boards address other components of PG&E's sustainability commitment, including public and employee safety, operational excellence and investments to increase our delivery of clean energy and to enable a low-carbon future.

Business-Wide

PG&E's Chief Sustainability Officer is responsible for leading PG&E's corporate sustainability initiatives, reporting and engagement. To further embed sustainability into our operations, PG&E established a Sustainability Leadership Council, co-chaired by our Chief Sustainability Officer and Chief Customer Officer. The Council brings together leaders from functions such as supply chain management, corporate real estate, transportation services, environmental compliance and customer energy solutions to define holistic, long-term targets and strategies to reduce the environmental impact of our operations.

Grassroots Involvement

Employee-led initiatives throughout the business help integrate corporate sustainability priorities into our work. For example, our volunteer Grassroots Green Network actively engages employees to reduce facility energy use, water use and waste, while our Employee Resource Groups (ERGs) provide an important link to diverse communities through volunteer service, mentoring and scholarship awards.

Strategy and Integration

PG&E's sustainability commitment is well-aligned with—and mutually supported by—California's regulatory and public policy priorities. For example, the California Legislature passed SB 32, which requires the state to reduce greenhouse gas emissions 40 percent by 2030 compared to 1990 levels. PG&E supports the decarbonization of California's economy and remains committed to broad-based climate actions—from deploying clean energy technologies to continuing to lead and innovate on energy efficiency.

With building a sustainable energy future as our guidepost, we continue to integrate sustainability into our multiyear strategic planning process. We use a rigorous integrated planning process designed to identify compliance obligations and key risks; formulate clear multiyear goals and strategies; align resources; and ensure integration, consistency and continuity in our plans. The process focuses first on our risks, which leads to a long-term strategy to mitigate these risks and identify our critical objectives, and then matches our strategies with resource planning.

Collaborating with—and listening to—external stakeholders is crucial to this process. That is why PG&E established an external Sustainability Advisory Council to help guide our sustainability strategy and offer input and recommendations to PG&E as we seek to combat climate change and advance our clean energy, environmental stewardship, economic development and community vitality initiatives.

Our materiality assessment, published in 2014, also continues to guide our sustainability strategy and broader enterprise-wide strategic planning process. PG&E plans to refresh this assessment by 2018.

Creating Incentives

PG&E's Short-Term Incentive Plan (STIP) reinforces PG&E's sustainability commitment by rewarding eligible employees for achieving specific goals crucial to our success. In 2016, we continued to tie compensation closely to safety, with public and workforce safety measures determining 50 percent of management's annual at-risk performance-based cash compensation. Financial performance and customer service each represented an additional 25 percent.

For more details on the specific measures and targets for our 2016 and 2017 STIP, as well as our 2016 results, please see page 48 of the 2017 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement.

Measuring and Communicating Our Progress

Holding ourselves accountable and reporting on our performance with transparency has been an essential hallmark of our approach since we began producing a formal corporate environmental report in the 1990s.

In this report, we share our progress on the Key Sustainability Indicators for which we set annual targets. We also share data on our performance across a wide range of environmental, social and economic measures. By reporting on a broad set of metrics and issues, the report shows where we are doing well, as well as where we have opportunities to strengthen our performance.

SHORT-TERM INCENTIVE PLAN – PERFORMANCE MEASURES

Measure	2016 Weight
Safety ¹	50%
Customer ²	25%
Financial ³	25%

1. Based on four subcomponents: nuclear operations safety, electric operations safety, gas operations safety and employee safety.

2. Based on two subcomponents: customer satisfaction and average duration of electricity outages.

3. Based on PG&E Corporation's earnings from operations.



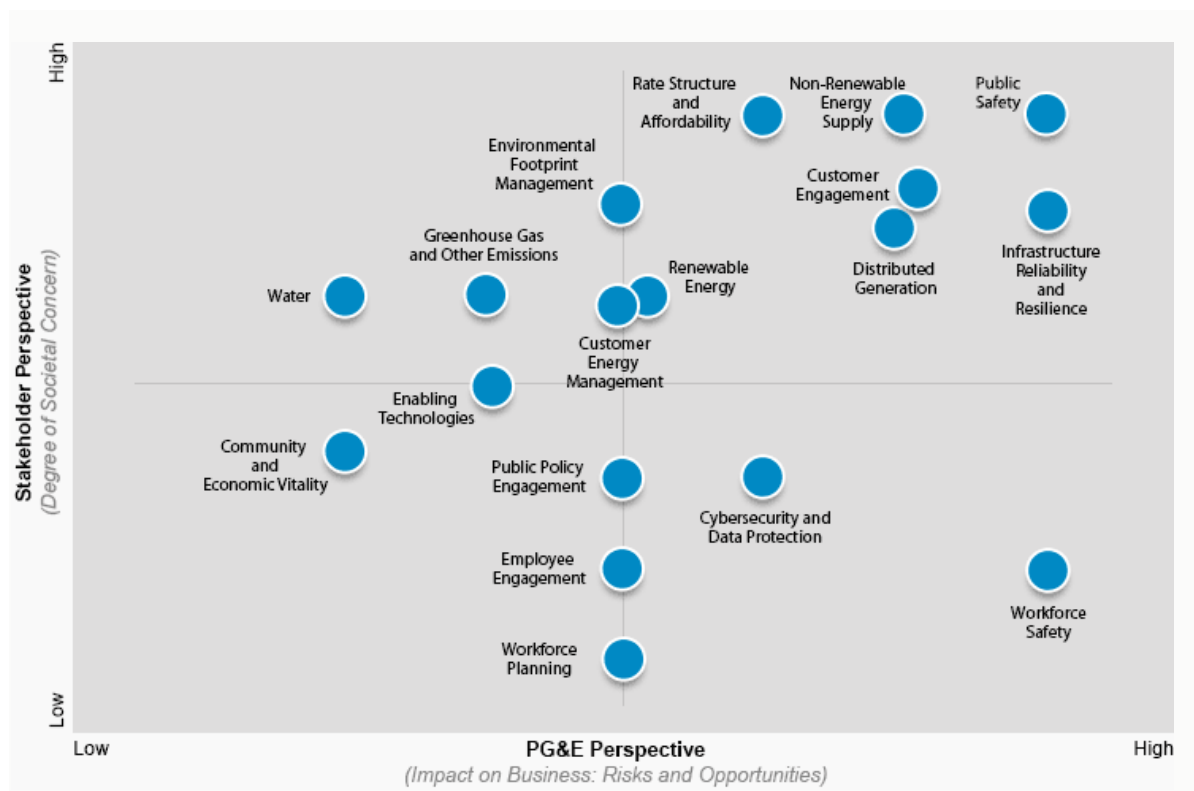
Materiality

PG&E completed its first materiality assessment on corporate sustainability in 2014—a strategic project to help us identify topics that are material to the long-term sustainability of our business. Conducted in coordination with PG&E's strategic planning process, the materiality assessment integrated input from our stakeholders, identified opportunities and risks, and sharpened our corporate sustainability strategy and reporting.

While we continue to engage our stakeholders on these issues, we recognize that PG&E's materiality matrix captured a snapshot in time. Because our operating climate continues to evolve, we plan to refresh the assessment by 2018.

PG&E's Materiality Matrix

PG&E's materiality assessment identified 18 issues. Every issue is material to PG&E's long-term sustainability, regardless of its placement on the matrix.



Defining a “Material” Issue

A material corporate sustainability issue is one that has the potential to impact PG&E's long-term sustainability, based on the perspectives of internal and external stakeholders. This is different from, but related to, financial materiality, which is a threshold for influencing the economic decisions of investors. Material corporate sustainability issues are not limited to issues that could have a significant financial impact on the organization.

What We Learned

Our materiality assessment provided important, actionable insights into our stakeholders' priorities and our own business risks and opportunities. We continue to integrate these insights into our work. For example, we structured this report to highlight our strategy and performance on the issues deemed most material in the assessment.

Key insights of the materiality assessment included:

- **Reinforced our focus on the basics of our business.** The assessment showed that safety, reliability, affordability and customer engagement are top priorities both for PG&E and our external stakeholders—and continue to be foundational issues.
- **Showed interconnections among issues.** For example, the assessment illustrated that enabling technologies—such as those related to the smart grid, energy storage, electric vehicles and customer energy usage data—present many opportunities for PG&E and are connected to issues ranging from customer engagement to renewable energy. Water was also notable in its interconnections to other issues, such as the reliability of our energy supply, including our extensive hydroelectric system. This interconnectivity continues to provide insight into how we might approach issues in a more integrated way.
- **Highlighted the importance of emerging issues.** The assessment identified a number of emerging issues, including adapting to the effects of climate change. PG&E continues to make progress in understanding and addressing this challenge in collaboration with our stakeholders, including publishing a Climate Change Vulnerability Assessment and Resilient Strategies report and launching the Better Together Resilient Communities grant program.



Engaging Stakeholders

To meet PG&E's core mission of delivering safe, reliable, affordable and clean energy, we actively seek the expertise and insights of a wide range of stakeholders. By collaborating with customers, communities, suppliers, investors, employees and outside experts, we are better able to understand their needs and expectations, keep them informed about our work and arrive at mutually beneficial solutions.

Our Approach

PG&E's Sustainability Advisory Council exemplifies our commitment to seek ongoing feedback and guidance on issues that span our business, including climate change, clean energy, economic development and community vitality.

The Council was first convened in January 2016 by PG&E's Chief Sustainability Officer. The group, made up of community and environmental leaders, policy experts and business entrepreneurs, meets regularly with PG&E leaders to share feedback, identify new areas of opportunity and inspire collaboration with new partners.

As we engage with a great diversity of stakeholders, we recognize that we are fundamentally a local energy provider, connected to homes and businesses across Northern and Central California. We are empowering our teams to work together more effectively at the local level and to better incorporate local needs and concerns into our operating decisions.



PG&E convenes national panel of advisers to guide focus on sustainability

PG&E's Sustainability Advisory Council has highlighted opportunities for PG&E to accelerate its sustainability efforts. The Council provides PG&E with outside guidance and feedback from leaders in the environmental, sustainability and community sectors, as well as policymakers and scientific experts. At one of its in-person meetings, Council members identified a number of opportunities for PG&E, including:

- More proactively assisting both the state of California and customers in their climate and clean energy goals by serving as a climate solutions provider.
- Working in partnership to define the energy provider of the future and the importance of stakeholder engagement in achieving the large-scale changes that are needed.
- Continuing to engage on policy in the transition toward the aggressive long-term decarbonization goals California is pursuing.
- Embracing and integrating into the energy grid new technologies such as energy storage and distributed energy resources.
- Looking for ways to partner with other sectors, such as the transportation industry, to accelerate the transition to lower-carbon energy sources, including electric and natural gas solutions.
- Identifying areas where the unique role of a company like PG&E, built to serve the public interest, can be leveraged to bring the promise of clean energy to all customers, regardless of income or geography.

Throughout the year, PG&E's California External Affairs department convenes a California Community Advisory Group. The group serves as a forum for the exchange of ideas between PG&E and a diverse mix of community-based and civic organizations. The group provides an opportunity for these stakeholders to share valuable feedback and engage in an ongoing dialogue with PG&E about issues of importance to them and the communities they represent.

Our local public affairs teams convene Stakeholder Advisory Groups, which discuss major projects and topics relevant to the local area. Additionally, PG&E convenes various stakeholder advisory groups for specific program areas:

- **Electric Vehicle Charge Network Program Advisory Council:** provides feedback and guidance on PG&E's program to install 7,500 EV charging stations.
- **Green Tariff Shared Renewables External Advisory Board:** provides input on PG&E's Solar Choice program, which offers customers the opportunity to purchase up to 100 percent of their power from solar energy.
- **Communities of Color Advisory Council:** helps PG&E strengthen its diversity outreach and engagement.

Because PG&E is regulated by numerous federal, state, regional and local government agencies, we also engage through the regulatory process in numerous multi-stakeholder public processes convened by the California Public Utilities Commission, the Federal Energy Regulatory Commission, the Nuclear Regulatory Commission and other regulatory agencies.

The chart below highlights some of our channels of engagement with stakeholder groups and how we are working to meet their expectations of PG&E.















CUSTOMERS	SELECTED CHANNELS OF ENGAGEMENT
<ul style="list-style-type: none"> ■ 5.3 million electric accounts ■ 4.4 million natural gas accounts 	<ul style="list-style-type: none"> ■ Local cross-functional leadership teams that meet regularly to address local issues ■ Enabling customers to communicate with PG&E through their channel of choice ■ Customer satisfaction surveys, focus groups and other research ■ Online energy management and bill pay options ■ Self-service capabilities such as reconnecting service via Interactive Voice Response technology ■ Social media platforms ■ Communications in multiple languages and formats ■ Program-specific Advisory Councils focused on PG&E's Electric Vehicle Charge Network, diversity outreach and engagement, and Solar Choice program ■ Open houses on key projects ■ Customer account and service representatives ■ Customer call centers and local offices

COMMUNITIES	SELECTED CHANNELS OF ENGAGEMENT
<ul style="list-style-type: none"> ■ Emergency first responders ■ Community organizations ■ Environmental organizations ■ Economic development organizations 	<ul style="list-style-type: none"> ■ Local public safety teams ■ Workshops, training and practice drills with local emergency agencies and first responders ■ California Community Advisory Group with leaders representing diverse constituencies ■ Stakeholder Advisory Groups, which discuss major projects and topics relevant to local areas ■ Participation in coalitions and networks, such as Ceres, Center for Climate and Energy Solutions and the Electric Power Research Institute ■ Active participation of officers and other employees on nonprofit boards ■ Employee volunteers ■ Meetings, conferences and community events ■ Support for local programs through community investments

EMPLOYEES	SELECTED CHANNELS OF ENGAGEMENT
<ul style="list-style-type: none"> Current employees Prospective employees Retirees Labor unions 	<ul style="list-style-type: none"> Biennial employee engagement survey Employee Resource Groups Awards recognizing employee leadership on safety, diversity, community service, innovation and the environment Mentoring program Health and wellness: 24/7 nurse hotline, Employee Assistance Program, and Peer Volunteer Network Workforce recruiting and training programs, including PowerPathway Employee and retiree newsletters Training and skills development, including leadership development Labor and management joint engagement on key topics Here to Help Hotline for any employee who encounters a stakeholder with a grievance
INVESTORS	SELECTED CHANNELS OF ENGAGEMENT
<p>As of December 31, 2016:</p> <ul style="list-style-type: none"> Approximately 83 percent of PG&E Corporation common shares were held by institutional investors The top 10 institutional investors owned approximately 37 percent of our common stock 	<ul style="list-style-type: none"> Quarterly earnings calls and news releases One-on-one meetings and industry conferences Required disclosures Discussions with institutional investors regarding corporate governance Investor relations communications (as-necessary and scheduled correspondence) Engagement on sustainability through events such as CECP's Strategic Investor Initiative
SUPPLIERS	SELECTED CHANNELS OF ENGAGEMENT
<ul style="list-style-type: none"> Diverse suppliers (women-, minority-, service-disabled-veteran and LGBTQ-owned businesses) Local suppliers Small suppliers Non-diverse prime suppliers 	<ul style="list-style-type: none"> Supplier Diversity Program with specific spending targets Workshops and capacity-building training that support safe, cyber-secure, green and thriving diverse suppliers Technical assistance and training programs for suppliers, many in conjunction with community organizations Annual Responsible Supplier of the Year Awards Supplier Sustainability Program Engagement with the Electric Utility Industry Sustainable Supply Chain Alliance, Sustainable Purchasing Leadership Council and the California Utilities Diversity Council Facilitating supplier mentoring relationships Engagement with local and national diverse business organizations

Key Sustainability Indicators

Business

Business		target met or exceeded  target not met 		
Metric	2016 Target	2016 Result	Meets Target	2017 Target
GAS OPERATIONS				
Strength-Tested Transmission Pipeline (miles)	80	89		242
Transmission Pipeline Replacement (miles)	8	22		30
Valves Automated (number of valves)	26	33		35
Retrofitted Transmission Pipeline (miles)	111	107		132
Gas Dig-Ins ¹ (dig-ins per 1,000 Underground Service Alert tickets)	2.03	2.02		1.92
ELECTRIC OPERATIONS ²				
System Average Interruption Frequency Index (SAIFI) average number of outages per customer	0.892	1.022		1.00
System Average Interruption Duration Index (SAIDI) average duration of outages per customer in minutes	96.3	108.9		107.0
Customer Average Interruption Duration Index (CAIDI) average restoration time per outage in minutes	108.0	106.7		107.0
NUCLEAR OPERATIONS				
Unit 1 Performance Indicator ³	98.7	100.00		90.5
Unit 2 Performance Indicator ³	98.7	90.0		87.6
COMPLIANCE AND RISK MANAGEMENT				
Employees Completing Annual Compliance and Ethics Training	99.8%	99.4%		99.8%
Management Employees Completing Annual Code of Conduct Training	99.8%	99.8%		99.8%

1. Total number of third-party dig-ins (i.e., damage from a third party resulting in repair or replacement of an underground facility). Definition of exclusions slightly adjusted in 2016 to align with benchmarks.

2 The slight decline in year-over-year reliability can mostly be attributed to stormy El Nino weather early in the year.

3. Refers to the sum of 12 performance indicators for nuclear power generation reported to the Institute of Nuclear Power Operations and compared to industry benchmarks.

Safety

Safety

		target met or exceeded target not met	√ —	
Metric	2016 Target	2016 Result	Meets Target	2017 Target
PUBLIC SAFETY				
Leak Repair Performance ¹ (number at year-end)	100 or fewer	52	√	100 or fewer
Gas Emergency Response ² (minutes)	21.00	20.02	√	21.00
Transmission & Distribution Wires Down ³ (number of instances)	2,572	3,299	—	N/A ⁴
Electric Overhead Conductor Index ⁴	N/A	N/A	N/A	1.00
Electric Emergency Response ⁵ (percentage within 60 minutes)	97.5%	98.3%	√	97.5%
WORKPLACE SAFETY				
Lost Workday Case Rate ⁶	0.320	0.402	—	0.339
Serious Preventable Motor Vehicle Incident Rate ⁷	0.239	0.280	—	0.239
Timely Reporting of Injuries ⁸	67.1%	67.3%	√	71.3%

1. Number of grade 2 and 2+ leaks open at year-end. Grade 2 and 2+ leaks are minor and non-hazardous.

2. Average response time in minutes to an immediate response gas emergency order.

3. Number of unplanned sustained outage events involving at least one downed overhead electric transmission or primary distribution conductor.

4. For 2017, this metric is changing and will track the successful completion of three key work activities: (1) circuit miles of electric distribution infrared inspections completed, (2) circuit miles of distribution electric conductor upgraded/replaced, and (3) number of trees trimmed/removed as part of the vegetation management program. This public and employee safety metric supports the prevention of distribution conductor failures resulting in wires down. This metric will replace the Transmission & Distribution Wires Down metric.












5. Percentage of time that PG&E personnel are on site within 60 minutes after receiving a 911 call of a potential PG&E electric hazard.

6. Number of lost workday cases incurred per 200,000 hours worked (or for approximately every 100 employees).

7. Number of serious preventable motor vehicle incidents occurring that the driver could have reasonably avoided, per 1 million miles driven.

8. Percentage of work-related injuries reported to the 24/7 Nurse Report Line within one day of the incident.

Customers and Communities

		target met or exceeded  target not met 		
Metric	2016 Target	2016 Result	Meets Target	2017 Target
CUSTOMER SATISFACTION				
Customer Satisfaction Score¹	75.7	76.1		76.4
Gas and Electric Meter Billing Accuracy² (percentage of bills)	99.73%	99.74%		99.68%
ENERGY AFFORDABILITY				
Energy Savings Assistance Program (number of homes weatherized)	119,940	74,319		90,030
California Alternative Rates for Energy (number of eligible customers enrolled)	1,419,000	1,423,324		1,413,000
CUSTOMER ENERGY EFFICIENCY³				
Electricity Saved (GWh)	1,236	1,406		1,144
Natural Gas Saved (million therms)	18.4	23.6		18.6
Generation Capacity Avoided (MW)	226	292		193
COMMUNITY INVESTMENTS				
Charitable Contributions (percentage of pre-tax earnings from operations)	1.1%	1.2%		1.1%
SUPPLIER DIVERSITY				
Spending on Certified Diverse Suppliers (percentage)	42.0%	44.4%		42.0%

1. Overall satisfaction of customers with the products and services offered by PG&E, as measured through a quarterly survey. Each year, we calibrate our customer satisfaction performance using results from J.D. Power's Utility Customer Satisfaction Studies. This comparison helps us set our goal for next year, as we aim to achieve second quartile performance in customer satisfaction.

2. Refers to the percentage of bills that are not adjusted after being mailed to the customer. Each year, a very small percentage of bills must be estimated, largely due to intermittent connectivity (similar to a cell phone temporarily losing its connection).

3. Data refers to annual energy savings or the first-year impacts associated with installed customer energy efficiency projects. Targets are based on mandated energy efficiency savings as agreed upon with the CPUC.

Employees

Employees

		target met or exceeded target not met	✓ —	
Metric	2016 Target	2016 Result	Meets Target	2017 Target
EMPLOYEE ENGAGEMENT				
Employee Engagement Index ¹	76	77	✓	N/A ²
Employee Volunteer Hours	90,000	96,800	✓	91,000
Employee Giving Campaign Pledges/Donations (\$ million)	\$7.9	\$8.4	✓	\$8.2
CAREER PATHWAYS				
Training Effectiveness ³	4.45	4.48	✓	4.52
PowerPathway™ graduates hired into industry jobs (percentage)	82%	82%	✓	82%
HEALTH AND WELLNESS				
Workforce Unavailable Due to Health ⁴	7.2%	7.2%	✓	6.9%

1. Percentage of favorable responses to questions on employee survey that measure employee engagement.

2. There is no 2017 target because PG&E's employee survey is fielded every two years to allow more time to execute on action plans to address issues identified in the survey. Conducting biennial surveys is consistent with best practice among companies.

3. Measures the effectiveness of PG&E's internal training program on a five-point scale through employee surveys on predictive data from employees on their ability to use training on the job.

4. Percentage of full-time employees unavailable for work either due to long-term or short-term health reasons, as measured by total workdays lost for the entire year of 2016.

Environment

Environment

		target met or exceeded target not met	✓ —	
Metric	2016 Target	2016 Result	Meets Target	2017 Target
COMPLIANCE				
Agency Inspections Without a Written Enforcement Action	90%	95%	✓	90%
BUILDINGS AND OPERATIONS				
Additional Energy Use Reduction ¹	2.0%	1.2%	—	— ³
Additional Water Use Reduction ²	3.5%	0%	—	— ³
Waste Diversion Rate ⁴	80%	80%	✓	80%
NATURAL RESOURCE STEWARDSHIP				
“Bird-Safe” Utility Pole Retrofits	2,000	2,068	✓	2,000
CLEAN ENERGY				
Renewable Portfolio Standard (average percentage of renewable energy delivered to customers, 2014 to 2016)	23%	32.8%	✓	Average of 23% over 2014 to 2016 period
SUPPLIER SUSTAINABILITY				
Supplier Environmental Performance Standards ⁵	70%	75%	✓	75%

1. Energy use reduction is measured by comparing usage in MMBtus against the prior year at offices and service yards. In 2016, PG&E changed its methodology to measure energy use reduction on a square-foot basis.

2. Water use reduction is measured by comparing usage in gallons against the prior year at offices and service yards. In 2016, PG&E changed its methodology to measure water use reduction on a square-foot basis.

3. In 2017, PG&E is establishing new longer-term goals for reducing the environmental impact of our internal operations.

4. The waste metric measures the rate at which waste was diverted from landfills in the final quarter of each year and includes all non-hazardous municipal waste at office facilities and service yards.

5. Represents the percentage of top-tier suppliers (approximately 100 critical firms that represented about 60 percent of PG&E's spend in 2016) that achieve a score of three or higher on a five-point scale relative to key elements of PG&E's Supplier Environmental Performance Standards. Scoring is based on suppliers' responses to an annual survey conducted by the Electric Utility Industry Sustainable Supply Chain Alliance.



Recognition

In 2016, PG&E was honored to be recognized for our commitment to excellence in three major areas: corporate sustainability and environmental leadership, diversity and inclusion, and innovation and operations.

Corporate Sustainability and Environmental Leadership

- **Association of Energy Services Professionals**—Energy Award for Outstanding Achievement in Non-Residential Marketing and Communications for PG&E's Step Up and Power Down initiative
- **CDP**—Climate A List as a global leader on climate change
- **Civic 50**—One of America's 50 most community-minded companies
- **Corporate Responsibility Magazine's 100 Best Corporate Citizens**—No. 1 among utilities and No. 22 overall
- **Newsweek Green Rankings**—No. 1 among electric and gas providers and No. 15 overall in the United States
- **U.S. Green Building Council**—LEED Gold for PG&E's Kendall Road Campus in San Luis Obispo

Diversity and Inclusion

- **Affinity Inc magazine**—100 Top Corporations for LGBT Economic Empowerment
- **Asia Society**—Best Employer for Marketing and Support to Asian Pacific American Community
- **Black Enterprise magazine**—One of the 50 best companies for diversity
- **California Black Chamber of Commerce**—Corporate Community Leader Award
- **California Breastfeeding Coalition**—For exemplary support at PG&E's Diablo Canyon Power Plant
- **Disability Equality Index**—A perfect score of 100 percent
- **DiversityBusiness.com**—One of the top 25 organizations for multicultural business opportunities
- **DiversityInc**—One of the top energy companies in the nation for diversity
- **G.I. Jobs Magazine**—Top 100 Military Friendly Employer®
- **The Greenlining Institute**—"A" on Supplier Diversity Report Card
- **Human Rights Campaign**—100 percent rating on the Corporate Equality Index
- **Military Times**—One of the best employers for veterans
- **Minority Business News USA Magazine**—One of America's most admired companies for supplier diversity
- **National Gay and Lesbian Chamber of Commerce**—Corporation of the Year
- **National Minority Supplier Development Council**—Gazelle Award for success in accelerating the growth of minority-owned businesses
- **United Negro College Fund/Northern California Leadership Council**—Corporation of the Year
- **U.S. Department of Defense Employer Support of the Guard and Reserve office**—For long-standing support of employees serving in the National Guard and Reserve
- **U.S. Hispanic Chamber of Commerce**—Million Dollar Club and one of the top 10 corporations in the country
- **Western Region Minority Supplier Development Council**—Utility of the Year
- **Women's Business Enterprise**—Inducted into the Hall of Fame
- **Women's Business Enterprise National Council**—One of America's top companies for women-owned businesses

Innovation and Operations

- **American Chemistry Council**—Certified PG&E's gas safety operations to the RC14001 management system standard
- **California Agricultural Heritage Club**—Inductee, honored for 150 years of supporting California agriculture
- **California Emergency Services Association**—Gold Award for exceptional efforts in the field of emergency preparedness
- **CIO magazine**—CIO 100 Award
- **Edison Electric Institute**—Emergency Recovery Award
- **Ergo Cup Competition**—Ergonomics Program Improvement Award
- **International Lineman's Rodeo**—Seven awards for PG&E linemen
- **Lloyd's Register Quality Assurance**—Certified PG&E's Supplier Quality Assurance Department's quality management system to the ISO 9001:2008 standard

Employee Champions

In 2016, PG&E recognized a number of employees with our highest honors for their commitment to safety, innovation, environmental leadership, diversity, and community involvement. PG&E awarded several recipients \$5,000 each to present to the nonprofit of their choice, while finalists received \$1,000 each.

Shermer L. Sibley Safety and Health Award

This award recognizes PG&E organizations for their outstanding contributions toward public and workplace safety and health, and was given to the:

- **Customer Care Field Meter Operation** team for cultivating a work environment that emphasizes the importance of personal safety at work and at home by speaking up, taking action to resolve issues and looking out for one another.
- **Humboldt Bay Power Plant Decommissioning** team for working for more than three years without a single work-related incident requiring medical treatment beyond first aid while decommissioning the nuclear power plant.
- **Gas T&D Construction** team for their commitment to a strong safety culture that encourages employees to raise issues, gets those issues resolved and communicates the results back to employees.

John A. Britton Award

This award, which recognizes individuals who, through extraordinary bravery, self-sacrifice and resourcefulness, saved the life of a colleague or community member, was awarded to:

- **Jeff Nunes**, who saved the life of a 20-year-old heart attack victim by performing CPR for 20 minutes until emergency responders arrived.
- **Rick Logan**, who saved the lives of passengers in a burning, overturned pickup truck struck by another car by freeing a passenger who was trapped by her seatbelt and helping four young children move safely away from the vehicle. The driver, PG&E employee Shane Mulligan, was also honored for his bravery.
- **Ken Hackenkamp**, who helped three young children escape from a vehicle that had crashed into a tree and stayed with the injured woman until first responders arrived.
- **Alina Zohrabian**, who saved the life of a choking victim by performing the Heimlich maneuver.
- **Vince Hildebrand**, who saved the life of a choking victim by performing the Heimlich maneuver.
- **Liz Zulueta-Talisayan**, who saved the life of a motorcyclist who collided with a car by performing first aid until first responders arrived.
- **Mary Juvik**, who saved her mother's life by performing the Heimlich maneuver.

Margaret Mooney Award for Innovation

This award recognizes individuals and teams whose creative solutions help PG&E achieve its goals, and was awarded to the:

- **Portable Liquefied Natural Gas and Compressed Natural Gas** team for successfully completing the largest sustainable portable natural gas project ever attempted in the industry.
- **Vegetation Management Lift** team for leveraging cutting-edge technologies like LiDAR that improve the safety, reliability and efficiency of vegetation inspections.
- **Volt Var Optimization** team, which uses innovative software to optimize the voltage delivered to PG&E's customers, which in turn makes customers' devices more energy efficient.

Richard A. Clarke Environmental Leadership Award

This award honors PG&E individuals and teams who demonstrate environmental stewardship, and was awarded to:

- **Oakdale Manufactured Gas Plant Remediation** team for identifying best practices for safety and stakeholder engagement that are being used to guide other PG&E remediation projects.
- **Retail Products Platform** team for bringing highly efficient products to PG&E's residential customers with a large-scale retail program.
- **Osprey Habitat Relocation** team for working with landowners, the Bureau of Reclamation and other agencies to devise solutions for osprey nests located on top of PG&E electric poles.
- **Stockton Regional Office Project** team for raising the bar for green buildings in PG&E's office portfolio.

Presidents' Diversity Champion Award

This award recognizes employees whose ideas and actions contribute to a diverse and inclusive workplace, and was awarded to:

- **Verdelle Burford** and **Jolean French**, members of PG&E's Black ERG, who have raised funds and awareness for African-American issues in Stockton and inspired coworkers to get involved with local nonprofits and volunteer for community events.
- **Miyuki Iwahashi**, who made recommendations on behalf of PG&E's Women's Network ERG which resulted in dramatic improvements for employees who are new parents, including a redesigned parental leave process and the creation of more than 60 dedicated spaces for nursing mothers.
- **Gabe Trevino**, who has served as president and in other leadership roles in PG&E's PrideNetwork ERG for nearly 10 years, and has more than doubled the group's membership.

Frederick W. Mielke, Jr. Award for Outstanding Community Service

This award distinguishes PG&E employees who demonstrate an outstanding commitment to the communities where they live and work, and was awarded to:

- **Steven Newvine**, who has served on the Merced Workforce Investment Board for 10 years and created the region's first youth job training in energy efficiency.
- **Mariana Sierra**, who for many years has volunteered with Future Leaders of America's East Bay affiliate, a program that promotes the personal development of Latino youth.
- **Michelle Patrick**, who has volunteered with Global Glimpse, an Oakland nonprofit which provides immersive travel experiences to Bay Area high school students to foster global awareness and responsibility.



Business

At PG&E, we continually invest in our energy infrastructure to safely and reliably provide affordable and clean energy to nearly 16 million people in Northern and Central California. These investments allow us to strengthen our gas and electric systems; build a smarter, safer and more resilient energy grid; and meet the evolving needs of our customers in a way that creates a more sustainable future.

Key Sustainability Indicators

Number of valves automated in 2016, bringing the total to 268 valves that enable remote-control shutoff of gas in an emergency:

33 valves

Average time a PG&E customer was without power, a 35 percent improvement over the last decade:

108.9 minutes



Sustainability at PG&E

Melissa Lavinson, PG&E's Chief Sustainability Officer, shares how we're working to integrate sustainability into our business—so that we can deliver safe, reliable, affordable and clean energy for years to come.

Learn about the progress we're making, including partnering with Silicon Valley to pioneer new clean energy solutions; driving innovation in our supply chain to reduce our carbon footprint; using state-of-the-art weather modeling to improve emergency preparedness; and working to build climate resilience into our business.

2016 Highlights

Convened an external Sustainability Advisory Council to guide our sustainability efforts.

Continued to plan for a future grid that can integrate more solar and renewable energy, electric vehicles and batteries distributed across the system.

Invested nearly \$6 billion to enhance our infrastructure and improve safety and reliability.

Maintained one of the nation's largest investor-owned hydroelectric systems—working collaboratively to manage these resources in times of drought and record precipitation.

Delivered some of the nation's cleanest electricity to customers, with nearly 70 percent coming from greenhouse-gas free resources.

Opened the third of three new state-of-the-art electric distribution control centers, transforming how we monitor and operate the energy grid.

Achieved the second-best year for electric reliability in PG&E's history, despite challenging weather.

Supported public policies that promote clean energy, workforce development, grid innovation and infrastructure investment within California and the nation.

Completed substantial work across our natural gas system, including testing new methane detection technologies that can survey pipeline infrastructure and gas storage facilities, allowing for quicker detection and repair.

Achieved earnings from operations of \$3.76 per share, slightly ahead of guidance.

Announced a joint proposal with labor and leading environmental organizations to phase out PG&E's production of nuclear power in California by 2025 and replace it with a portfolio of energy efficiency and greenhouse gas-free resources.

PG&E Overview

PG&E Corporation is a holding company whose primary operating subsidiary is Pacific Gas and Electric Company, an investor-owned public energy company that operates in Northern and Central California and delivers some of the nation's cleanest energy. Throughout this report, when we refer to "PG&E," we are discussing all of PG&E Corporation and its subsidiaries, including Pacific Gas and Electric Company. When we refer to the "Utility," we are discussing Pacific Gas and Electric Company.

Headquarters Location	Service Area	Service Area Population
San Francisco, California	70,000 square miles in Northern and Central California	Nearly 16 million people

Customer Accounts (as of December 31, 2016)

5.3 million electric distribution accounts

- 4.6 million residential
- 0.7 million commercial, industrial and other

4.4 million natural gas distribution accounts

- 4.2 million residential
- 0.2 million commercial and industrial

Employees (as of December 31, 2016)

Approximately 24,000 regular employees

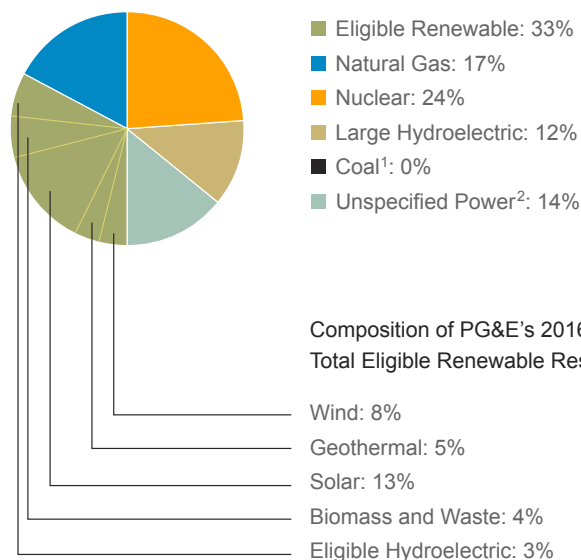
Approximately 14,000 employees are covered by collective bargaining agreements with three labor unions:

- International Brotherhood of Electrical Workers (IBEW), Local 1245, AFL-CIO,
- Engineers and Scientists of California/International Federation of Professional and Technical Engineers (ESC/IPFTE), Local 20, AFL-CIO and CLC, and
- Service Employees International Union (SEIU), Local 24/7.

System

- 7,691 MW of owned hydroelectric, nuclear, natural gas, solar and fuel cell generation,
- Approximately 106,700 circuit miles of electric distribution lines (about 25 percent underground and 75 percent overhead) and approximately 18,400 circuit miles of electric transmission lines, and
- Approximately 42,800 miles of gas distribution pipelines, 6,750 miles of backbone and local gas transmission pipelines, and three gas storage facilities.

PG&E's 2016 Electric Power Mix Delivered to Retail Customers



1. Refers to PG&E electricity generated under contracts with third parties.

2. Refers to electricity from transactions that are not traceable to specific generation sources.

3. As defined in Senate Bill 1078, which created California's Renewable Portfolio Standard, an eligible renewable resource includes geothermal facilities, hydroelectric facilities with a capacity rating of 30 MW or less, biomass, selected municipal solid waste facilities, solar facilities and wind facilities. These figures are preliminary and will not be finalized until verified by the California Energy Commission.

NET OPERATING CAPACITY OF OWNED GENERATION FACILITIES¹

Facility	Net Operating Capacity (MW)
Fossil Fuel-Fired Plants	
Colusa Generating Station ²	657
Gateway Generating Station ²	580
Humboldt Bay Generating Station ²	163
Fuel Cell Facilities	3
Other Plants	
Diablo Canyon Power Plant ³	2,240
Hydroelectric Facilities	3,896
Solar Photovoltaic Facilities	152
Total	7,691

1. As of December 31, 2016.

2. Natural gas power plant.

3. Nuclear power plant.

GENERAL UTILITY PRODUCTION STATISTICS

	2014	2015	2016
Total Electricity Generated (GWh net)¹	28,929	30,719	33,525
<i>Fossil Fuel-Fired Plants (GWh net)</i>	<i>6,096</i>	<i>7,307</i>	<i>5,718</i>
Colusa Generating Station (GWh net)	2,485	3,572	2,909
Gateway Generating Station (GWh net)	3,242	3,315	2,436
Humboldt Bay Generating Station (GWh net)	350	406	368
Fuel Cell Facilities (GWh net)	20	14	5
<i>Other Plants (GWh net)</i>			
Diablo Canyon Power Plant (GWh net)	17,039	18,525	18,931
Hydroelectric Facilities (GWh net)	5,458	4,568	8,554
Solar Photovoltaic Facilities (GWh net)	337	319	322
Electricity Purchased (GWh)	51,679	48,559	41,691
Retail Electricity Sales (GWh)²	74,547	72,113	68,441

1. Net of electricity used to operate plants. Data may not add up due to rounding.

2. Excludes sales to direct access and community choice customers, and sales to railroads and railways.

NATURAL GAS THROUGHPUT

	2014	2015	2016
Total Natural Gas Throughput (million cubic feet or MMcf) ¹	914,033	904,522	822,655

1. Includes interdepartmental natural gas sales for the purpose of electric generation but excludes other interdepartmental natural gas sales.

System Investments

Approximately \$5.7 billion in capital investments in 2016 to enhance PG&E's infrastructure and improve safety and reliability

Contribution to State and Local Revenues

PG&E is a major contributor to the revenue that state and local governments depend on to fund critical public services. In addition to property taxes, PG&E pays franchise fees to cities and counties for the right to use public streets for gas and electric facilities.

FRANCHISE FEE AND PROPERTY TAX PAYMENTS

	2014	2015	2016
Franchise Fees	\$152,081,941	\$156,127,382	\$157,305,763
Property Tax Payments	\$344,194,074	\$385,860,200	\$411,210,604

Financial Performance

The financial information below is derived from PG&E Corporation's Consolidated Financial Statements at December 31, 2015 and December 31, 2016, unless otherwise indicated, which include the accounts of PG&E Corporation, the Utility and other wholly owned and controlled subsidiaries.

FINANCIAL HIGHLIGHTS¹ (unaudited, in millions, except share and per share amounts)

	2015	2016
Operating Revenues	\$16,833	\$17,666
Income Available for Common Shareholders		
Earnings from operations ²	1,519	1,884
Items impacting comparability ^{3, 4}	(645)	(491)
Reported Consolidated Income Available for Common Shareholders	874	1,393
Income Per Common Share, Diluted		
Earnings from operations ²	3.12	3.76
Items impacting comparability ^{3, 4}	(1.33)	(0.98)
Reported Consolidated Net Earnings Per Common Share, Diluted	1.79	2.78
Dividends Declared Per Common Share	1.82	1.93
Total Assets at December 31,⁵	\$63,234	\$68,598
Number of Common Shares Outstanding at December 31,	492,025,443	506,891,874

1. This is combined information for PG&E Corporation and Pacific Gas and Electric Company (the "Utility"). PG&E Corporation's Consolidated Financial Statements include the accounts of PG&E Corporation, the Utility, and subsidiaries, and have been prepared in accordance with Generally Accepted Accounting Principles ("GAAP"). All amounts presented in the table above are tax-adjusted at PG&E Corporation's tax rate of 40.75% except for fines, which are not tax deductible.

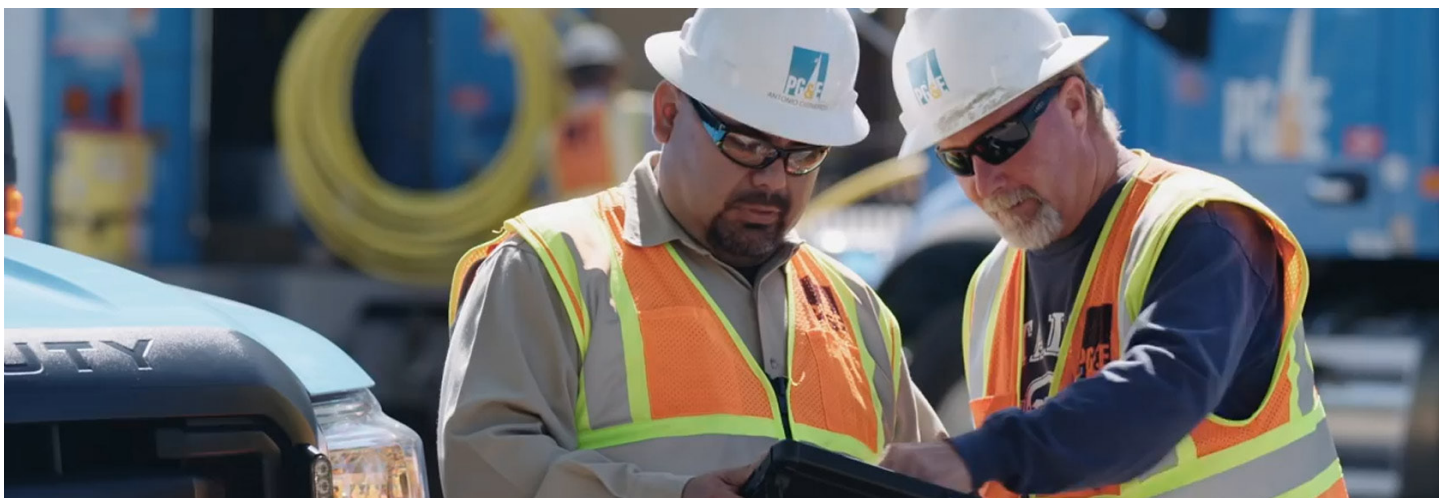
2. "Earnings from operations" is a non-GAAP financial measure and is calculated as consolidated income available for common shareholders less "Items impacting comparability" as described in Note (3) below. PG&E Corporation uses earnings from operations to understand and compare operating results across reporting periods for various purposes, including internal budgeting and forecasting, short- and long-term operating plans, and employee incentive compensation. PG&E Corporation believes that earnings from operations provide additional insight into the underlying trends of the business allowing for a better comparison against historical results and expectations for future performance.

3. "Items impacting comparability" represent items that management does not consider part of the normal course of operations and that affect comparability of financial results between periods. Items impacting comparability reconcile earnings from operations with consolidated income available for common shareholders as reported in accordance with GAAP.

4. The Utility recorded costs of \$232 million, pre-tax, during the year ended December 31, 2016 associated with the Butte fire, net of insurance. This includes accrued charges of \$750 million, pre-tax, related to estimated third-party claims in connection with the Butte fire, partially offset by \$625 million, pre-tax, as probable of insurance recovery. The Utility also incurred charges of \$107 million, pre-tax, for Utility clean-up, repair, and legal costs associated with the Butte fire. The Utility incurred costs of \$498 million, pre-tax, during the year ended December 31, 2016 associated with fines and penalties. This includes costs of \$412 million, pre-tax, associated with safety-related cost disallowances imposed by the California Public Utilities Commission (the "CPUC") in its April 9, 2015 decision in the gas transmission pipeline investigations. The Utility also recorded \$57 million, pre-tax, for disallowances imposed by the CPUC in its final phase two decision of the 2015 Gas Transmission and Storage (GT&S) rate case for prohibited ex parte communications. In addition, the Utility accrued fines of \$26 million in connection with the final decision approved by the CPUC on August 18, 2016 in its investigation regarding natural gas distribution record-keeping practices and \$3 million in connection with the maximum statutory fine imposed on January 26, 2017 in the federal criminal trial against the Utility. These fines are not tax deductible. Future fines or penalties may be imposed in connection with other enforcement, regulatory, and litigation activities regarding natural gas matters and regulatory communications. The Utility incurred costs of \$113 million, pre-tax, during the year ended December 31, 2016 for pipeline related expenses incurred in connection with the multi-year effort to identify and remove encroachments from transmission pipeline rights of way. The Utility incurred costs of \$72 million, pre-tax, during the year ended December 31, 2016 for legal and regulatory related expenses incurred in connection with various enforcement, regulatory, and litigation activities regarding natural gas matters and regulatory communications. The Utility incurred charges of \$219 million, pre-tax, during the year ended December 31, 2016 for disallowed capital expenditures based on the CPUC final phase one decision dated June 23, 2016 in the 2015 GT&S rate case, including \$134 million, pre-tax, for the disallowed portion of the 2011 through 2014 capital expenditures in excess of adopted amounts and \$85 million, pre-tax, for the Utility's estimate of 2015 through 2018 capital expenditures that are likely to exceed authorized amounts. As a result of the timing of the CPUC's final phase two decision in the 2015 GT&S rate case, the Utility recorded \$325 million, pre-tax, in excess of the 2016 authorized revenue requirement during the twelve months ended December 31, 2016.

5. In accordance with Accounting Standard Update 2015-03, PG&E Corporation restated \$105 million in 2015 of debt issuance costs. Total assets and liabilities were each reduced by this amount with no impact to net income or total shareholder's equity previously reported.

For more information, see PG&E Corporation's and Pacific Gas and Electric Company's 2016 Joint Annual Report to Shareholders or Annual Report on Form 10-K for year ended December 31, 2016, which have been filed with the U.S. Securities and Exchange Commission.



Ethics and Compliance

At PG&E, we are committed to complying with both the letter and the spirit of the law, and our own Code of Conduct, at all times. We hold ourselves to these standards in all actions, both as a business and as individuals. To accomplish this, PG&E promotes a culture in which employees are empowered to raise concerns and are supported by a structure to ensure compliance.

Our Approach

Compliance and ethics at PG&E are managed on three levels:

Business-Wide

Within senior leadership, compliance and ethics are managed by the Senior Vice President, Chief Ethics and Compliance Officer and Deputy General Counsel (CECO), who reports to the PG&E Corporation Chief Executive Officer (CEO) and President. The CECO has additional reporting responsibility to the Audit Committees of the PG&E Corporation and Pacific Gas and Electric Company Boards of Directors, and the Compliance and Public Policy Committee of the PG&E Corporation Board.

The CECO is responsible for:

- Building a best-in-class compliance and ethics program and managing its implementation,
- Overseeing enterprise-wide programs for compliance monitoring, reporting, assessment and remediation,
- Strengthening ethics- and compliance-related training,
- Reinforcing PG&E's compliance and ethics culture, and
- Identifying areas of compliance and ethics risk, and developing action plans to prevent, detect and correct risks and issues.

As part of our enterprise-wide strategic planning process, PG&E's senior executives from every line of business meet annually to review and assess our compliance obligations, including establishing focus areas for the year. Broadly, this process enables PG&E to assess compliance risks, determine the best way to address them and then allocate resources to successfully manage our work. In 2016, we focused on strengthening the integration and management of regulatory compliance risk and operational risk.

In addition, we developed and implemented a standardized framework for PG&E's lines of business to enhance their respective compliance and ethics programs. The framework is composed of eight elements derived from the U.S. Federal Sentencing Guidelines. The framework also provides an objective assessment tool to measure PG&E's overall compliance program. We completed an initial assessment of each line-of-business compliance program in late 2016, and established maturity targets for 2017 and 2018.

Two management-level governance bodies help drive and coordinate our compliance activities:

- **Compliance and Ethics Committee:** Comprised of senior officers, this committee provides leadership, strategic guidance and oversight of PG&E's compliance and ethics program and works to promote an organizational culture committed to integrity, ethical conduct and compliance with all applicable laws, regulations and company requirements.
- **Compliance and Ethics Leadership Team:** This cross-functional team of non-officer compliance leaders within PG&E is accountable for promoting the effectiveness of PG&E's compliance and ethics program by coordinating across the lines of business on strategy, goals and programs, as well as sharing best practices.

To provide guidance on conduct requirements, PG&E maintains codes of conduct for the following:

- Employees
- Boards of Directors
- Contractors, Consultants and Suppliers

In addition, we maintain a Chairman's Ethics Council—composed of management and union-represented employees at multiple levels—that helps raise and address issues relating to ethics and conduct at PG&E. The Council meets regularly throughout the year, including one meeting that is open to all employees.

Boards of Directors

Certain PG&E Corporation and Pacific Gas and Electric Company Board committees have specific oversight responsibility for compliance management in their respective substantive areas:

ENTITY	RISK OVERSIGHT RESPONSIBILITIES
Compliance and Public Policy Committee ¹	<ul style="list-style-type: none"> ■ Coordinates the compliance-related oversight of the various committees of the Boards, with respect to: <ul style="list-style-type: none"> ○ The companies' compliance and ethics program, ○ Compliance with laws, regulations and internal policies and standards, and ○ Internal or external compliance reviews or audits. ■ Oversees public policy, sustainability and corporate responsibility issues that could affect customers, shareholders or employees
Audit Committees	<ul style="list-style-type: none"> ■ Oversees and monitors compliance with legal and regulatory requirements, in concert with other Board committees
Nuclear, Operations and Safety Committee ¹	<ul style="list-style-type: none"> ■ Oversees matters relating to safety, operational performance and compliance issues related to Pacific Gas and Electric Company's nuclear, generation, gas and electric transmission, and gas and electric distribution operations and facilities

1. Refers to committees of the PG&E Corporation Board of Directors only.

For a full description of Board committee oversight responsibilities, please see the webpages of the Boards of Directors of PG&E Corporation and Pacific Gas and Electric Company, as well as our 2017 Joint Proxy Statement.

Lines of Business

Each of PG&E's lines of business has employees who are responsible for implementing the line of business's compliance program. The line of business compliance programs are overseen by the respective senior officer for each line of business.

2016 Milestones

In 2016, PG&E focused on enhancing our governance structure and "speak up" culture, which aims to create a work environment where everyone feels safe to express their views and concerns—and where everyone is confident that those concerns will be heard and taken seriously. Highlights included the following:

- **Updated our compliance program framework to create a road map for each line of business.** This model will be used to assess and monitor each line of business's compliance program.
- **Improved our misconduct investigations and reporting process.** The redesigned, centralized process promotes thorough and timely investigations of all allegations of misconduct; centralized oversight and record-keeping; consistent outcomes on an enterprise-wide basis; improved tracking and reporting on trends and lessons learned; and follow-up with employees who raise an issue.
- **Promoted a "speak up culture."** All employees were invited to attend two events focused on compliance and ethics:
 - Chairman's Ethics Council: PG&E Corporation's Chairman, CEO, and President (at that time) hosted the annual all-employee meeting of the Council. More than 2,500 employees participated in the meeting, which featured guest speaker Keith Darcy, one of the world's foremost experts in corporate compliance and ethics.
 - Compliance and Ethics Week: The theme was Speak Up in Action and featured a keynote with Cynthia Cooper, an internationally recognized speaker on ethical leadership and best practices in corporate governance.
- **Surveyed employees on compliance and ethics.** PG&E's biennial employee survey included an index of compliance- and ethics-related questions, which provided us with an assessment of PG&E's speak-up culture.

Measuring Progress

In 2016, PG&E's annual compliance and ethics training, which we aim for all employees to complete annually, focused on speaking up. Specifically, the training was designed to build awareness of how to enhance an open communication environment; improve understanding of how to appropriately handle misconduct reports, as measured by the volume of calls to our Compliance and Ethics Helpline; and help employees understand how our attitudes and actions may inadvertently foster perceptions of retaliation. Video vignettes were based on real-world issues that supervisors and their teams might face.

In addition to the annual compliance and ethics training, management employees are required to complete Code of Conduct training and certify that they have read, understand and will comply with our Employee Code of Conduct.

COMPLIANCE AND CONDUCT TRAINING ¹			
	2014	2015	2016
Compliance and Ethics Training	99.8%	99.9%	99.4%
Code of Conduct Training	99.8%	99.8%	99.8%

1. For a variety of reasons, a statistically small number of PG&E's employees are unable to attend a training session in any calendar year.

The volume of Helpline calls received in 2016 was roughly 4.0 calls per 100 employees, falling within the normal range of 0.3 to 10.0 calls per 100 employees, according to a benchmark report prepared by NAVEX Global. The total call volume increased 5 percent over 2015, with a 3 percent increase in calls requesting guidance. This suggests that more employees are turning to the Helpline for advice before taking actions that might be in conflict with PG&E's Code of Conduct, policies, procedures or the law.

Looking Ahead

To achieve PG&E's commitment to establish a best-in-class compliance and ethics program, we intend to drive continuous improvement by:

- Continuing to encourage a speak-up culture through annually updated training and communications campaigns, and by leveraging results from our employee survey,
- Revising PG&E's Employee Code of Conduct,
- Engaging our governance bodies to develop and drive cross-organizational enhancements to PG&E's compliance and ethics program,
- Strengthening our processes to ensure that all allegations of employee misconduct are consistently investigated and remediated,
- Enhancing our approach for identifying, managing and mitigating compliance-related risks, and
- Fortifying our program to improve enterprise-wide monitoring and analytics, and support compliance with federal contract regulations.



Risk Management

PG&E's long-term objective for managing risk is to conduct data-driven, risk-based decision-making to support safe, reliable and efficient electric and gas service that is integrated into our planning process and becomes the foundation for our regulatory rate cases. To achieve this objective, PG&E has established a foundational risk management infrastructure and remains focused on integrating risk management into our culture and business practices.

Our Approach

At PG&E, risk management processes are facilitated by a central group, implemented by each line of business and overseen by senior management and the Boards of Directors.

Process Facilitation

The Vice President, Internal Audit and Chief Risk Officer (CRO) for PG&E Corporation and Pacific Gas and Electric Company is responsible for overseeing the enterprise and operational risk management process, internal audit and insurance functions, market and credit risk management, and reporting to the Audit Committees of the PG&E Corporation and Pacific Gas and Electric Company Boards. The CRO also facilitates and is a voting member of the PG&E Corporation Risk Policy Committee and the Utility Risk Management Committee, both of which include a subset of senior officers of PG&E Corporation and Pacific Gas and Electric Company.

Lines of Business Implementation

Each of PG&E's lines of business develops and maintains a risk register—a ranking of risks specific to its operations. The risk registers were developed using a consistent methodology to identify, assess and prioritize risks and are refreshed each year to ensure that risk assessments capture any changes to risk levels. Each of these risk registers informs a PG&E-wide risk register that allows senior management to focus on the most significant risks.

The senior-most executive of each line of business maintains a Risk and Compliance Committee, which has oversight responsibility for all associated activities for risk and compliance programs within their organization.

The committee members ensure that activities related to enterprise and operational risk and compliance management within their respective organizations are suitable, adequate and effective, and that resources are available as needed. Activities may include, and are not limited to:

- Reviewing and providing feedback on risk and compliance items,
- Reviewing the results of annual risk identification and refresh processes,
- Approving the addition or removal of risks (enterprise, operational and compliance) to the organization's risk register,
- Overseeing progress of mitigation activities through to completion, including an assessment of whether the objective was met,
- Approving risk analyses and mitigation strategies that consider alternative analyses and the acceptable level of risk,
- Approving and monitoring metrics for key risks and compliance requirements,
- Reviewing progress on compliance training, and
- Monitoring progress toward risk-reduction objectives.



PG&E focuses on monitoring and managing three broad categories of risk across the business:

- **Enterprise and Operational Risk:** Encompasses risks that could have a potentially catastrophic impact on public and employee safety, reliability, the environment, customer trust or PG&E's financial condition, as well as other risks that arise from our operations.
- **Compliance Risk:** Includes all programs that enable PG&E to comply with both the spirit and the letter of the applicable legal and regulatory requirements.
- **Market and Credit Risk:** Includes PG&E's exposure to risks associated with PG&E's energy portfolio, including trading in energy commodities, financial hedging and counterparty risk.

Photo by Derrick Cunningham

Senior Management and Boards of Directors Oversight of Risk Management Activities

The PG&E Corporation and Pacific Gas and Electric Company Boards and their respective committees have specific oversight responsibility for risk management in their respective areas:

ENTITY	RISK OVERSIGHT RESPONSIBILITIES
Boards	<ul style="list-style-type: none"> ■ Evaluate risks associated with major investments and strategic initiatives (with assistance from the Finance Committee¹)
Audit Committees	<ul style="list-style-type: none"> ■ Discuss the guidelines and policies that govern the processes for assessing and managing major risks ■ Allocate to other Board committees the specific responsibility to oversee identified enterprise risks ■ Consider risk issues associated with overall financial reporting and disclosure processes ■ Discuss programs to monitor compliance with laws, regulations, policies and programs
Finance Committee ¹	<ul style="list-style-type: none"> ■ Discusses risk exposures related to energy procurement, including energy commodities and derivatives, and other enterprise risks, as assigned by the Audit Committees
Nuclear, Operations and Safety Committee ¹	<ul style="list-style-type: none"> ■ Advises and assists the Boards of Directors with respect to the oversight and review of risk management practices related to Pacific Gas and Electric Company's nuclear, generation, gas and electric transmission, and gas and electric distribution operations and facilities ■ Oversees other enterprise risks, as assigned by the Audit Committees
Compensation Committee ¹	<ul style="list-style-type: none"> ■ Oversees matters relating to safety, operational performance and compliance issues related to the Utility's nuclear, generation, gas and electric transmission, and gas and electric distribution operations and facilities

1. Refers to committees of the PG&E Corporation Board of Directors only.

For a full description of Board committee oversight responsibilities, please see the webpages of the Boards of Directors of PG&E Corporation and Pacific Gas and Electric Company, as well as our 2017 Joint Proxy Statement.

Senior management and their committees have specific oversight responsibility for risk management in their respective areas:

ENTITY	RISK OVERSIGHT RESPONSIBILITIES
Enterprise Risk Governance Committee	<ul style="list-style-type: none"> ■ Provides strategic direction and oversight of PG&E's enterprise and operational risk management program
Enterprise Compliance Governance Committee	<ul style="list-style-type: none"> ■ Provides strategic direction and oversight of PG&E's compliance and ethics programs

2016 Milestones

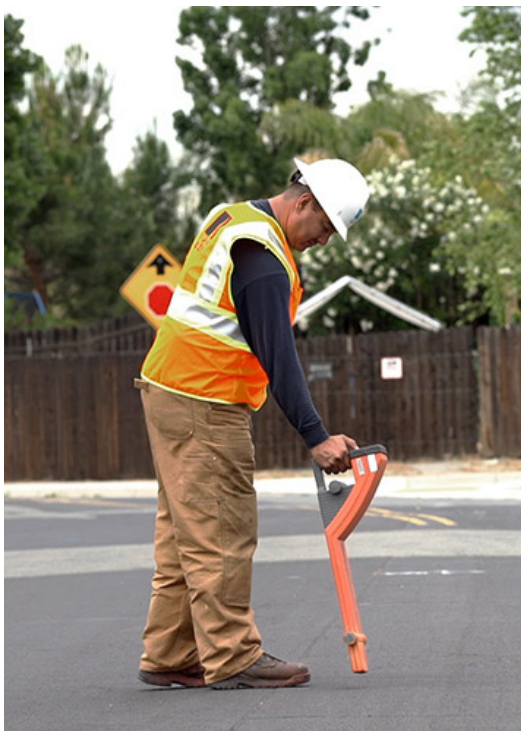
We continued to review and refine our approach to risk management, examining and ranking all enterprise and operational risks. Our risk management governance structures allow risks to be investigated both under a Board of Directors-directed review process and also from a “bottoms-up” approach that allows operational experts to apply their knowledge and identify emerging issues for PG&E.

Looking Ahead

PG&E is committed to achieving a best-in-class risk management program, and continuing to employ risk-based decision-making in our integrated planning process and regulatory approach. Areas of focus include:

- A Risk Assessment Mitigation Phase filing with the California Public Utilities Commission (CPUC), which includes quantifying our top safety risks across PG&E,
- Improved enterprise-wide monitoring and analytics,
- Increased efforts to understand the tolerable level of risk for PG&E, and
- An optimized risk portion of the integrated planning process.

Each year, PG&E follows an integrated planning process that incorporates risk management. PG&E Corporation's CEO and President issues executive guidance to align and focus PG&E leaders on the company's key objectives for the next five years. As a next step, senior management meets for all-day sessions to discuss the top risk and compliance issues facing PG&E. These issues inform our operational strategy discussions and guide the creation of work plans containing important controls and mitigations that deliver on our objectives and tie back to the company's top risks and compliance requirements.



Partnering to keep customers safe

PG&E works closely with customers to keep them safe and avoid risks introduced by emergency events. Some of our public safety awareness activities in 2016 included:

- **Emphasized the importance of calling 811 before any excavation project**, with outreach around National Safe-Digging Month and National 811 Day.
- **Sponsored the 11th-annual California Day of Preparedness.** Hosted by the Governor's Office of Emergency Services, the event featured dozens of state and local agencies, first responders and interested groups offering emergency preparedness tips to attendees at a family-friendly event in Sacramento.
- **Conducted interactive electric and gas safety demonstrations** using a traveling display that allows instructors to show potential risks associated with gas and electric facilities to students, youth groups, contractors, emergency personnel and customers.
- **Warned customers of the risks of metallic balloons**, and encouraged them to keep balloons indoors and tied to a weight to avoid having them contact electric lines and cause outages.



Gas Operations

At PG&E, we are dedicated to building and maintaining the safest, most reliable natural gas system in the country. To reach that goal, we've hired some of the most highly regarded gas safety experts in the country, tested and replaced hundreds of miles of natural gas pipeline, established a state-of-the-art gas safety operations control center, and pioneered ground-breaking gas-leak-detection technology. These steps and many more represent our commitment to delivering a 21st-century gas system and meeting the needs of our customers.

Our Approach

As the owner and operator of one of the largest natural gas systems in the United States, PG&E is responsible for an integrated transmission, storage and distribution system that consists of approximately 42,800 miles of distribution pipeline (as well as additional mileage associated with individual gas services), 6,750 miles of backbone and local transmission pipeline and three gas storage facilities. The system also includes eight natural gas compressor stations, which receive and move natural gas through our pipeline network.

Our focus remains on maintaining and operating this system safely and reliably, with public and employee safety as the single most important driver of our work.

We have received several third-party certifications of our safety progress, including:

- Publicly Available Specification (PAS) 55-1: 2008 and International Organization for Standardization (ISO) 55001: 2014 certifications and 2017 recertifications for best-in-class asset management,
- American Petroleum Institute Recommended Practice 1173 (API RP 1173), a new industry gold standard for pipeline safety management systems and safety culture, and
- RC14001®, the chemical industry's management system standard (combining the requirements of the Responsible Care® Management System and ISO 14001).

2016 Milestones

Gas Transmission System

PG&E continues to execute one of the most comprehensive gas transmission modernization programs in the United States. PG&E has achieved the following results from 2011 through 2016:

- Validated safe operating pressure by strength-testing more than 835 miles of gas pipeline,
- Replaced more than 175 miles of gas transmission pipeline,
- Automated nearly 270 valves, enabling remote-control shutoff of gas in an emergency, and
- Retrofitted more than 665 miles of gas transmission lines to accommodate in-line inspection tools, or “smart pigs,” which are used to inspect the condition of pipelines using sophisticated technology.

Gas Distribution System

We continue to improve the safety and reliability of PG&E's gas distribution system through enhancements to leak response and repair, the deployment of new tools and technologies, and an overhaul of our approach to records and information management.

PG&E uses a diverse array of innovative tools to survey and inspect our gas infrastructure by air, land and water. Crews use handheld devices, aircraft equipped with LiDAR technology, and leak-detecting cars, boats and all-terrain-vehicles to help identify leaks and make repairs when needed.

We use the Picarro Surveyor™, which is 1,000 times more sensitive than any other leak detection device. Since 2014, PG&E's Picarro gas leak survey vehicles have surveyed more than 1 million gas service lines—enabling us to address leaks faster than ever and avoid releasing methane into the environment.

Other highlights from 2016 include:

- Reducing the backlog of minor non-hazardous workable leaks by 99 percent since 2010, to an all-time low of 52—from about 12,200 in 2010, and
- Responding to gas odor reports in an average of 20 minutes.

PG&E is also improving the quality of, and access to, our gas distribution records by using a Geographical Information System (GIS). This system allows PG&E to more comprehensively map, reconcile and analyze data associated with our distribution assets.

Embedding Public Safety into our Operating System

PG&E was one of the first gas and electric providers to incorporate public safety metrics and targets into our operational goals and plans. We believe that tracking and reporting on these measures is essential. Examples of our accomplishments include:

- **Installed 268 automatic and remote shutoff valves.** This milestone completed another safety recommendation issued by the U.S. National Transportation Safety Board (NTSB) following the 2010 San Bruno accident. We have now satisfied 11 of the 12 safety recommendations made by the NTSB for improving the operations and management of our natural gas pipeline system.
- **Made significant progress to enhance the safe operation of our gas infrastructure.** Since 2011, we have validated safe operating pressure by strength-testing more than 835 miles of gas pipeline, replaced more than 175 miles of gas transmission pipeline and retrofitted more than 665 miles of gas transmission lines to accommodate in-line inspection tools.
- **Worked with customers and communities to improve emergency access to gas pipelines.** The Community Pipeline Safety Initiative works in partnership with customers to check that the areas above PG&E's more than 6,750 miles of natural gas transmission pipeline are clear from hazards and obstructions, which helps ensure that first responders have immediate access in an emergency and also helps prevent damage to the pipeline. In situations where a tree or structure needs to be removed or replaced for safety reasons, PG&E will work closely with the customer to address the item—all at PG&E's expense—to ensure the safety of the community for years to come.

- **Continued building a state-of-the-art training facility.** We continued building a new training facility in Winters (Yolo County) that will provide teams with a best-in-class training environment. For example, the site will include up to 15 small training homes and a scale replica of a residential street to train field service representatives on enhanced safety protocols using the latest technologies. The facility will also have a significant positive economic impact on the community and region through hotel, sales and property tax revenue. Doors are scheduled to open in 2017.
- **Became the first gas provider in the world to meet the chemical industry's RC14001® management system standard.** PG&E successfully passed a comprehensive gas safety audit reviewing numerous end-to-end safety processes to achieve certification to RC14001. This standard was issued through the American Chemistry Council for PG&E's process safety; community communications; product safety; and occupational safety, health, environmental and security practices against which organizations can be evaluated and certified by a third party. The standard embodies the industry's Responsible Care® Guiding Principles.



PG&E implements cutting-edge technology

PG&E deployed a number of new, innovative gas safety tools in 2016. Examples include piloting a state-of-the-art laser methane detection technology at our McDonald Island storage facility, as well as the use of drones for inspection of remote infrastructure and the use of radio frequency identification technology to locate subsurface assets.

We also completed the second phase of a GIS tracking and traceability tool pilot project and engaged in a high-accuracy mapping and traceability technology deployment. The results of these projects will be leveraged by PG&E to create a mobile solution that will provide gas construction crews with real-time access to detailed maps of our gas system in 2018.

Measuring Progress

PG&E has met 11 of the 12 safety recommendations from the NTSB report on the San Bruno accident. We are focused on safely and responsibly completing the final recommendation, which includes strength-testing natural gas transmission lines. It is currently in "open-acceptable response" status, indicating that the NTSB regards PG&E's progress as appropriate and acceptable. Our gas system progress is detailed in the table below.

GAS SYSTEM PROGRESS		
	2010	2016
Gas Odor Response Times		
Average response time in minutes	33.3	20.0
Percent response within 60 minutes	94.4%	99.7%
SCADA¹ Visibility and Control Points		
Transmission pressures and flows	1,300	2,535
Distribution pressures and flows	295	2,870
Leak Backlog		
Open Grade 2 and 2+ leak indications ²	12,203	52
Dig-In Reduction		
Excavation damage per 1,000 excavation tickets	3.5	2.0
	2010	2011–2016
Gas Transmission		
Miles of pipeline replaced	9	>175
Miles of pipeline hydrotested	0	>835
Miles of pipeline made piggable	130	>665
Automated valves installed	0	268
Percent of system with GPS centerline data ³	0%	100%
Gas Distribution		
Miles of main replaced ⁴	27	>435

1. Supervisory control and data acquisition.

2. Grade 2 and 2+ leaks are minor and non-hazardous.

3. GPS survey was completed for 100% of the accessible transmission pipeline system using highly precise mapping tools.

4. In 2014, all known remaining cast-iron pipe was decommissioned.



PG&E installs new playground in Monterey County

Children in Soledad have a new playground, thanks in part to PG&E's Community Pipeline Safety Initiative. PG&E works with communities to ensure that the areas above and around natural gas transmission pipelines are safely accessible in the event of an emergency or for critical maintenance work. After a playground at the Santa Elena Mobile Home Community was identified as being too close to a pipeline, PG&E partnered with the city and the community's homeowners association to replace the old play structure with a new one at a safer distance from the gas line.

Looking Ahead

PG&E continues to make progress toward becoming one of the safest and most reliable gas providers in the country. The CPUC approved a comprehensive scope of work through 2018 to:

- Replace vintage pipelines that could be at risk from land movements,
- Continue testing pipelines to verify safe operating pressures,
- Continue controlling corrosion to avoid underground leaks,
- Install more automated and remotely operated safety valves to quickly turn off gas in case of an emergency,
- Inspect the interior of more pipelines to detect and repair hidden flaws,
- Strengthen levee and water crossings,
- Maintain underground gas storage facilities that help meet demand on cold days, and
- Modernize infrastructure control systems, databases and risk analysis programs.

PG&E maintains two international recertifications for asset management

In 2017, PG&E achieved two international recertifications for best-in-class operational standards for asset management systems in our gas operations. The recertifications for PAS 55-1 and ISO 55001 were awarded by the independent, internationally recognized auditor, Lloyd's Register. Companies must go through a rigorous recertification every three years.





Electric Operations

From the soft glow of computer screens in Silicon Valley to the bustling machinery of industry and agriculture in the Central Valley, reliable electricity helps power the California economy, the sixth largest in the world. At PG&E, we take seriously our responsibility to keep the lights on as we continue to enhance and strengthen our infrastructure, including making substantial investments to modernize the energy grid and improve our operations.

Our Approach

With the rapid growth in private solar installations, battery storage systems and consumer mobile applications, we need an energy grid that can adapt and change to handle the demands of our customers. This is what PG&E continues to develop and build—an automated “plug-and-play” platform that allows energy technologies to be interconnected with each other and integrated into the larger grid.

We call this the smart grid, which takes full advantage of new energy technologies as they are introduced, in order to give our customers maximum flexibility, choice and value. This grid also gives PG&E greater visibility into our operations to improve reliability and balance renewable energy with conventional sources.

Modernizing the grid is part of our multiyear strategic plan, which adopts best practices, builds on the progress we’ve made and identifies ways to improve in key areas, including public and workforce safety, compliance, emergency preparedness, reliability, customer satisfaction and efficiency.

As part of our regular operations, we maintain and replace older equipment, upgrading as needed and incorporating new technologies that improve our ability to monitor and restore power.

We also work with local and state agencies to help reduce the risk of wildfires, which, among other impacts, can cause power loss. We've stepped up planning and training efforts to make sure that first responders are comfortable dealing with gas and electric issues during incidents and participated in dozens of projects to teach wildfire prevention in local communities. And we've invested heavily in new technologies and increased inspections to prevent downed electric wires.



PG&E restores power lost in wildfire even before residents return home

A wildfire in the Santa Cruz Mountains destroyed 12 homes and knocked out power to more than 200 customers in the county. Once it was safe to do so, nearly 100 PG&E employees worked to replace 47 poles and 25,000 feet of wire damaged in the fire. Power was restored a day before many residents were allowed back into their homes, making their homecoming that much more welcoming.

2016 Milestones

Every year, PG&E aims to improve reliability and our ability to more quickly restore power after outages by installing a wide range of advanced communications and control technologies throughout the energy grid. Highlights from 2016 included:

- **Opened third Distribution Control Center.** Since 2014, PG&E has opened three state-of-the-art electric distribution control centers—in Fresno, Concord and Rocklin—that manage more than 140,000 miles of electric distribution power lines throughout Northern and Central California. The third of these—in Rocklin (Placer County)—opened in 2016. These facilities are the nerve centers of the grid that deliver energy to the homes and businesses of more than 16 million Californians. The centers have enhanced electric reliability for PG&E customers while incorporating clean, renewable energy into the grid.
- **Launched distributed energy resource management system (DERMS) demonstration projects.** In collaboration with leading companies including Tesla, Green Charge and GE Grid Solutions, the projects will demonstrate how DERMS technology—such as solar and battery storage—can enhance the stability and power quality of the grid and optimize power-flow management, especially as more customers adopt solar.
- **Invested in our system.** Throughout the year, PG&E completed a number of local projects to upgrade our electric system, enhance reliability and increase capacity. These ranged from installing remote sensing devices on power poles to reduce the frequency and duration of power outages in Los Molinos to improving high-voltage transmission towers in Burlingame.
- **Installed advanced circuit automation technology.** This advanced technology, installed on electric distribution circuits, can restore power to the majority of customers within minutes after an outage by rerouting the flow of electricity around a damaged power line, automatically “self-healing” the grid. Since the program began in 2012, these systems have been installed on more than 25 percent of PG&E’s electrical distribution circuits and have helped the company avoid more than 160 million customer outage minutes and prevented more than 1.6 million customers from experiencing a sustained outage.
- **Continued to leverage SmartMeter™ technology.** More than 10 million electric and gas SmartMeter™ devices are creating a smarter, more reliable energy grid. The electric meters provide near real-time energy usage data to both PG&E and our customers through digital communications. They also enable us to better detect areas affected by outages, which means we can restore power faster.

Measuring Progress

In 2016, PG&E customers experienced the second-best reliability in PG&E history, with the average customer experiencing just one outage during the year.

The average time a PG&E customer was without power (SAIDI) was 108.9 minutes, representing a 35 percent improvement over the last decade. The average number of power interruptions per customer (SAIFI) was 1.022, or just about one per customer.

ELECTRIC RELIABILITY PROGRESS		
	2010	2016
Average duration of outages per customer in minutes (SAIDI)	157.2	108.9
Average number of outages per customer (SAIFI)	1.207	1.022

PG&E also tracks the number of customers who experience five or more sustained outages (CEMI-5), measured as a percentage of the total customers served, as well as the percentage of time that PG&E personnel are on site within 60 minutes after receiving a 911 call of a potential PG&E electric hazard.

ELECTRIC SYSTEM PROGRESS				
	2013	2014	2015	2016
Customers experiencing five or more sustained outages (CEMI-5)	1.87%	1.71%	1.35%	2.10%
Electric Emergency Response (percentage within 60 minutes)	92.2%	94.1%	97.1%	98.3%



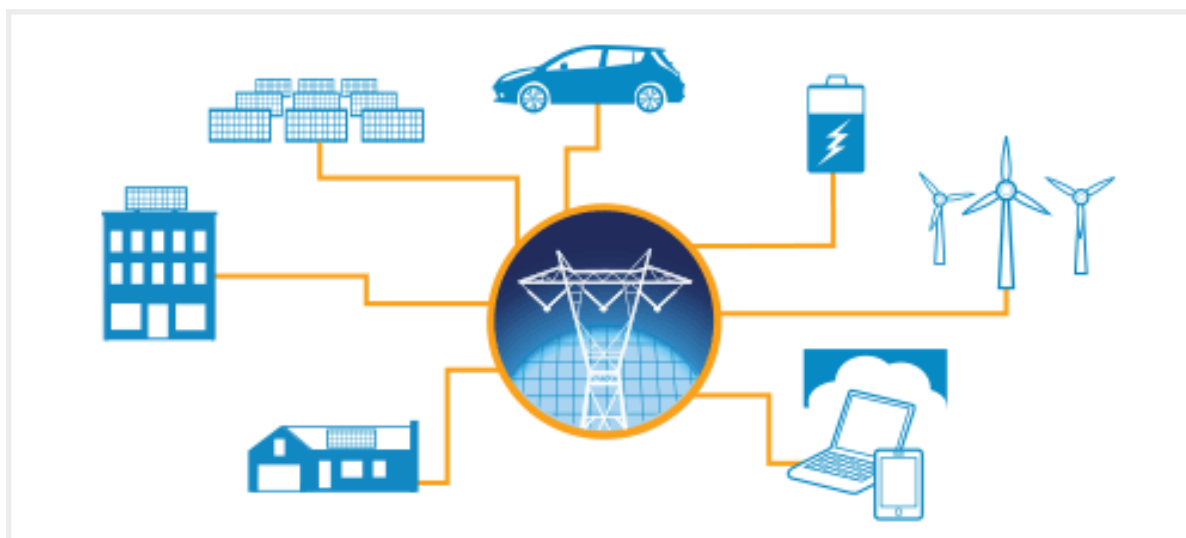
PG&E and other energy companies use standard measures for electric reliability:

- System Average Interruption Duration Index (SAIDI) measures the number of minutes over the year that the average customer is without power.
- System Average Interruption Frequency Index (SAIFI) measures the system-wide frequency of power interruptions per customer.

Looking Ahead

Our overarching focus is safety for our communities, customers and employees; optimizing technology to achieve greater reliability; working to ensure that our electric service remains affordable for customers; and supporting a flexible resource portfolio to deliver even more clean energy. In 2017, we plan to:

- Continue energy grid reliability projects, replace more than 70 miles of overhead power lines and perform infrared inspections on 12,500 circuit miles of power lines,
- Further enhance our corporate emergency response plan with additional basecamp agreements and implement technologies that will support a major emergency event,
- Improve our service planning process to meet customer commitments,
- Make continued investments into battery storage, including PG&E's first lithium-ion battery project installed at a substation to reduce peak demand during hot summer days,
- Pilot new technologies to modernize the energy grid, and
- Execute our Electric Tower Maintenance Program, one part of PG&E's effort to create safer and more environmentally responsible infrastructure.



Technology demonstration and deployment

In 2016, PG&E completed 14 demonstration projects as part of the Electric Program Investment Charge (EPIC) program, which enables PG&E to work with the other California investor-owned energy companies and the California Energy Commission to develop smart grid technology demonstration and deployment programs.

Through the program, PG&E is demonstrating technology across four areas: renewables and distributed energy resource integration, grid modernization and optimization, customer service and enablement, and cross-cutting foundational strategies and technologies.

EPIC projects include:

- Deploying energy storage technologies, including battery storage systems, to test their value in supporting various facets of the energy grid,
- Testing physical devices, such as robots, in both lab and field settings that help perform maintenance on switches with elevated risk, thereby enhancing employee safety,
- Mapping the optimal locations for direct-current fast chargers, critical components to support electric vehicle growth in California—identifying about 14,000 potential sites,
- Demonstrating a technology platform to visualize grid operations data to improve both real-time and short-term operational decisions, and
- Demonstrating a new technology that enables PG&E to connect plug-in hybrid electric trucks with exportable power directly to distribution circuits, minimizing the impacts of an outage during planned maintenance or an emergency.

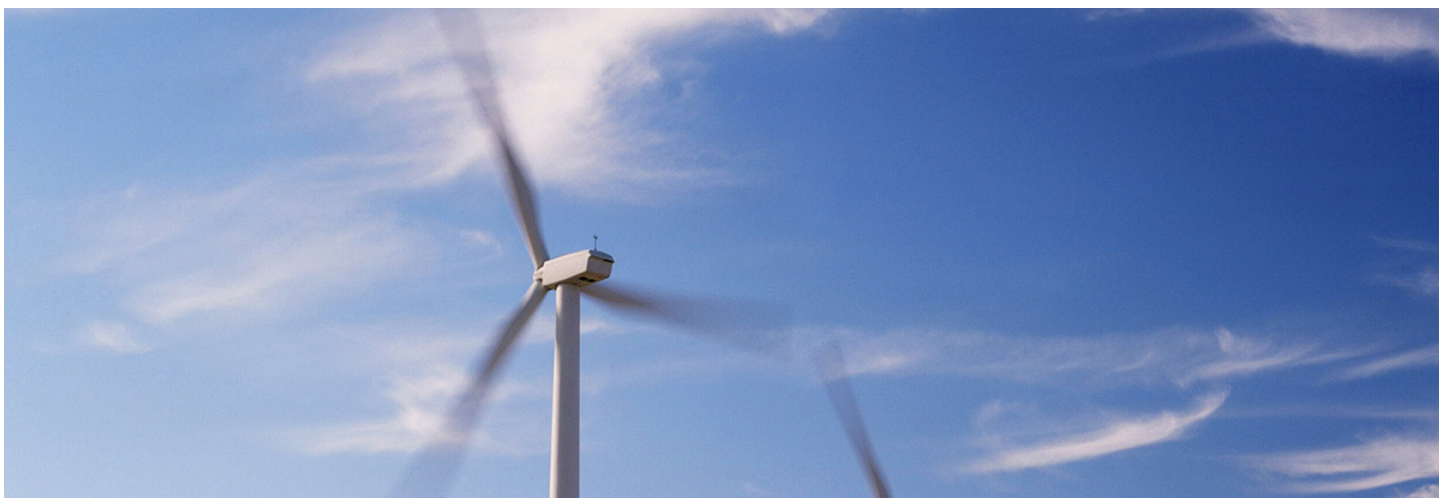


Photo courtesy of Avangrid Renewables

Clean Energy

PG&E delivers some of the nation's cleanest energy, with goals that are in step with California's evolving clean energy policy and standards. We continue to take an integrated approach in our efforts to reduce greenhouse gas emissions, provide safe and reliable energy, and help grow California's economy, all while keeping service affordable for customers.

Our Approach

California has one of the highest renewable energy targets in the nation, guided by California's Energy Action Plan. This plan establishes a "loading order" that prioritizes energy efficiency, demand response and renewable energy over using fossil fuels to meet customer demand.

Senate Bill (SB) 350 increases California's Renewables Portfolio Standard (RPS) to 50 percent by 2030 and doubles state energy efficiency goals. These targets guide our programs, tools and network investments as well as advance discussions around electric vehicles, private renewable energy installations and smart grid infrastructure.

Reflecting California's changing energy landscape, PG&E announced a Joint Proposal with labor and leading environmental organizations in June 2016 that would increase PG&E's investment in energy efficiency and renewables beyond current state mandates while phasing out PG&E's production of nuclear power in California by 2025. Reflecting this change, PG&E committed to a 55 percent renewable energy target by 2031, an unprecedented voluntary commitment by a major U.S. energy company.



PG&E ranked nation's greenest energy provider by Newsweek

PG&E Corporation was named the greenest energy company in the nation and was ranked among the top 15 greenest publicly traded companies in the United States in any industry in the 2016 Newsweek Green Rankings. PG&E placed first among electric and national gas providers based on eight indicators, including energy use, greenhouse gas emissions, water use and waste.

PG&E continues to invest in energy storage technology as well. In 2016, we completed a technology demonstration project exploring battery storage systems. The two-year project measured the results of a 2 MW battery storage system located at our Vaca-Dixon substation and a 4 MW system located in San Jose. Future systems will benefit from the lessons learned from these demonstration systems.

Measuring Progress

By the end of 2016, nearly 33 percent of the electricity that we delivered to customers came from Renewable Portfolio Standard-eligible resources. The chart below shows our overall electricity supply mix for 2016, which included both the energy that PG&E generated and the energy that PG&E purchased from third parties on behalf of customers.

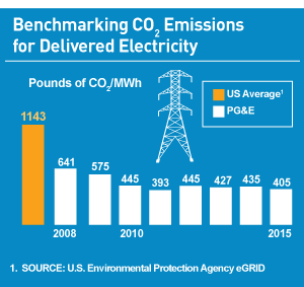
PG&E'S 2016 ELECTRIC POWER MIX DELIVERED TO RETAIL CUSTOMERS	
Eligible Renewable (see accompanying breakdown)	33%
Natural Gas	17%
Nuclear	24%
Large Hydroelectric	12%
Coal ¹	0%
Unspecified Power ²	14%

1. Refers to PG&E electricity generated under contracts with third parties.

2. Refers to electricity from transactions that are not traceable to specific generation sources.

Breakdown: Composition of PG&E's 2016 Total Eligible Renewable Resources ¹	
Solar	13%
Wind	8%
Geothermal	5%
Biomass and Waste	4%
Eligible Hydroelectric	3%

1. As defined in Senate Bill 1078, which created California's Renewable Portfolio Standard, an eligible renewable resource includes geothermal facilities, hydroelectric facilities with a capacity rating of 30 MW or less, biomass, selected municipal solid waste facilities, solar facilities and wind facilities. These figures are preliminary and will not be finalized until verified by the California Energy Commission.



Nearly 70 percent of the electricity that PG&E delivers to customers comes from greenhouse gas-free resources. PG&E's carbon dioxide emissions rate is approximately two-thirds cleaner than the national energy company average.

Looking Ahead

By setting aggressive clean energy goals, PG&E is setting an example of how energy companies can reduce emissions, improve reliability and do what's best for our customers, communities and the environment.



Partnering with renewable energy developers

PG&E asked for proposals from local renewable energy developers to design small and medium-sized renewable energy projects via the Regional Renewable Choice program. The energy from these projects must be from renewable resources such as solar, wind or biomass. Eventually, more than 75 megawatts of power will come from these resources, extending access to renewable energy to tens of thousands of additional homes and businesses throughout California.



Renewable Energy

PG&E offers customers some of the cleanest energy in the country. Today, nearly a third of our delivered power comes from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy. We remain on track to meet the state's bold clean energy goals, which call for 50 percent renewable energy by 2030. In fact, as part of our Diablo Canyon Power Plant joint proposal, PG&E committed to a 55 percent renewable energy target in 2031, an unprecedented voluntary commitment by a major U.S. energy company.

Our Approach

PG&E uses a range of options to reach California's renewable energy goals, including competitive solicitations to procure renewable energy from third parties and owning renewable energy projects ourselves. As we expand our clean energy portfolio, we collaborate with regulators, environmental organizations and other stakeholders to ensure that we achieve this growth responsibly and in a way that is affordable for customers.

California's Renewable Energy Targets

PG&E supported Senate Bill (SB) 350, which increases the state's Renewable Portfolio Standard (RPS) to 50 percent by 2030. We have made significant progress toward that goal, with nearly 33 percent of the energy delivered to customers coming from eligible renewable sources in 2016. In addition, nearly 70 percent of the electricity that PG&E delivered to its customers in 2016 came from greenhouse gas-free resources.

2016 Milestones

In 2016, three large projects under contract to PG&E were completed in California:

- **Henrietta Solar Project:** a 100-MW solar photovoltaic project built by Southern Power and SunPower in Kings County,
- **Diablo Winds Energy Center:** an 18-MW wind project built by NextEra Energy Resources in Alameda County, and
- **Corcoran 3 Solar Project:** a 20-MW solar photovoltaic project built by Con Edison in Kings County.

In addition to these projects, PG&E added 16 small projects under 10 MW in size. In total, through these 19 projects PG&E added 161 MW of renewable contracts, including nine solar photovoltaic projects (126 MW total), seven small hydropower projects (7 MW), two bioenergy projects (10 MW) and one wind project (18 MW total). Many of these projects also yield a positive economic effect on the surrounding communities.

In 2016, PG&E earned recognition for a variety of renewable energy development accomplishments:

- The Solar Electric Power Association recognized Pacific Gas and Electric Company for having the second-most annual installed solar photovoltaic capacity.
- Among investor-owned energy companies, Ceres ranked PG&E second in providing renewable energy in its report, Benchmarking Utility Clean Energy Deployment.

Measuring Progress

We continued our progress toward meeting California's renewable energy mandate. By the end of 2016, nearly 33 percent of the electricity delivered to customers came from RPS-eligible resources. California's RPS is measured by the percentage of total retail sales that come from RPS-eligible resources.

The majority of our renewable resources come from contracts with third-party renewable energy companies. Overall, PG&E has contracted for more than 12,700 MW of RPS-eligible energy since the start of California's RPS program in 2002. PG&E's RPS-eligible portfolio includes more than 7,300 MW of active contracts through January 2017; approximately 6,800 MW of these are delivering energy to PG&E, with about 550 MW under development as of January 2017.

RENEWABLE PORTFOLIO STANDARD—ACTIVE CONTRACTS AS OF JANUARY 2017¹

Type	Number	MW	% By Count	% By Capacity
Bioenergy	29	510	11%	7%
Geothermal	3	447	1%	6%
Small Hydroelectric	90	359	34%	5%
Solar Photovoltaic (PV)	113	3,362	42%	46%
Solar Thermal	4	741	1%	10%
Wind	28	1,965	10%	27%
Total	267	7,383	100%	100%

1. Includes new RPS procurement through the RPS, RAM, RAM for PV Program, PV Request for Offers, Qualified Facilities, Renewable Energy Market Adjusting Tariff / Feed-in Tariff (ReMAT/FIT), Renewable Energy Credit only, and Etiwanda Irrigation District Water Authority. Excludes owned generation, terminated contracts, and expired contracts.

Not counted in these contracts is 471 MW of PG&E-owned eligible renewable generation facilities. This includes 152 MW of solar facilities and 319 MW of small hydro facilities.

In addition, PG&E has connected more than 300,000 customers with private solar to the energy grid—representing about 20 percent of the nation's private solar and more than 2,700 MW of clean energy. In 2016, PG&E also signed new biomass contracts as a way to address the state's historic tree mortality crisis by transforming dead and diseased trees into usable energy, and reducing the fire hazard created by the crisis.

Looking Ahead

PG&E believes California's forward-looking RPS program is an important step toward achieving the state's aggressive climate change and clean energy goals. We stand ready to provide clean energy and energy efficiency in a way that manages costs for customers, ensures electric reliability and gas safety, and creates a model program for other states and nations to follow.

By entering into contracts and long-term commitments while the technologies and the RPS program were still developing, we have helped promote the development of California's robust renewable resource market.

Moving forward, PG&E remains focused on achieving the state's bold clean energy goals in a manner that manages costs for our customers. We are actively encouraging the state to continue its integrated greenhouse gas policy that achieves emissions reductions at the lowest cost to California residents, rather than imposing technology-specific mandates or prescribed procurement programs. This will keep the focus on the fundamental goal of reducing carbon emissions in a sustainable manner.

Additionally, as we transition to an economy where energy is generated and used differently, the energy grid will need to be valued in ways that reflect the services provided, rather than the amount of energy delivered. That will mean moving toward a rate structure where energy companies are compensated for the grid services that they provide to customers, and customers receive clear value for what they bring to the energy grid, from private solar installations to electric vehicles. This approach would enable PG&E to find the most viable renewable energy options and apply them to the greatest effect, while safely and reliably providing the best value for customers.



Hydroelectric Operations

PG&E owns and operates one of the nation's largest investor-owned hydroelectric systems. Being a steward of water resources involves supplying our hydroelectric power generation facilities—an abundant source of clean energy—while managing water supplies for fisheries and downstream users in a responsible way.

Our Approach

PG&E's hydroelectric system is spread across California and consists of nearly 100 reservoirs that feed 66 powerhouses and a pumped storage facility, for a total generating capacity of nearly 4,000 MW of clean power. We manage our hydroelectric system to ensure the safety of the public and our workforce, protect wildlife habitat and sensitive species, and maintain popular recreation venues for the communities we serve, including campgrounds, picnic areas, boat launches, trails, fishing streams and whitewater flows.

As a source of consistent, flexible and clean energy, hydropower provides an important balance to help the energy grid integrate variable sources of renewable energy such as wind and solar. PG&E works closely with water districts, first responders and regulatory agencies to manage our water resources—whether in times of drought, such as those we experienced during the last several years, or in more recent periods of extreme precipitation. We work together to repair and strengthen infrastructure, manage wildfire risks and mitigate environmental impacts.

Working Collaboratively

PG&E's hydroelectric system consists of 25 federally licensed projects that require regular renewal of operating licenses. During the renewal process, we collaborate with stakeholders, including federal and state agencies, local community members,



PG&E reminds customers to be safe

Many reservoirs, dams, rivers and streams near PG&E's hydroelectric facilities are available to the public for swimming, fishing and boating, as are campgrounds, picnic areas, boat launches and hiking trails. Before visiting any of these recreation sites, PG&E encourages customers to learn about hydropower and how to be safe when recreating near a facility by visiting www.pge.com/hydrosafety.

environmental organizations, Native American tribes, fishing interests and agricultural landholders, to assess the impacts of the projects. Together, we reach agreement on appropriate resource management measures to include as conditions of the new licenses, such as fish and wildlife habitat protection and recreational opportunities.

Investing in Safety and Reliability

Many of PG&E’s dams and powerhouses have been in service for more than 75 years, and some of the water collection and transport systems date back to California’s gold mining era. We inspect and maintain our entire hydroelectric system according to strict safety guidelines, ensuring structural integrity under normal and extreme conditions.

We continue to make significant investments to repair and upgrade our water conveyance systems to ensure their ongoing safety and reliability. In addition, we continue to engage with customers in populated areas downstream from PG&E dams through safety outreach.

2016 Milestones

While heavy rains in early 2017 helped relieve the drought, PG&E remains diligent in managing and monitoring our hydroelectric system and the impact of both flood and drought on our watersheds.

Our environmental commitment includes managing our hydroelectric facilities to enhance and, where possible, restore habitats for fish and other wildlife. Examples of our efforts include:

- **Shasta crayfish reintroduction.** Pacific Gas and Electric Company signed a Safe Harbor Agreement with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife—designed to assist in reintroducing endangered Shasta crayfish in Shasta County. Additionally, on PG&E land, the federal and state agencies completed a meadow restoration project; the restored habitat has the potential to double the number of Shasta crayfish now in existence.
- **Removed small dam on East Panther Creek.** In 2003, PG&E worked with several groups, including the Foothill Conservancy, American Whitewater, Natural Heritage Institute and the California Department of Fish and Wildlife, to intentionally breach the East Panther Creek Dam, restoring the creek to its full natural flow. The restoration process was completed in November 2016 with the removal of the dam, allowing better fish passage and natural flows.

Measuring Progress

We gauge our hydroelectric performance in a number of ways: the reliability of our carbon-free hydroelectric power generation units; our progress on improving public safety around the flumes, canals and other waterways we manage; and our compliance with environmental requirements for our operating licenses.

In 2016, we met our target for the reliability of our hydropower units, with the facilities available more than 98 percent of the time when they were planned to operate. We have maintained a target of 98.9 percent for 2017.



PG&E tests drones, new safety tool for inspections of remote infrastructure

The Federal Aviation Administration granted PG&E permission to begin testing the use of small drone aircraft to inspect our facilities. The first test was completed in the Sierra Mountains high above Fresno at PG&E’s Balch 1 Powerhouse. The rough terrain makes it challenging for employees to conduct assessments. By using a drone, we are able to inspect the entire facility and determine areas that need to be addressed.

PG&E urges planning on National Dam Safety Awareness Day

In recognition of National Dam Safety Awareness Day, PG&E urged those living or working below dams to recognize the signs of a potential dam breach and to maintain a current evacuation plan and emergency kit. PG&E owns 169 dams in Northern and Central California as part of our hydropower system.

HYDROPOWER RELIABILITY			
	2014	2015	2016
Target	99.1%	99.1%	98.9%
Actual	98.8%	99.4%	98.9%

As part of PG&E's wide-ranging public safety program, which includes K-8 education and an extensive dam safety and inspection program, we also track the installation of fencing and gates to further protect the public around PG&E-managed waterways.

For the last three years, we have exceeded our goal for the total area protected by fencing and gating, as measured in linear feet. Our target for 2017 remains at 16,000 linear feet.

AREA PROTECTED BY FENCING AND GATING (LINEAR FEET)			
	2014	2015	2016
Target	16,000	16,000	16,000
Actual	16,789	23,755	44,399

Finally, our compliance rate in 2016 was 98.9 percent, slightly improving upon the prior year's rate of 98.8.

PG&E also tracks key indicators of our performance related to maintaining and managing our hydroelectric system and the fish and wildlife habitats that it encompasses:

ENVIRONMENTAL STEWARDSHIP IN OUR HYDROELECTRIC OPERATIONS—2016	
Miles of stream monitored for environmental condition ¹	618
Acres of bird nesting territories monitored ²	8,125
Acres monitored and/or treated for noxious weed control	2,847
Acres monitored for use by special-status species ³	1,095

1. Refers to miles of stream monitored for conditions such as water quality/flow, sediment management, habitat quality, fish populations and invasive species.

2. Includes monitoring of bald eagle and other nesting territories at PG&E hydroelectric projects.

3. Special status species include those that are listed under the federal or state Endangered Species Acts or are otherwise given a specific designation by California or a federal resource or land management agency. Monitoring studies are required under various hydroelectric licenses.

Looking Ahead

Although most of California is no longer in a drought, PG&E's approach to water stewardship in our operations will continue. By collaborating with policymakers, regulators, private industry and other stakeholders, we will manage the availability of water for hydroelectric power while minimizing fire danger and impacts to the environment and the communities we serve.



Conventional Sources

PG&E's natural gas-fired power plants provide a safe and reliable source of energy for customers and contribute to PG&E's diverse portfolio of generation resources. Their flexibility—including the ability to ramp up once solar generation decreases late in the day—means that they play an important role as we integrate variable renewable energy sources into our power mix.

Our Approach

PG&E operates three natural gas-fired plants with best-in-class emissions levels and reduced water use via dry cooling:

- Colusa Generating Station
- Gateway Generating Station
- Humboldt Bay Generating Station

As flexible combined-cycle power plants, the Colusa and Gateway Generating Stations also play a key role in PG&E's efforts to successfully integrate more renewable resources into the energy grid. When wind or solar production declines during the course of a day, these facilities ramp up quickly to generate the energy that customers need.

2016 Milestones

In 2016, PG&E continued the safe operation of our three natural gas-fired plants.

- **Colusa Generating Station:** This 657-MW combined-cycle natural gas plant features cleaner-burning turbines that allow the plant to use less fuel and emit significantly less NO_x, SO₂ and CO₂ than older plants. “Dry cooling” technology allows the facility to use 97 percent less water than plants with conventional once-through water cooling systems.



The plant has 530 MW of base capacity and approximately 127 MW of low-cost peaking power that can be used at times when demand is high or in emergencies. In addition, the plant is designed to lower its output when power from renewable resources like wind and solar becomes available. The plant uses a zero-liquid-discharge system that recycles wastewater and further reduces its water consumption.

- **Gateway Generating Station:** This 580-MW combined-cycle natural gas plant has 530 MW of base capacity and 50 MW of low-cost peaking capability. Like Colusa, the plant yields dramatically lower emissions for every megawatt-hour of power produced compared with older fossil-fueled plants. It also uses dry cooling technology, which minimizes water use.

- **Humboldt Bay Generating Station:** This 163-MW natural gas plant is located in a relatively isolated section of California’s north coast region and provides a significant majority of the area’s electrical capacity. The plant’s design—selected for the region because of its flexibility and low emissions—uses reciprocating engines that are air-cooled, reducing water use by eliminating the need for “once-through” cooling from Humboldt Bay.

Measuring Progress

In 2016, PG&E’s natural gas power plants provided safe, reliable and low-cost electricity to our customers. The following performance data represents the average availability factor of our natural gas power plants.

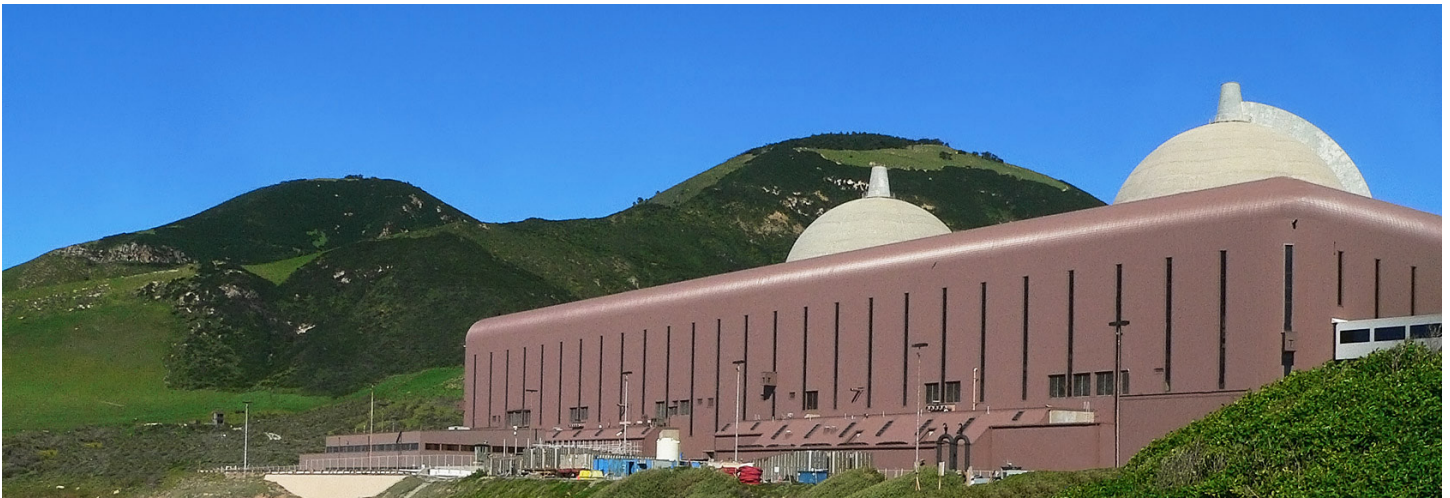
NATURAL GAS POWER PLANT AVAILABILITY FACTOR ¹			
	2014	2015	2016
Gateway Generating Station ²	93.1%	94.7%	81.6%
Colusa Generating Station	87.7%	92.7%	94.6%
Humboldt Bay Generating Station	95.2%	93.0%	92.4%

1. Refers to the proportion of hours in a year that a plant is available to generate electricity.

2. The decrease in Gateway Generating Station’s availability factor in 2016 was due to its first comprehensive maintenance upgrade.

Looking Ahead

The flexibility and reliability of conventional power generation will continue to play an integral role in meeting our state’s evolving energy needs, particularly as more renewable sources come online. We remain focused on maintaining, upgrading and safely operating our facilities, while further increasing their ability to flexibly support continued growth in renewable and distributed energy resources.



Nuclear Operations

Diablo Canyon Power Plant is a safe, clean, affordable and reliable energy resource for California, generating enough carbon-free energy to meet the needs of more than 3 million people. Diablo Canyon also serves as one of the main employers and buyers of goods in the San Luis Obispo County region.

Our Approach

We remain strongly committed to the highest levels of safety, performance and security at Diablo Canyon. The Nuclear Regulatory Commission's (NRC) 2016 assessment places Diablo Canyon among the higher-performing plants in the U.S. nuclear industry. This reflects the hard work and dedication of our employees and our commitment to meeting PG&E's and the NRC's high performance standards.

Demonstrating Earthquake, Flooding and Tsunami Safety

Extensive analyses performed at the direction of the NRC continue to show that Diablo Canyon can safely withstand extreme natural events, including potential earthquakes, tsunamis and flooding. The analyses used the latest regulatory guidance, scientific methods and models, site-specific information and independent expertise to re-evaluate the impacts that earthquakes, large waves and flooding could have on the facility. The updated findings represent the culmination of years of study and analysis, and further confirm the safety of the plant's design.

The updated seismic assessment represents a more extensive evaluation of the seismic hazard than previously performed. Using the NRC's Senior Seismic Hazard Analysis Committee process, independent seismic experts publicly re-evaluated existing and new seismic information to re-evaluate how



PG&E employees give back

PG&E employees at Diablo Canyon volunteer thousands of hours of their personal time each year to after-school athletic programs, environmental organizations, churches and other community organizations. In 2017, PG&E employees will donate about \$847,000 to local nonprofits and schools. In addition, employees raised more than \$17,000 for the Make-A-Wish Foundation at the 19th annual Nuclear Challenge Golf Tournament. Since the tournament's inception in 1997, PG&E employees and partners have raised more than \$265,000 for the chapter.

earthquakes could potentially impact the facility. The result provides additional confirmation that the plant is seismically safe.

The assessment also informs PG&E's Long-Term Seismic Program, led by a geosciences team of professionals that partners with independent seismic experts on an ongoing basis to evaluate regional geology and global seismic events to ensure that the facility remains safe.

PG&E's flooding hazard re-evaluation determined that the plant's key safety systems and components continue to be safe from tsunamis, including those generated from underwater landslides and earthquakes.

Spent Fuel Storage

At both Diablo Canyon and the former nuclear unit at the Humboldt Bay Power Plant, PG&E safely stores spent fuel in on-site dry cask storage systems approved and licensed by the NRC. Diablo Canyon also safely and securely stores spent fuel in wet storage facilities. These on-site storage systems are used at nuclear power plants around the world.

These two on-site interim storage solutions are federally monitored and follow industry best standards to ensure that they are safe and effective. The ability to store spent fuel safely on-site, however, should not be a long-term alternative to the federal government assuming its responsibility to accept the fuel for permanent storage. To that end, PG&E will continue to advocate that the federal government meet its commitment and take charge of managing the nation's spent fuel.

Water Management

PG&E actively manages the water used in the electric generation process in accordance with the water discharge limit set by Diablo Canyon's Clean Water Act permit.



Visitors can learn about the plant and a range of energy-related topics at our Energy Education Center and the Diablo Canyon website. Also, guided tours of Diablo Canyon provide an opportunity to speak directly with employees and learn how the plant provides safe, reliable and clean energy.

2016 Milestones

In a typical year, at least one of Diablo Canyon’s two reactor units safely undergoes a planned refueling and maintenance outage. Once every five years, both units undergo a planned refueling and maintenance outage, due to their separate operating schedules.

In 2016, Unit 2 at Diablo Canyon underwent a safe and successful refueling and maintenance outage.

PG&E also continued decommissioning the former nuclear unit at the Humboldt Bay Power Plant. PG&E has completed removal of prior operational nuclear systems and equipment, as well as demolition and removal of many structures on-site. Final site restoration and remediation plans have been approved by the NRC, and work continues safely.

Measuring Progress

Diablo Canyon continues demonstrating high operational performance as gauged by its plant capacity factor, a measure of generation reliability. During 2016, Diablo Canyon produced its highest annual generation, resulting in a capacity factor of 96 percent—the highest in 31 years of operation.

Diablo Canyon is a vital local economic engine and brings significant benefits to San Luis Obispo and Northern Santa Barbara counties. Planned refueling outages can bring almost 1,000 temporary workers to the Central Coast, where they spend money on local housing, dining and shopping. In advance of planned outages, PG&E holds jobs fairs at our Energy Education Center in San Luis Obispo to help fill the temporary positions.

Beyond these temporary jobs, PG&E is the largest private employer in the area, with nearly 1,500 workers and operations that contribute more than \$900 million to the region through the funds that we directly spend and the subsequent economic activity in the community from those investments. Tax revenues from the plant—the largest property tax payer in San Luis Obispo County—help fund schools, public works projects, public safety, and health and other vital services.

Looking Ahead

California’s energy landscape is changing dramatically. State policies that focus on renewables and energy efficiency, coupled with projected lower customer electricity demand in the future, will result in a significant reduction in the need for the electricity produced by Diablo Canyon past 2025.

Reflecting this change, PG&E entered into a joint proposal with labor and leading environmental organizations to retire Diablo Canyon at the expiration of its current NRC operating licenses in 2024 and 2025 and replace it with a greenhouse gas-free portfolio of energy efficiency, renewables and energy storage.

The parties to the joint proposal include PG&E, the International Brotherhood of Electrical Workers Local 1245, the Coalition of California Utility Employees, Friends of the Earth, the Natural Resources Defense Council, the California Energy Efficiency Industry Council and the Alliance for Nuclear Responsibility.

Recognizing that the procurement, construction and implementation of a greenhouse gas-free portfolio of energy efficiency and renewables will take time, the joint parties agreed to support PG&E in obtaining the state approvals needed to operate Diablo Canyon to the expiration of its current NRC operating licenses.

As part of the joint proposal, PG&E immediately ceased any efforts on its part to renew the Diablo Canyon operating licenses, and asked the NRC to suspend consideration of the pending Diablo Canyon license renewal application. PG&E will withdraw its license renewal application upon CPUC approval of the joint proposal application.

NUCLEAR POWER PLANT PERFORMANCE	
Average Capacity Factor ¹	
2014	87%
2015	94%
2016	96%

1. Refers to the ratio of the actual output of the plant relative to the output if the plant had operated at full capacity for the year.

PG&E does not believe that long-term customer rates will increase as a result of the joint proposal. The parties to the joint proposal are committed to supporting a successful transition for Diablo Canyon employees and the greater San Luis Obispo community. Accordingly, \$85 million has been proposed in support of a community transition plan. PG&E, along with San Luis Obispo County, several local cities and the San Luis Coastal Unified School District, announced details of the revised community impact mitigation program in November 2016.

The proposed Diablo Canyon employee program will provide, among other items, incentives to retain employees during the remaining operating years of the plant, a retraining and development program to facilitate redeployment of a portion of plant personnel to the decommissioning project or other positions within PG&E, and severance payments upon the completion of employment at the end of the plant's license life.

During the transition period, we will continue our efforts to ensure the safety of our operations at Diablo Canyon.



Corporate Governance

Robust corporate governance practices underpin our sustainability performance, helping to ensure that PG&E is managed and operated with integrity, accountability and transparency. The Corporate Governance section of our website details the policies and practices of the Boards of Directors of PG&E Corporation and Pacific Gas and Electric Company (together, the “Boards”), including governance guidelines, bylaws, disclosure standards, Board committee charters, and codes of conduct for directors and employees.

Our Approach

The foundation for strong corporate governance is the independence of the Boards and their fiduciary responsibilities to the companies and their respective shareholders. The companies’ Corporate Governance Guidelines promote board independence by requiring policies and practices such as the following:

- At least 75 percent of the directors of each company must be independent.
- An independent lead director is elected by the Board if the Chairman of the Board is not an independent director.
- Only independent directors are allowed to serve on PG&E Corporation’s standing Board committees, and members of each company’s Audit Committee and PG&E Corporation’s Compensation Committee also meet additional independence standards.
- Executive sessions of the independent directors are held at each regularly scheduled Board meeting, without the presence of each company’s management.

Board diversity also contributes to strong corporate governance, and we have practices in place to promote the development of balanced and multidisciplinary Boards. The Boards annually review director nominees and the extent to which diverse backgrounds, perspectives, skills and experiences are represented. The

directors for each company reflect this diversity. Of the 13 PG&E Corporation directors, 54 percent are diverse (three are female, two are African-American, two are Asian or Asian-American, and two are Hispanic). Of the 14 Pacific Gas and Electric Company directors, 50 percent are diverse (three are female, two are African-American, two are Asian or Asian-American, and two are Hispanic).

The Compliance and Public Policy Committee of the PG&E Corporation Board of Directors has primary oversight of compliance and ethics and corporate sustainability issues, such as environmental compliance and leadership, workforce development and climate change. This includes an annual review of PG&E's environmental performance and sustainability practices. Other committees of the PG&E Corporation Board and the full Boards address other components of PG&E's sustainability commitment, such as public and employee safety, investments made to modernize our gas transmission and distribution systems and build a smarter grid, and partnerships with others to increase our deliveries of renewable energy.

The PG&E Corporation and Pacific Gas and Electric Company 2017 Joint Proxy Statement includes information on director qualifications and the oversight role of the Boards with respect to corporate responsibility and sustainability, risk management, political contributions and management succession, among other items.

Milestones

In 2016 and early 2017, the Boards took action on the following governance matters:

- Refreshed the composition of the Audit, Compensation, and Finance Committees by appointing a new member to each of these committees,
- Elected Eric D. Mullins to the PG&E Corporation and Pacific Gas and Electric Company Boards of Directors in September 2016, and appointed him as a member of the companies' Audit Committees,
- Nominated the following individuals for election to the PG&E Corporation and/or Pacific Gas and Electric Company Boards of Directors for the first time at the 2017 Annual Meetings: Jeh C. Johnson (for both PG&E Corporation and Pacific Gas and Electric Company) and Geisha J. Williams (for PG&E Corporation; Ms. Williams was elected as a director of Pacific Gas and Electric Company at the 2016 annual meetings and also stood for re-election to the Pacific Gas and Electric Company Board at the 2017 annual meetings),
- Discussed and reviewed executive management succession planning, and elected Anthony F. Earley, Jr. as Executive Chair of the Board of PG&E Corporation, Geisha J. Williams as CEO and President of PG&E Corporation, and Nick Stavropoulos as President and COO of Pacific Gas and Electric Company, all effective March 1, 2017, and
- Discussed and executed a Board leadership succession plan, and appointed Forrest E. Miller as lead director of PG&E Corporation and independent non-executive Chair of the Board of Pacific Gas and Electric Company effective upon Barry Lawson Williams' retirement from the Boards at the adjournment of the 2017 annual meetings on May 30, 2017.

Measuring Progress

Annual Meeting Voting Results

Each year at the annual meeting, shareholders are asked to vote upon various items that may be proposed by management or by other shareholders. Proposals submitted by shareholders are either withdrawn by the shareholder (usually following discussions with management and a resolution of the shareholder's concern); excluded from consideration, according to Securities and Exchange Commission guidelines; or published in the joint proxy statement to be voted on by shareholders at the annual meeting. A summary of the annual meeting voting results from 2013 to 2017 is provided below.

ANNUAL MEETING VOTE SUMMARY: PG&E CORPORATION

Proxy Item	Percent In Favor ¹				
	2013	2014	2015	2016	2017
Election of directors (average) ²	97.9	97.6	98.2	97.6	99.5
Ratification of independent auditors ²	99.0	99.2	98.5	97.9	97.9
Advisory vote on executive compensation ²	96.3	89.6	94.3	80.1	95.8
Approval of long-term incentive plan ^{2, 3}	—	89.6	—	—	—
Independent board chairman ⁴	33.4	—	45.6	—	—
Advisory vote on the frequency of the advisory vote on executive compensation (1 year) ²	—	—	—	—	90.5
Customer approval of charitable giving program ⁴	—	—	—	—	3.3

1. Defined as For/(For+Against), expressed as a percentage.

2. Management proposal.

3. Defined as For/(For+Against+Abstain) as required by the New York Stock Exchange, expressed as a percentage.

4. Shareholder proposal.

ANNUAL MEETING VOTE SUMMARY: PACIFIC GAS AND ELECTRIC COMPANY

Proxy Item	Percent In Favor ¹				
	2013	2014	2015	2016	2017
Election of directors (average) ²	99.9	99.9	99.9	99.9	99.9
Ratification of independent auditors ²	99.9	99.9	99.9	99.9	99.9
Advisory vote on executive compensation ²	99.9	99.8	99.9	99.8	99.8
Advisory vote on the frequency of the advisory vote on executive compensation (1 year) ²	—	—	—	—	99.9

1. Defined as For/(For+Against), expressed as a percentage.

2. Management proposal.

Corporate Governance Rankings

PG&E's corporate governance practices are evaluated by several institutional shareholder groups and corporate governance organizations, such as Institutional Shareholder Services Inc. (ISS), an independent provider of risk management and corporate governance products and services to financial market participants. We have consistently received above-average ratings, both within our industry and overall.

ISS GOVERNANCE QUALITY SCORE SUMMARY¹

	Score ²
Overall Governance Quality Score	1
Board Structure	5 ³
Shareholder Rights	1
Compensation	6 ⁴
Audit	1

1. As of May 29, 2017.

2. Scores indicate decile rank relative to index or region. A score of 1 indicates lower governance risk; a score of 10 indicates higher governance risk.

3. The Board Structure sub-score primarily reflects ISS's view on executives/insiders who also serve as chairs of the board.

4. The Compensation sub-score reflects ISS's view on company disclosure with respect to active equity incentive plans regarding options/stock appreciation rights (SARs) and restricted stock. As disclosed in PG&E's 2017 joint proxy statement, PG&E's equity-based incentive plan consists of performance shares and restricted stock units with time-based vesting, and does not currently include options/SARs or restricted stock awards.

Looking Ahead

The Boards will continue to review PG&E's corporate governance practices in line with industry best practices and investor feedback, and will amend these practices when doing so is in the best interest of the companies and their respective shareholders.



Public Policy Engagement

As a regulated energy provider, PG&E's business is shaped to a considerable extent by public policy at the local, state, regional and national levels. We regularly engage on a wide range of public policy matters that are important to PG&E and our customers, knowing that the evolution of these policies plays a significant role in delivering safe, reliable, affordable and clean energy to customers, as well as defining the structure of the market that impacts PG&E and other energy companies.

Our Approach

PG&E advocates for public policies that help us to better meet the needs of our customers and employees, while adding value for our shareholders and furthering our goal of environmental leadership.

Much of our public policy work is done through coalitions. For example, we actively work with trade organizations such as the Edison Electric Institute, the American Gas Association, the Interstate Natural Gas Association of America, the Nuclear Energy Institute and the National Hydropower Association, as well as with organizations such as the Business Council for Sustainable Energy, the Center for Climate and Energy Solutions, the GridWise Alliance, the Alliance to Save Energy, Friends of the Earth, the Natural Resources Defense Council, and the Environmental Defense Fund, to advocate for responsible policies that support priorities such as energy efficiency and clean energy.

Additionally, we partner with the International Brotherhood of Electrical Workers (IBEW) and the International Federation of Professional and Technical Engineers on national energy policy, and the IBEW Local 1245, the Engineers and Scientists of California Local 20 and the International Brotherhood of Boilermakers on state energy policy.

Public Policy Governance at PG&E

The Compliance and Public Policy Committee of the PG&E Corporation Board of Directors maintains oversight of public policy matters. At the senior management level, the Senior Vice President, Strategy and Policy for PG&E Corporation and Pacific Gas and Electric Company leads the development and implementation of PG&E's public policy activities.

The Compliance and Public Policy Committee reviews PG&E's political contributions program. The PG&E Corporation Board of Directors establishes management approval limits for political contributions from PG&E to candidates, measures, initiatives, political action committees and certain other organizations that may engage in political activity. These approval authorizations may be delegated further within PG&E. The Compliance and Public Policy Committee also directs the preparation of an annual report detailing political contributions made by PG&E during the preceding year.

PG&E Corporation and its affiliates and subsidiaries are committed to fully complying with both the letter and the spirit of all applicable federal, state, local and foreign political laws, and to maintaining the highest ethical standards in the way we conduct our business.

PG&E makes corporate political contributions to:

- Candidates for state and local office,
- Political action committees (PACs),
- Political parties and other organizations that engage in voter registration and similar activities that encourage citizen involvement in the political process, and
- Nonprofit organizations, including those formed under Sections 501(c)(4) and 527 of the Internal Revenue Code.

Along with civic, charitable and volunteer activities, employees can participate in PG&E's political engagement. All eligible employees may make voluntary contributions to the following PACs: PG&E Corporation Employees EnergyPAC and Pacific Gas and Electric Company State and Local PAC. PAC contributions go directly to support candidates for elective office and political parties at both the federal and state levels, as well as other political action committees. By law, PG&E cannot use corporate funds to make contributions to federal candidates.

Recent Highlights

Selected public policy issues at the state level include:

- **Clean energy and climate change.** The 2016 legislative year was largely defined by climate issues stemming from the continued discussion of codifying a 2030 greenhouse gas emissions target under SB 32. PG&E supported SB 350 and the Governor's April 2015 Executive Order, which set a new goal to reduce greenhouse gas emissions by 40 percent below 1990 levels by 2030. Each represents an important step toward achieving California's aggressive climate change and clean energy goals adopted in SB 32.

We continue to engage in public policy discussions that focus on the broader goal of delivering cleaner energy in a safe, reliable and affordable manner, including the regional, multistate expansion of California's Independent System Operator to help facilitate renewable energy integration across the West.

- **Leading on methane.** PG&E supported Assembly Bill (AB) 2313, which increases the monetary incentive amounts available to biomethane projects that were approved by the CPUC in a decision that implemented AB 1900. The bill also directs the CPUC to consider whether to allow recovery in energy rates the costs of energy infrastructure for biomethane interconnection with the natural gas pipeline network. PG&E supported this bill as a means to encourage the development of biomethane projects.

PG&E advocated for additional studies of the issues addressed in SB 1383, which codifies the targets contained in the California Air Resources Board's (CARB) Short-Lived Climate Pollutant Strategy to achieve, from 2013 levels, a 40 percent reduction in methane, a 40 percent reduction in hydrofluorocarbon gases and a 50 percent reduction in anthropogenic black carbon.

- **Addressing the tree mortality crisis.** Following the Governor's Emergency Proclamation in the fall of 2015 due to the tree mortality crisis, biomass energy projects were seen as one means to dispose of the waste created by the plethora of dead and dying trees. PG&E played a prominent role on the Governor's Tree Mortality Task Force and negotiated a compromise that mandated a purchasing requirement for biomass energy projects applied evenly across energy companies with above-market costs allocated to all bundled customers.
- **Safety of underground facilities.** PG&E has been a strong supporter of comprehensive legislation to protect underground gas and electric facilities through an effective enforcement program. PG&E supported SB 661, which will create an independent board to investigate possible violations of the One Call law. The One Call law requires that homeowners, contractors and anyone with a project involving excavation call 811 to reach the Underground Service Authority, which will contact PG&E and other companies that may have underground facilities in the area. Representatives from these companies will then mark the location of the facilities so that projects may proceed safely.



As a result of PG&E's practices and its transparency of political activity reporting, PG&E was recognized in the 2016 Center for Political Accountability Zicklin Index of Corporate Political Disclosure and Accountability. PG&E tied with six other companies to receive the highest ranking among the S&P 500.

Selected public policy issues at the federal level include:

- **Energy policy.** We are focused on action related to electric vehicle deployment; grid innovation and reliability; modernizing the permitting process to make it more efficient, understandable and predictable for hydropower licensing; routine vegetation management and right-of-way work; other approaches before the federal government (such as the U.S. Department of Transportation and the U.S. Army Corps of Engineers); pursuing electric reliability reforms; nuclear spent fuel policy; and energy efficiency and natural gas pipeline permitting improvements.
- **Infrastructure investment.** We support efforts to spur investment in our energy infrastructure, including increasing resilience in the face of climate change, protecting the physical and cyber security of the system, implementing our vision for a smarter grid and advancing smart tax policies that stimulate continued critical investments for PG&E and the U.S. economy.
- **Pipeline safety.** PG&E fully supported the passage of the "Protecting Our Infrastructure of Pipelines and Enhancing Safety Act of 2016"—federal legislation that directs the U.S. Department of Transportation to establish new federal minimum safety requirements for pipeline operators, including standards for underground natural gas storage facilities. This new law includes important provisions to improve the federal pipeline safety program and is an important step in further enhancing public safety.
- **Workforce issues.** We support workforce diversity, hiring veterans and growing leaders from within. We advocate for public policy that supports public-private partnerships such as PG&E's PowerPathway program to create a pipeline of qualified veterans and others who can become highly skilled workers for the American economy and the energy industry. This includes our support for the "HIRE Vets Act" (the Honoring Investments in Recruiting and Employing American Military Veterans Act of 2016), which was signed into law in May 2017.

The Act established a voluntary program to promote private sector recruiting, hiring and retention of men and women who have served honorably in the U.S. military through an awards program recognizing the meaningful and verifiable efforts undertaken by employers. We also supported the Obama administration's focus on the role that the private sector can play in developing the capabilities and leadership skills of their team members.

- **Small business support.** We supported the Obama administration's work to assist small businesses in addressing financial challenges, including acting as one of the initial 26 companies to participate in the administration's SupplierPay pledge.

Measuring Progress

In 2016, PG&E Corporation-affiliated employee PACs (EnergyPAC and State and Local PAC) made contributions of \$755,000 at the federal level and \$2,750 at the state and local level. PG&E Corporation contributed \$3,582,305 to state and local political candidates, ballot measures, political parties and other committees. Additionally, in 2016, membership in the PG&E Corporation Employees EnergyPAC increased more than 9 percent over the prior year. Our annual political contributions are publicly reported on PG&E Corporation's website.

POLITICAL CONTRIBUTIONS, 2016

PG&E Employees Federal PAC Contributions

U.S. House	\$330,000
U.S. Senate	\$93,500
Leadership/Other PAC	\$331,500
Total	\$755,000

PG&E Employees State and Local PAC Contributions

Total	\$2,750
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Corporate Campaign Contributions

Total California Corporate Contributions to Candidates	\$366,705
Total Corporate Contributions to Other Committees	\$3,215,600
Total	\$3,582,305

PG&E also discloses its policies and procedures regarding its lobbying activities and trade association payments, including the portions of any annual trade association membership dues over \$50,000, to the extent those dues are used for lobbying purposes.

TRADE ASSOCIATION DUES, 2016¹

Portion of Dues That Were Nondeductible

Total	\$429,718
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1. Represents the portion of membership dues to trade associations that was nondeductible under Section 162(e)(1) of the Internal Revenue Code. Includes trade associations that received annual membership dues over \$50,000. The reported amount is based on information provided by the trade associations to PG&E Corporation and Pacific Gas and Electric Company.



Safety

At PG&E, safety is a core value. Nothing is more important than keeping the public and our workforce safe. That commitment drives the investments we make in our infrastructure, how we perform our operations and our strategies for the future. More than ever, we are working to create and maintain a culture of safety, where every employee and contractor feels empowered to speak up for safety as we work toward our long-term goal of being the safest gas and electric provider in the nation.

Key Sustainability Indicators

Average response time to gas odor reports:

20.02 minutes

Percentage of time PG&E personnel were on-site within 60 minutes after receiving a 911 electric-related call:

98.3%



Partnering on emergency preparedness

California is home to dozens of microclimates, varied terrain and any number of potential natural hazards. To prepare for these challenges, PG&E uses science and technology to model, forecast and prepare for storms and other extreme weather, and partner with first responders.

PG&E's in-house meteorology team supports the company's emergency preparedness and operational efforts, including during the storms that battered California in early 2017. We also use weather data to forecast fire danger across our service area, enabling us to better prevent, prepare for and respond to wildfires—improving public safety and energy reliability.

2016 Highlights

Continued to build a safety culture in which every member of our workforce is not only encouraged to speak up about a potential safety, security or compliance risk, but has a responsibility to do so.

Received Federal Aviation Administration permission to use drone technology to inspect the safety of our remote infrastructure, including our vast hydroelectric system.

Delivered strong performance for both electric emergency response and gas emergency response.

Conducted more than 3,000 interactive electric and gas safety demonstrations for students, youth groups, contractors, emergency personnel and customers.

Continued to make safety performance the single largest driver for annual at-risk performance-based pay.

Hosted nearly 600 training workshops to better prepare firefighters, police, public works officials and other authorities to respond to emergencies involving electricity and natural gas.

Passed a comprehensive gas safety audit to become the first gas provider certified to the chemical industry's RC14001® management system standard.

Developed a Security Intelligence and Operations Center to proactively defend PG&E from cyber threats.

Reached a milestone of inspecting 1 million gas lines using state-of-the-art Picarro mobile gas leak detection technology.



Building a Speak-up Safety Culture

At PG&E, nothing is more important than the safety of the public, our employees and our contractors. Our ability to reach our safety objectives relies on a safety culture where every member of our workforce is not only encouraged to speak up if they see a potential safety or compliance risk, but has a responsibility to do so.

Our most recent employee survey shows promising signs that we are building the culture we aspire to achieve. At the same time, we recognize that our work on safety is never done, and we are more committed than ever to achieving the culture required to be the safest gas and electric provider in the United States.

Safety Culture Roadmap

Building on a comprehensive third-party evaluation of our leadership, processes, people and technology, PG&E developed a long-term safety culture roadmap to direct our work. We refine this roadmap every year to ensure our work drives the culture we need to improve public, employee and contractor safety. As we plan for the future, our focus remains centered on building our “speak up for safety” culture through benchmarking and continuous improvement.

Safety Governance and Leadership

The PG&E Corporation and Pacific Gas and Electric Company Boards of Directors are broadly responsible for oversight of safety at PG&E. The Nuclear, Operations and Safety (NOS) Committee of the PG&E Corporation Board is specifically responsible for overseeing safety policies and issues related to Pacific Gas and Electric Company’s operations and facilities, as



Speak Up for Safety

Using feedback and analysis from our employee surveys, PG&E developed a campaign called “Speak Up for Safety,” with videos, signage, employee profiles and more. This approach helps to create a pervasive set of reminders about what behaviors are consistent with a culture where employees feel empowered to speak up about safety.

well as goals, programs, policies and practices with respect to promoting a strong safety culture.

In addition, the NOS Committee reviews the impact of significant changes in laws and regulations affecting safety and operational performance, and also advises the Compensation Committee of the PG&E Corporation Board on appropriate safety goals for inclusion in PG&E's executive compensation program and plans. Additionally, as part of its responsibility for reviewing proposed major capital projects, the Finance Committee of the PG&E Corporation Board reviews capital projects and programs with safety implications, such as projects and programs to enhance public or employee safety.

Pacific Gas and Electric Company's Vice President of Safety and Health leads safety for our business, while our Safety and Health organization partners with PG&E's lines of business to help guide safety process improvements; develop and deploy new initiatives, training, technology, incident investigation protocols, compliance programs and metrics; and conduct industry benchmarking to identify best safety practices.

The vital importance of our safety commitment was underscored last year by the August verdict that found Pacific Gas and Electric Company guilty of 6 of the 12 charges brought by the federal government in a case stemming from the 2010 gas pipeline explosion in San Bruno: the convictions included one count of obstructing a federal agency proceeding and five counts of violating federal pipeline safety regulations.

Even though it involved events of the past, this was a painful verdict. Ultimately, we made the choice not to appeal the jury's decision, concluding that was the right outcome for everyone.

Nothing can ever give back the San Bruno victims and their families what they lost. The best way we can honor them is to demonstrate, through our actions, an unwavering dedication to the safety of the public, our employees and contractors.

With that in mind, we will be focused on fulfilling the terms of the probation and working with a court-appointed outside monitor to become the safest, most reliable energy company in the country.

—Tony Earley, Executive Chair of the Board, PG&E Corporation

The following management-level committees and teams are working to engrain safety into our business:

- **Safety and Risk Committee:** guides our safety strategy and assures continuous improvement in safety performance. The Committee meets regularly to review performance and address gaps and barriers. In addition to the PG&E Corporation CEO and President, members include Pacific Gas and Electric Company's President and Chief Operating Officer, additional senior PG&E officers and leaders from the International Brotherhood of Electrical Workers and the Engineers and Scientists of California labor unions.
- **Safety Steering Committee:** ensures that strategies and programs are reviewed prior to discussion at the Safety and Risk Committee and also provides a forum for learning across lines of business and continuous improvement associated with the approved strategies.
- **Line of Business Safety Councils:** responsible for executing plans to reduce and eliminate exposure to possible safety incidents. The Councils are composed of management, union and grassroots team members. These efforts are supported by grassroots safety teams comprised of frontline employees who share ideas and partner to come up with effective solutions to reinforce a safety-first culture.

At PG&E, the primary responsibility for public, employee and contractor safety lies within each line of business. This approach is both strategic and practical, and comes from understanding that the hazards and risks within each line of business are different. We also believe that the people closest to the work know the most about the inherent risks associated with performing the work, and can best find the ways to mitigate those risks.



Building a safety culture

In 2016, we saw continued progress on a number of measures in our all-employee survey, including:

- An 85 percent favorable rating on a new safety index comprised of eight questions, which was the highest rating among all categories.
- A 93 percent agreement rating with each of the following statements: “My work group follows safe work practices without taking short cuts,” “I feel free to stop my work if I believe conditions are unsafe,” and “I feel comfortable discussing safety issues with my supervisor.”

- An 84 percent positive response to “I can safely share my thoughts, concerns, and opinions with my supervisor,” which was a 5 percentage point increase from our 2014 survey results.

While these results are encouraging, we know there is much more work to do. We recognize our obligation to safety, and we understand that maintaining our vigilance is essential to the safety of the public, our employees and our contractors. Our journey to drive a “speak up for safety” culture is at the heart of how we approach our work each day.

Key safety leadership development and employee engagement initiatives include:

- **Safety leadership development for upper management:** Officers and directors attend a workshop that creates alignment around safety leadership principles and safety culture.
- **Safety leadership development for operational leaders:** Superintendents through crew leaders attend a series of three workshops over nine weeks that teaches practical safety and safety leadership skills related to high-hazard field operations. Management employees also receive one-on-one in-field coaching to increase self-awareness and effectiveness of their behaviors.
- **Further integration within our hiring process:** PG&E uses pre-hire tests for roles ranging from operating clerks to lineworkers and system operators to assess candidates’ predisposition to follow safe practices. We are also working to determine other jobs where this test may be used.
- **Safety kick-off meetings:** At the beginning of the calendar year, dozens of teams across our service area hold meetings to share key safety themes. These meetings reinforce the importance of safety in our daily work.
- **Strengthening job requirements for field safety specialists:** All Corporate Field Safety Specialists go through a rigorous safety professional development program based on best-in-class standards.



Public Safety

PG&E works around the clock to keep the public safe. Our efforts are visible in every aspect of our operations, including the management of our energy infrastructure and our comprehensive programs to train our workforce; our work to collaborate with federal, state and local emergency responders to improve coordination in the event of an emergency; and our efforts to promote emergency preparedness in the communities we serve.

Our Approach

Embedding Safety in Our Operations

Public safety is a foundational principle underlying every one of our operational decisions.

- **Gas Operations:** Every day, PG&E takes steps to build the safest and most reliable gas system in the nation. Reflecting this commitment, we remain focused on maintaining our certifications and compliance with standards across best-in-class asset management, pipeline safety management systems and safety culture, and end-to-end safety processes.
- **Electric Operations:** PG&E continues a broad-based approach that includes working to improve our response time to 911 calls, support the prevention of distribution conductor failures resulting in downed wires and proactively manage vegetation surrounding our electric lines to protect the infrastructure and surrounding communities.



Drone technology could monitor and survey gas and electric infrastructure

PG&E is one of a handful of U.S. energy companies with permission from the Federal Aviation Administration to test the use of drones to inspect gas and electric infrastructure. Drones can fly over remote or hard-to-reach terrain and carry cameras, methane detectors or other analyzing equipment. The real-time data can speed up monitoring and assessment activities, as well as the deployment of repair resources, if necessary.

- **Energy Supply:** PG&E remains strongly committed to the highest levels of safety, performance and security at Diablo Canyon Power Plant, as demonstrated during the site's scheduled refueling and maintenance cycle in 2016. We also continue to inspect and maintain our hydroelectric system according to strict safety guidelines, including exploring the use of drones, and to enhance public safety outreach in communities around our facilities.

Emergency Preparedness

To prepare for major weather events and natural disasters—earthquakes, wildfires, floods, heavy winds and blizzards—PG&E leverages our enterprise-wide Emergency Management Advancement Program, through which we continually review and strengthen our catastrophic emergency response plans.

The program, led by our Emergency Preparedness and Response organization, ensures that we have:

- Clearly defined organizational structures, roles and responsibilities,
- Restoration priorities that incorporate community needs to help customers begin returning to normal life,
- Effective logistics plans that support restoration needs,
- Technology that is ready and available to support our response,
- Employees who are trained and fully understand their emergency roles, and
- Employees who are personally prepared for emergencies and ready to respond at home and at work.

2016 Milestones

Wildfire and Storm Preparation

PG&E works year-round to prepare for extreme weather events through advance planning, new initiatives and the incorporation of state-of-the-art technologies.

Highlights from last year included:

- **Prepared for fire season** by working with local contractors to remove trees felled by drought and bark beetles, and increasing from five to 16 the number of retardant-equipped-trailers PG&E uses to pretreat power poles with fire retardant. PG&E also incorporated new meteorology technology to forecast fire dangers and to determine when to incorporate our Fire Prevention Plan.
- **Prepared for winter storm season** by planning a combination of local responses and system-wide capabilities. PG&E established preparation measures such as advanced weather forecasting and localized resource planning; upgraded our Mobile Command Vehicles; prepared scalable response base camps called “microsites”; and increased the inventory of mobile generators to better respond to storm-affected communities.

First Responder Collaboration and Assistance

In an emergency situation, our first priority is to protect the health and welfare of the public. We do that by coordinating and communicating with police, fire and other officials in an effort to keep the public and first responders safe. Our emergency response plan—which is developed, shared and tested with emergency officials—defines clear lines of responsibility for PG&E and emergency personnel. PG&E also maintains



Exercises strengthen system restoration practices

PG&E gathered employees responsible for operation, reliability and restoration of electrical transmission for four restoration exercises during 2016. These quarterly exercises provided training on restoration procedures, including processes when communications are down.



Earning recognition for emergency preparedness and response

Cited for its exceptional emergency preparedness efforts, PG&E was honored by the California Emergency Services Association with its Gold Award. Called out by the association was PG&E's participation in California's Day of Preparedness, co-sponsoring the Humanitarian Assistance Village and the Urban Shield Exercise, as well as our response after the 2014 Napa earthquake.

Photo by Lynsey Paulo

a secure First Responder website, where emergency officials can access training materials and gas transmission infrastructure information and maps.

Highlights from last year included:

- **Used daily air patrols to help detect wildfires.** From June to October, PG&E conducted daily aerial fire patrols to support state and local fire agencies with early fire detection and response. The patrols flew five routes seven days a week from mid-afternoon until dusk, which is the time of day wildfires are most likely to start. Early detection of smoke or fire allowed fire agencies to quickly respond to accurate locations and put out fires before they spread.
- **Hosted nearly 600 training workshops** to better prepare firefighters, police, public works officials and other authorities to respond to emergencies involving electricity and natural gas. We also met with local fire departments to discuss PG&E gas transmission or distribution facilities located within their district.

Community Outreach and Partnerships

We regularly work with community partners to better prepare for emergencies. Examples include:

- **Announced the Better Together Resilient Communities grant program**, a shareholder-funded initiative that will invest \$1 million over five years to support local planning efforts to help better prepare for, withstand and recover from extreme events and other risks related to climate change, such as sea level rise, flooding, land subsidence, heat waves, drought and wildfires.
- **Continued our partnership with the American Red Cross**, contributing \$1 million to build safer, more disaster-resilient communities across Northern and Central California. The donation was used to support the Home Fire Preparedness Campaign, a multi-year home safety program that will help save lives and enhance safety in underserved communities.
- **Awarded \$2 million in wildfire prevention grants to local Fire Safe Councils.** The grants marked the third consecutive year PG&E partnered with local California Fire Safe Councils to fund shovel-ready projects. The money was used to protect communities from wildfires in 18 high-fire-risk counties through projects such as clearing brush and dead, dying or diseased trees.

Public Safety Awareness

Educating the public about working safely around our systems and facilities, and on how to stay safe during emergency events, remains a key element of our public safety strategy. Last year, this included:

- **Emphasized the importance of calling 811 before any excavation project**, with outreach around National Safe-Digging Month and National 811 Day. Additionally, farm operators received a workshop on avoiding contact with gas and other underground infrastructure.
- **Emphasized safety around downed power lines** by providing safety tips online and through an extensive public advertising campaign. PG&E also urged customers to have a storm preparation plan and provided instructions on how to create an emergency supply kit.



Promoting safety in our communities

PG&E conducted interactive electric and gas safety demonstrations using a traveling display that allows instructors to show potential hazards associated with gas and electric facilities to students, youth groups, contractors, emergency personnel and customers. PG&E gas and electric professionals held more than 3,000 demonstrations in communities throughout our service area.

Photo by James Green

- **Sponsored the 11th-annual California Day of Preparedness.** Hosted by the Governor's Office of Emergency Services, the event featured demonstrations by the Sacramento Certified Emergency Response Team, a swift water rescue by Sacramento County Sheriff's Drowning Accident Rescue Team, PG&E gas and electric safety demonstrations, and emergency response vehicles. Dozens of other state and local agencies, first responders and interested groups offered plentiful preparedness tips.
- **Supported Cal Fire's "Prepare for Bark Beetle" campaign.** PG&E supported Cal Fire's efforts to warn homeowners of the dangers of trees impacted by bark beetles. Four million customers received the messages in their paper billing envelopes, and 1.7 million e-bill customers received information as a bill insert.
- **Provided safety tips for securing metallic balloons.** During graduation season, PG&E urged customers to make sure helium-filled metallic balloons were secured with a weight to prevent them from coming into contact with overhead power lines and causing a public safety risk. PG&E also supported legislation that would have banned the sale of balloons made of electrically conductive material.

Cybersecurity

As the use of smart grid technology increases and PG&E's IT infrastructure grows, the need to protect these systems from cyberattacks becomes even more essential. Our IT systems manage more than 106,000 miles of electric power distribution lines, as well as our gas infrastructure. We also have internet-connected data systems that store customer information. In addition, the U.S. Department of Homeland Security has classified energy company assets as a key resource and critical infrastructure for our national and economic security. PG&E is firmly committed to working with other gas and electric providers, other essential industries and government officials to develop and implement state-of-the-art cybersecurity strategies and best practices.

Our efforts are led by an in-house Cybersecurity Team, headed by Pacific Gas and Electric Company's Senior Director of Cybersecurity. This team of security and operations experts continuously identifies, evaluates and mitigates cybersecurity risks across the enterprise. Once risks are identified and prioritized, we develop mitigation plans to reduce risk exposure. In early 2017, the team opened a Security Intelligence and Operations Center that will operate around the clock to proactively defend PG&E from cyber threats.

Cybersecurity training and awareness continue to be key areas of focus for all employees and contractors. All PG&E employees are required to take an annual information security and privacy awareness course, and leaders are subject to additional coursework to integrate cybersecurity awareness into every part of our operations. In addition, PG&E conducts internal phishing campaigns to raise employee awareness.

Physical Security

The physical security of our assets and infrastructure is vital, and we continue to work collaboratively with agencies at the federal, state and local levels to enhance the security of critical facilities across our service area.

PG&E has installed barriers at the perimeter of our critical substations, and has increased shielding for certain equipment. We have installed state-of-the-art security equipment designed to detect and deter a range of potential threats. PG&E is also designing and installing physical security enhancements at certain gas facilities.

In 2015, PG&E completed construction of a new Security Operations Center as a complement to physical security enhancements being made at electric substations, gas facilities and other sites.

Measuring Progress

PG&E tracks our public safety performance via a set of public safety metrics with the aim of continuous improvement. In 2016, we strengthened our performance in a number of areas, including recording industry-leading gas and electric emergency response times.

Safety performance constitutes 50 percent of management's annual at-risk performance-based pay. Financial performance and customer service each represent an additional 25 percent.

Looking Ahead

Our commitment to public safety will remain at the center of everything we do. We demonstrate this commitment by leveraging emerging technology in our operations, maintaining international and industry certifications for gas safety and asset management, continuing to identify and prioritize assets to be upgraded or replaced, and partnering with our communities and first responders to enhance emergency readiness.



Workplace Safety

At PG&E, safety is fundamental to everything we do. Our expectation is for the men and women of PG&E to work in a way that protects the safety of the public, their fellow employees, our contractors and themselves. In pursuit of this goal, we apply a continuous improvement approach to our operations, policies, processes and procedures, with safety at its core. And we maintain a strong focus on increasing the technical skills of our employees in the field and the leadership abilities of those who oversee team members.

Our Approach

PG&E employs a broad spectrum of workplace safety efforts with several key aspects:

- **Setting health and safety targets** to track and evaluate our performance.
- **Implementing a Corrective Action Program (CAP)** across our operational lines of business, allowing employees to identify and report potential safety hazards or equipment issues. Each item is tracked until the appropriate resolution is completed. The program includes a feedback loop so that employees who submit issues receive information on action taken as a result of their submission. Employees may also submit issues anonymously.
- **Continuing to improve our Motor Vehicle Safety Program** by adopting a phone-free driving standard, continuing to expand vehicle safety technology throughout the PG&E fleet, and customizing our training based on the type of vehicle being driven and the driving conditions typically encountered.
- **Integrating health and wellness into our safety programs** to allow for a more comprehensive approach to safety. Such programs include our Industrial Athlete Program and our investment in early intervention and reinforcement of the 24/7 Nurse Report Line, which provides immediate access to a trained medical professional if employees experience discomfort, pain or are injured on the job.

2016 Milestones

Employee Safety

Through our ongoing efforts, PG&E has made significant strides in employee safety with a number of highlights:

- **Reinforced a “speak up for safety” culture.** We continue to take concrete steps to improve our culture so that every employee is empowered to speak up about safety. PG&E developed a campaign called “Speak Up for Safety,” with posters, brochures, stickers and more. Safety is also emphasized in employee communications, from all-employee messages to safety tailboards that are discussed when field personnel begin their workdays.
- **Enhanced focus on potentially serious incidents.** PG&E has been working to identify the conditions that carry the greatest potential for serious injury on the job, and lines of business have begun leveraging this knowledge in field observations. PG&E is also incorporating prevention checklists into work processes to reduce potentially high-risk conditions. One module of our safety leadership training curriculum teaches leaders how to identify workplace hazards when they perform field observations. PG&E also has highly skilled investigators who examine incidents that result in serious injuries or fatalities.
- **Rolled out the Corrective Action Program to additional lines of business.** We implemented the program in our Gas and Electric Transmission and Distribution organizations, giving employees a way to report and track follow-up on potential safety concerns. This followed successful implementation of the program at our Diablo Canyon Power Plant and additional organizations, with use among employees continuing to grow. We rolled the program out to all organizations in 2017.
- **Enhanced our Motor Vehicle Safety Program.** We implemented a phone-free driving standard and standardized our training based on the type of vehicle being driven and the driving conditions typically encountered, reflecting current industry best practices. Our proposed frequency of training is now consistent with National Safety Council recommendations. We also continue to deploy in-cab monitoring equipment, which alerts drivers to at-risk behaviors and improves safety behind the wheel.
- **Continued technical training for field employees.** We delivered nearly 15,000 days of training on courses specifically focused on safety and compliance. This was in addition to a strong focus on safety leadership development and our knowledge and skills assessment program, which assessed more than 1,000 employees in 2016 on substation electrician grounding and switching, as well as underground grounding and switching for linemen.

Contractor Safety

We expect our contract workers to share the same commitment to safety excellence as our employees. To that end, PG&E established a Corporate Contractor Safety Program that requires contractors performing medium- and high-risk work to meet minimum prequalification requirements in order to perform work for or on behalf of PG&E. All primary contractors and subcontractors performing medium- and high-risk work have been assessed using a thorough pre-qualification safety review process.

We have also implemented oversight procedures for contractors performing medium- and high-risk work across PG&E, in addition to conducting oversight at job sites in the field and post-project evaluations as part of the Contractor Safety Program. PG&E also held multiple Contractor Safety Forums and Roundtable events in an effort to improve engagement with our contractors on safety.

Certification program for PG&E excavation contractors

PG&E developed a first-of-its-kind excavation safety program—the Gold Shovel Standard—designed to ensure that contractors doing excavation work for PG&E demonstrate a commitment to safe digging, including calling 811 before any excavation work begins to have underground lines located and marked by energy companies. The standard is now spreading in use nationally.



PG&E earns supplier quality assurance certification

PG&E was the first energy company in the United States to earn this certification after a rigorous assessment of the Supplier



Quality Assurance department's quality management system across five Supplier Quality Assurance department locations showed zero non-compliances. The assessment by Lloyd's Register Quality Assurance determined that PG&E holds suppliers to the highest standards so we can deliver safe, reliable and affordable materials.

Measuring Progress

PG&E uses three key metrics to track our performance on workplace safety: the Lost Workday Case Rate, Serious Preventable Motor Vehicle Incident Rate and Timely Reporting of Injuries (defined below). In 2016, we fell short of our Lost Workday Case Rate target, recording an 11 percent increase in lost workday cases. However, even as lost workday cases increased, we saw a 6 percent reduction in total lost workdays, demonstrating the effectiveness of our strategy to reduce the severity of injuries through a health- and wellness-focused approach.

We met our target for the Timely Reporting of Injuries, with performance improving by 10 percent over 2015.

The table below provides complete PG&E employee safety statistics for 2014 through 2016:

EMPLOYEE SAFETY RESULTS			
	2014	2015	2016
Total Lost Workdays¹	22,371	23,463	22,082
Total Lost Workday Cases²	86	87	97
Total Lost Workday Case Rate³	0.376	0.372	0.402
Total OSHA Recordables⁴	552	597	653
OSHA Recordable Rate⁵	2.412	2.550	2.706
Timely Reporting of Injuries⁶	60.7%	61.3%	67.3%

1. Total Lost Workdays is an internal PG&E metric that counts the number of workdays lost in the current year due to occupational injury or illness for all years of injury (current and all prior years).

2. Total Lost Workday Cases is the number of nonfatal occupational injury and illness cases that (1) satisfy OSHA requirements for recordability, (2) occur in the current year and (3) result in at least one day away from work.

3. Total Lost Workday Case Rate is the number of Lost Workday Cases incurred per 200,000 hours worked, or for approximately every 100 employees.

4. Total OSHA Recordables is the number of injuries and illnesses that meet OSHA requirements for recordability—those that (1) are work-related, (2) are new cases and (3) meet one or more OSHA general recording criteria.

5. The OSHA Recordable Rate measures how frequently occupational injuries and illnesses occur for every 200,000 hours worked, or for approximately every 100 employees.

6. Timely Reporting of Injuries is the percentage of work-related injuries reported to the 24/7 Nurse Report Line within one day of the incident.

The following table provides motor vehicle safety statistics for 2014 through 2016:

MOTOR VEHICLE SAFETY STATISTICS			
	2014	2015	2016
Total Serious Preventable Motor Vehicle Incidents¹	39	40	42
Serious Preventable Motor Vehicle Incident Rate²	0.274	0.266	0.280

1. Number of Serious Preventable Motor Vehicle Incidents occurring that the driver could have reasonably avoided.

2. Number of Serious Preventable Motor Vehicle Incidents occurring that the driver could have reasonably avoided, per 1 million miles driven.

We also tracked the effectiveness of our vehicle safety technology. Of the three behaviors tracked (hard braking, hard acceleration and speeding deemed to be excessive), we found a nearly 40 percent overall reduction in at-risk driving behaviors.

PG&E also introduced and actively tracks a number of leading—or predictive—indicators to help us more deeply embed safety in our operations and encourage employees to both speak up and seek treatment for injuries of any type. These include:

- Corrective Action Program participation rate,
- Percent of Corrective Action Program issues closed on time, and
- Percent of anonymous Corrective Action Program submissions, which continues to decrease as our speak-up safety culture empowers employees to report issues.

Additional metrics include:

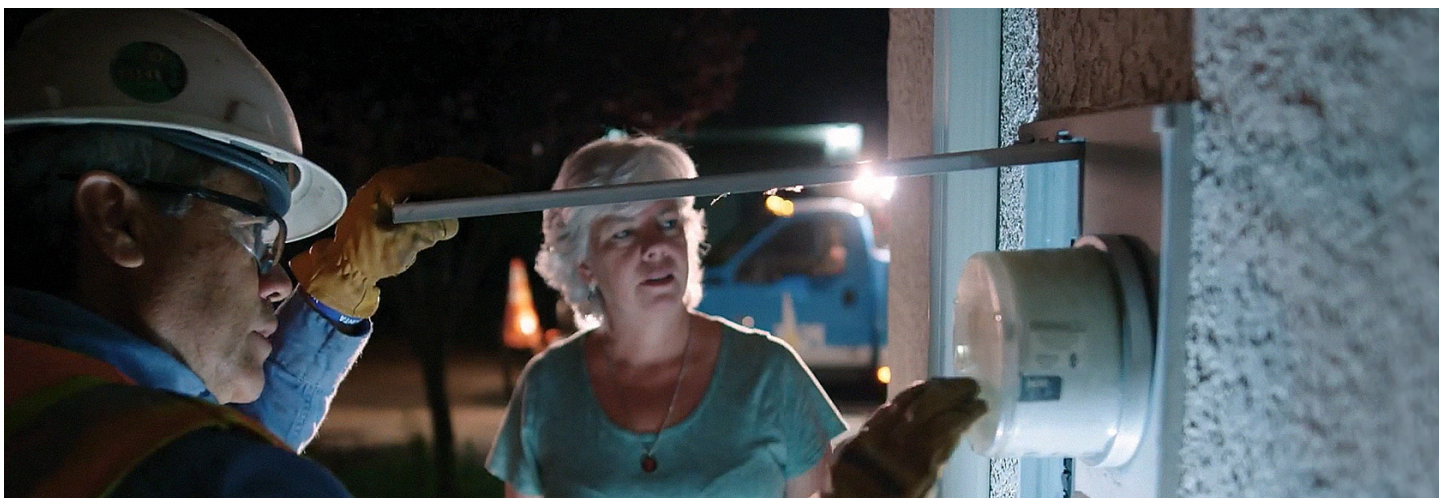
- Number of near-hit reports submitted,
- Percent of corrective actions related to serious incidents and fatalities completed on time, and
- The effectiveness of corrective actions taken following incidents that result in serious injuries or fatalities.

Looking Ahead

We will continue to plan and perform our work with an unwavering focus on workplace safety through our words, actions and behaviors. In particular, our safety objectives encompass a number of key areas in 2017:

- Decrease exposure to potentially serious safety incidents,
- Leverage our in-vehicle data systems to aid our workforce in driving more safely,
- Provide a number of avenues to enable our workforce to be healthier and recover from injuries,
- Continue to make progress with our safety culture through expanded safety leadership development initiatives, our Speak Up for Safety campaign and a continued safety partnership with our unions and contractors, and
- Improve contractor safety processes and enhance program requirements.

Additionally, we will continue developing an enterprise-wide Safety Management System—a standardized framework for how to manage public, employee and contractor safety to help PG&E better prioritize, integrate and manage its safety efforts.



Customers and Communities

PG&E's focus on investing in our infrastructure and improving our operations is designed to support our core mission of providing customers with safe, reliable, affordable and clean energy. Every day, we are working with our customers to better understand their energy needs, support cleaner energy options and increase customer choice, while keeping energy affordable. We are also partnering locally to enrich educational opportunities, preserve our environment and support the safety and vitality of our communities.

Key Sustainability Indicators

Number of eligible customers enrolled in the California Alternative Rates for Energy program, which offers income-qualified customers a monthly discount on energy bills:

1.42 million

Percentage of PG&E's overall procurement with diverse certified suppliers:

44.4%



Unlocking the grid of the future

PG&E is partnering with GE, Tesla and Green Charge on a pilot project to integrate smart inverters, battery storage and private solar—also called distributed energy resources—into the energy grid.

This collaborative approach will provide valuable lessons as we build an energy grid capable of integrating emerging technologies via a distributed energy resource management system on a wider scale. Learn how emerging technology can optimize electric distribution and benefit our customers.

2016 Highlights

Maintained our focus on **keeping customer bills affordable**, with average residential gas and electric bills well below the national average.

Brought the total number of **interconnected private solar customers to about 300,000**—and maintained one of the nation's fastest processing times to connect them to the energy grid.

Achieved a customer satisfaction score that was our second-highest annual performance since 2010.

Received regulatory approval to build the infrastructure to support 7,500 level 2 electric-vehicle charging stations across Northern and Central California.

Helped save customers \$258 million on their energy bills and avoided the emission of nearly 1.4 million metric tons of CO₂ through our energy efficiency programs.

Contributed \$28 million to charitable organizations through our Better Together Giving Program, designed to enrich educational opportunities, preserve our environment, promote emergency preparedness and support economic vitality.

Surpassed our goals for Step Up and Power Down, an initiative that engaged more than 1,275 companies in San Francisco and San Jose saving 51.1 GWh—equal to the electricity needed to power more than 5,200 homes for one year.

Achieved industry-leading supplier diversity results, spending \$2.85 billion—or 44.4 percent of our total spend—with businesses owned by women, minorities, service-disabled veterans and LGBTQ individuals.



Engaging Customers

At PG&E, we recognize and value the rich diversity of the customers and communities we serve. We strive to reflect this diversity in our employee population, to work with customers on a local level, and to better understand their energy needs and improve the overall customer experience. This focus includes working directly with customers in a variety of ways to help them manage their energy costs.

Our Approach

PG&E's Customer Care organization, led by Pacific Gas and Electric Company's Chief Customer Officer, spearheads our efforts to deliver the best experience to every customer. By leveraging the power of customer data, maintaining a local presence in the communities we serve, integrating customer feedback and actively communicating with customers about energy options, tools, programs and savings, we work to drive long-lasting customer engagement and satisfaction.

Serving Customers Locally

We maintain cross-functional leadership teams, led by local managers in each region to address local issues, collaborate with representatives from across PG&E and incorporate the needs and concerns of our customers into operating decisions.

Integrating Feedback

PG&E regularly uses customer surveys, focus groups and other forms of research to obtain feedback and insights that help drive our decision-making and improvements in how we serve our customers. We also encourage employees to use an internal hotline to elevate a customer issue so we can address it in a timely fashion.



PG&E to build 7,500 EV charging stations

PG&E plans to build 7,500 level 2 electric vehicle (EV) charging stations across Northern and Central California, as approved by the California Public Utilities Commission. PG&E will partner with EV charging providers to install chargers at workplaces and multi-unit dwellings where EV charging access has traditionally been limited and cars are likely to sit for long periods of time. Approximately 15 to 20 percent of the chargers will be located in disadvantaged communities.

Saving Customers Energy and Money

PG&E offers a full portfolio of savings options for customers, with an increasing focus on tools and programs to help customers reduce their energy use and save money. We offer some of the industry's leading programs and incentives for energy efficiency, demand response and solar energy, as well as rate options for electric vehicles, financial assistance programs and other resources. This portfolio includes the Solar Choice program, which allows customers who are unable to install private solar to buy up to 100 percent solar power. We also plan to offer a network of EV charging stations, as approved by the California Public Utilities Commission.

Making It Easy

A growing number of our residential customers prefer to manage their own energy use. In an effort to meet their needs, PG&E offers options via mobile phones, the web, email and social media, giving customers many choices for how to interact with us.

The vast majority of our customers can access hourly data on their energy use and compare their use to that of similar homes in their neighborhood. The redesigned Your Account online tool analyzes the drivers of energy use in a customer's home on an annual basis—including appliances, heating and cooling—and provides tips and savings recommendations to help that customer take action to manage energy costs.

Small and medium business customers can also use PG&E's Business Energy Checkup to find energy-saving ideas that can lower their operating costs, and programs such as energy efficiency financing to address upfront cost barriers.

Our energy statements provide clear and easy-to-understand information, with numerous options for customers to pay their bills. Our mobile website allows customers to get real-time outage information; start, stop or transfer service; or pay their bill from their mobile devices. Customers can choose to receive messages however they prefer—text, email or phone—and after nine months, they can use My Rate Analysis to make sure they're on the right rate plan.

In addition to digital offerings, PG&E continues to offer self-service capabilities over the phone, such as reconnection service via our Interactive Voice Response technology. Many of our communications are also available in multiple languages and formats, including English, Spanish, Chinese, Vietnamese, Tagalog and large print.

2016 Milestones

We remained focused on responding to the unique needs of our customers in 2016, with a number of highlights:

- **Redesigned the Your Account online tool.** The tool analyzes a customer's energy use and provides energy-saving tips and recommendations for energy efficiency programs and incentives to save energy and money. It was redesigned to make it easier for customers to find ways to manage their energy usage and added an improved bill comparison feature and home energy checkup.
- **Engaged local leadership teams.** Throughout our service area, our local, cross-functional leadership teams continue to help us strengthen local relationships and more quickly identify and resolve local customer concerns.

PG&E PREFERENCE CENTER

Energy Alerts

Notification: ☐ Email ☐ Text ☐ Voice

Contact:

[Add another contact to receive alerts](#)

Bill Forecast Alert

Receive an alert if your monthly bill amount is projected to exceed the amount you specified.

Alert me when my bill is projected to exceed this amount.

\$ 87

Based on your past PG&E bills, we suggest an alert amount of \$93.

Tips: Stay on top of your bill by setting your amount less than your maximum bill. Or don't be surprised by a high bill and set your target amount higher than your normal bill.

Bill Forecast Alerts let customers take more control over their energy bills

PG&E residential and business customers can sign up for Energy Alerts that help them manage their energy bills. The program, designed to be an easy-to-use online tool, alerts customers if their usage looks like it will exceed their personal budget threshold. Customers can choose to receive alerts through email, text or phone calls—or all three.



Home Energy Reports stimulate big energy savings for customers

About 1.5 million PG&E residential customers receive easy-to-read Home Energy Reports. They show customers how their energy use stacks up against similar households in their area and provide personalized tips on saving energy. These comparisons encourage customers to manage their energy better. The savings enabled by the reports add up: in 2016, estimated electric savings totaled nearly 134 GWh, enough to power about 9,950 typical homes for a year. Total estimated gas savings came to over 4 million therms, enough to serve about 2,240 typical homes for a year.

- **Improved the customer experience for digital-first customers.** We continued to give customers more choice and control over how they do business with PG&E and our customer service infrastructure. Automated options and mobile solutions make it easy for customers to access the services they care about using the devices they prefer.
- **Expanded customer data platforms.** We maintained a service called Share My Data, which allows the approximately 58,000 enrolled customers to share their energy usage data with select third-party service providers, who can use the information to advise customers if energy products and services, such as private solar, may be right for them.
- **Continued strong growth of social media properties.** PG&E produces customer-centric content for social media properties on Facebook, Twitter, Instagram, LinkedIn and YouTube. In 2016, PG&E's social media platforms were essential, real-time communication tools during large storms and events, like summer wildfires, as well as a voice of warning to watch for scammers. Both customers and news media turn to our social channels and our news site at pgecurrents.com for updates from PG&E.
- **Improved outreach to diverse groups.** By creating more materials and media services in languages other than English, as well as actively working with local organizations, we saw strong participation in our programs for low-income customers. For example, our CARE program, a discounted rate plan, achieved 88 percent participation by eligible customers.

Measuring Progress

We are committed to improving satisfaction for both residential and business customers. In 2016, our customer satisfaction score increased to 76.1, from 75.5, exceeding our target of 75.7. For 2017, our target is 76.4. We recognize the need for continuous improvement and are more focused than ever on communicating with customers about safety, our rates and the technologies and tools we have available to support sustainable customer energy solutions.

MEASURING CUSTOMER SATISFACTION	
2014	76.5
2015	75.5
2016	76.1

To measure customer satisfaction, we use a random-sample, proprietary customer survey that is conducted quarterly by an independent third party. The customer satisfaction score is determined by averaging customers' overall satisfaction with our products and services using a 1 to 10 scale, indexed to a score from 1 to 100. This metric also serves as one of the measures we use for determining performance-related employee compensation, because employees from all PG&E lines of business contribute to improving the overall satisfaction of our customers.

Each year we also benchmark our customer satisfaction results against best-in-class performing gas and electric companies, using data from J.D. Power's Customer Satisfaction Studies.

Looking Ahead

As we work to create a better customer experience, we will continue to leverage sophisticated data and analytics, provide more self-service options for customers and make new technologies available to better tailor our services.

Through the work of our local cross-functional teams, we will also continue to strengthen PG&E's local presence and relationships with customers and other stakeholders in our communities.



Customer Energy Efficiency

Energy efficiency is at the heart of energy affordability, which is why PG&E has worked for four decades to support customer efforts to reduce their energy usage. Our leading portfolio of programs helps customers better understand and manage their energy use, helping them save money in the process. We also work directly with customers through energy audits and home weatherization to make their residences more energy efficient. Key to our efforts is a broad spectrum of partners, including the private sector, nonprofits and local government agencies.

By helping our customers use less energy, we help maintain energy grid stability, keep customer energy bills affordable and meet California's clean energy goals.

Our Approach

California's Energy Efficiency Model

PG&E's energy efficiency programs are built on California's pioneering regulatory energy efficiency model, which has helped keep the state's per capita electricity consumption nearly flat since the 1970s. In that same time period, the rest of the nation's consumption has risen by 50 percent.

California has adopted the strongest greenhouse gas (GHG) reduction targets in North America. Senate Bill (SB) 32 requires the state to cut GHG emissions to 40 percent below 1990 levels by 2030. SB 350 mandates a goal of doubling energy efficiency savings by 2030. As California's largest energy provider, PG&E is committed to helping California achieve these goals.

In addition to this type of legislative framework and regulatory support, California's energy efficiency model includes:

- A "loading order," which prioritizes reducing electricity demand through energy efficiency and demand response—ahead of renewable and conventional sources of energy
- Decoupling gas and electric profits from energy sales—meaning PG&E does not make money through energy sales—which enables PG&E to aggressively pursue energy efficiency for customers without the prospect of a financial loss
- Aggressive building codes and appliance standards that require Californians to build energy-efficient homes and commercial buildings
- Ready availability of energy efficiency programs, training and strong customer participation



PG&E's energy efficiency programs have helped avoid the release of more than 386 million metric tons of carbon dioxide (CO₂) emissions based on cumulative lifecycle gross energy savings.

A Comprehensive Portfolio to Reach All Customers

As customers seek to understand, manage and reduce their energy use, PG&E aims to help by supplying detailed usage data. With that data, customers are able to track and understand their energy use and better control energy costs. We also provide rebates to encourage customers to purchase energy efficient products.

We reach customers through a variety of channels, from self-service software tools that provide customized energy insights to PG&E's seasoned business customer account representatives, who provide ongoing support for commercial and industrial customers of all sizes. To increase our impact, we also partner with state and local governments, community partners and third-party energy efficiency specialists.

Our energy efficiency priorities include:

- **Working to increase affordability for residential, commercial and government customers.** Energy efficiency is the first step in reducing overall usage and key to reducing energy bills. We offer an energy efficiency financing program to address up-front cost barriers for commercial customers and government agencies. We also provide rebates to residential customers when they buy energy efficient appliances.
- **Giving customers access to their data to support smart energy planning.** Understanding the energy efficiency opportunities unique to each customer is central to making smart decisions about investments in building upgrades. More and more, customers want control and access to their energy usage information, so PG&E is working with manufacturers to bring to market devices that are connected to the internet.
- **Collaborating with retailers, distributors and others to increase the availability of high-efficiency products.** We provide incentives to retailers for stocking, promoting and selling energy efficient products. We support a network of trade professionals who sell, install or service products, and we partner with manufacturers and distributors by offering incentives for the sale of high-efficiency heating, ventilation and air conditioning equipment.
- **Advocating for stronger building codes and appliance standards.** Since 1998, PG&E has been an active member of a statewide team that has provided technical support for developing more than 120 building codes and 56 appliance standards in the state, as well as more than 100 federal appliance standards or test procedures.
- **Advancing Zero Net Energy (ZNE) design and technology.** We continue to prepare for a future of ZNE with our hands-on display house, ongoing demonstrations, pilot projects and classes for building professionals. California's goal is for all newly constructed residential and commercial buildings to be ZNE by 2020 and 2030, respectively.
- **Engaging communities through proactive outreach.** We partner with local governments, school districts and community-based nonprofits to offer energy efficiency solutions and community outreach to expand customer participation in PG&E programs. Key to this support is PG&E's network of local, regional and statewide government partnerships that implement energy efficiency and climate planning programs tailored to individual communities. We have served hundreds of cities, counties, small businesses and nonprofits, as well as thousands of low-income residential customers.

Education and Training in Energy Efficiency

PG&E operates three training centers that offer a variety of energy efficiency education and training programs for building professionals, including architects, designers, engineers, contractors and technicians:

- Energy Training Center in Stockton
- Pacific Energy Center in San Francisco
- Food Service Technology Center in San Ramon

These centers offer specialized classes on topics such as residential building weatherization, constructing and maintaining energy efficient commercial buildings, and maximizing energy performance in commercial kitchens. PG&E also offers a Tool Lending Library that loans building-measurement equipment at no cost to anyone working on short-term energy efficiency projects.

To provide these courses, the centers collaborate with community colleges, trade and professional organizations, state colleges and universities, community-based organizations and other training providers.

PG&E Marketplace is a one-stop online shop for energy-saving appliances, consumer electronics and other household devices—including those that offer customers money back via a rebate for items such as clothes washers and water heaters.



2016 Milestones

Our customer energy efficiency programs continue to increase affordability and promote economic growth. Highlights from 2016 include:

- **Expanded our energy efficiency financing program**, which provides commercial customers and government agencies with loans for energy efficiency upgrades with no out-of-pocket costs and zero interest. By the end of 2016, the program funded more than 1,700 loans worth more than \$75 million. The majority of loans went to small- and medium-sized businesses, as well as local governments.
- **Increased efforts to transform the market for energy efficient appliances and electronics**, in coordination with the ENERGY STAR program and with other electric and gas providers. PG&E works with retailers to promote and sell more high-efficiency products across five product categories to our customers. This is an important step toward achieving California's goal for a 40 percent reduction in plug loads (energy used by products powered by a plug) by 2020.
- **Advanced ZNE building design and technology in partnership with six builders**, including Habitat for Humanity, by providing technical assistance, incremental cost support and monitoring to document a full year of performance. Other examples of ZNE outreach included offering commissioning and design classes at the Stockton Energy Center.
- **Offered education and training** to architects and other building professionals to help them gain new skills and expertise in energy efficient design and construction at our three training centers, holding 340 training sessions and providing more than 1,400 technical consultations.
- **Led engagement regarding the water-energy nexus** by hosting seminars on model water efficient landscape ordinances, supporting a Zero Net Energy-Zero Net Water conference with the Society for Building Science Educators, and offering our annual Water Conservation Showcase. Additionally PG&E continued offerings such as the Simple Savings Kits, which provided low-cost ways for residential customers to save energy and water in the home.



Helping customers achieve big savings

Customers saved \$258 million on their energy bills through PG&E's energy efficiency programs in 2016. By participating in these programs, a typical PG&E residential customer saved \$60 to \$100 during the year, on average.

Measuring Progress

PG&E exceeded the California Public Utilities Commission's (CPUC) energy savings goals for 2016, achieving savings of 1,406 GWh, 292 MW of peak load and 23.6 million therms. These results helped save customers \$258 million on their energy bills and avoided the emission of approximately 1.4 million metric tons of CO₂.

ANNUAL ENERGY SAVINGS ¹ FROM CUSTOMER ENERGY EFFICIENCY PROGRAMS			
	2014	2015	2016
Megawatts (peak)	164	295	292
Gigawatt Hours (total)	845	1,392	1,406
Million Therms	29	23	24

1. Annual energy savings refer to the first-year impacts associated with installed customer energy efficiency projects. All data is as filed with the CPUC in Pacific Gas and Electric Company's Energy Efficiency Program Portfolio Reports.

ANNUAL AVOIDED EMISSIONS ¹ FROM CUSTOMER ENERGY EFFICIENCY PROGRAMS			
	2014	2015	2016
CO₂ Avoided (metric tons)	776,851	1,198,636	1,429,543
NO_x Avoided (tons)	211	229	296

1. Annual avoided emissions refer to the first-year impacts associated with installed customer energy efficiency projects. All data is as filed with the CPUC in Pacific Gas and Electric Company's Energy Efficiency Program Portfolio Reports.



Partnering to Step Up and Power Down

PG&E surpassed the energy-saving goals for Step Up and Power Down, an 18-month community initiative. Step Up and Power Down encouraged businesses and residents in San Francisco and San Jose to save energy by raising awareness around energy waste, encouraging behavioral change among employees and demonstrating how to take bigger steps to save energy through building efficiencies. More than 1,275 companies participated and achieved energy savings of 51.1 GWh, which is equivalent to the electricity to power more than 5,200 homes for one year.

Looking Ahead

PG&E's ongoing commitment to energy efficiency programs and policies will continue to support California's standing as the national leader in energy efficiency. In 2017, Pacific Gas and Electric Company filed its Energy Efficiency Business Plan, which lays out a vision for our energy efficiency programs over the next 10 years in alignment with California's broader energy efficiency strategy. This includes changes in our approach to adapt to the state's SB 350 goals, which call for a doubling of energy efficiency, as well as efforts such as Assembly Bill (AB) 793, which incentivize energy management technology for residential and commercial customers.

PG&E's plan for the future is built on three guiding principles:

1. Scaling energy efficiency in a cost-effective way,
2. Making energy efficiency offerings easier to access by streamlining our portfolio, and
3. Developing energy efficiency as a cost-effective grid resource that is integrated within PG&E with other distributed energy resources.



Demand Response

PG&E's demand response programs enable customers to shift or reduce energy use during periods of peak demand, adding stability to the electric system. By giving customers incentives to cut usage, demand response programs provide valuable services for the grid, lower costs for customers and help reduce greenhouse gas emissions.

Our Approach

PG&E's demand response options are powered SmartMeter™ technology, which helps customers better understand their energy usage and lower their energy costs. Our programs also help avoid the need for additional power plants that would only be called on for short periods throughout the year on days when demand is highest, allowing us to take a more sustainable approach to balancing energy supply and demand.

More than 250,000 residential customers participate in the programs we offer, along with more than 200,000 larger commercial and industrial customers. Programs for homes and businesses include:

PROGRAM	DESCRIPTION
SmartRate	Gives residential customers a discounted rate throughout the summer, with the exception of nine to 15 “SmartDays,” when their rates are higher because demand for electricity is high. In 2016, 145,000 customers participated in SmartRate and provided an average load reduction of nearly 30 MW per event day.
SmartAC	Allows PG&E to send a signal to a PG&E-provided device on a customer’s air conditioner, cycling the air conditioner to use less energy. The program is offered May through October. Its 150,000 participants can provide about 80 MW of load reduction when needed.
SmartRate + SmartAC	Automatically cycles the air conditioning systems of participating customers during SmartDay events by controlling their SmartAC devices, helping customers avoid higher SmartDay prices. Approximately 32,000 customers were enrolled in both SmartRate and SmartAC in 2016.
Peak Day Pricing	Provides non-residential customers with discounted rates from May through October. In exchange, prices are higher for energy used during designated peak “Event Days” (nine to 15 per year) and times, to discourage energy usage on those days. In 2016, more than 210,000 customers participated in Peak Day Pricing. The retention rate over the full season was nearly 90 percent.
Capacity Bidding Program	Works with third-party demand response companies that aggregate customers. These aggregators—and, by extension, the customers in their portfolios—act as virtual power plants and receive payments from PG&E in exchange for reducing load on peak usage days.
Base Interruptible Program	Enables participating customers—typically large customers—to receive financial incentives in exchange for their commitment to reduce energy usage during emergencies in response to requests from PG&E, which helps ensure grid reliability.
Automated Demand Response (AutoDR)	Provides customers with funding for equipment that—after receiving a signal from PG&E—initiates a series of automatic, customer-defined and pre-authorized demand reduction measures during demand response events.
Permanent Load Shift	Uses thermal energy storage to help permanently shift a customer’s peak electric load to a part of the day when energy prices are lower.

2016 Milestones

In 2016, we leveraged our programs on numerous occasions to reduce demand and ensure reliable electric service for customers.

We continued to provide online tools, programs and services to help businesses thrive with critical peak pricing, and we launched new pilots to test novel ways for customers to participate in demand response. For example, customers can see a custom rate comparison and learn more about available pricing options on our website.

Our supply-side pilot program—which allows participants to define when, how much and at what price they are willing to reduce their energy load—continued for a second year. This pilot differs from traditional demand response programs, where PG&E signals when to reduce electricity use. Participants in the pilot received a monthly payment and also earned money by selling their electric demand reduction into California’s wholesale energy market. Using a variety of technologies—including energy storage; electric vehicles; heating, ventilation and air conditioning; and solar—participants delivered a total load reduction of about 1 MW.

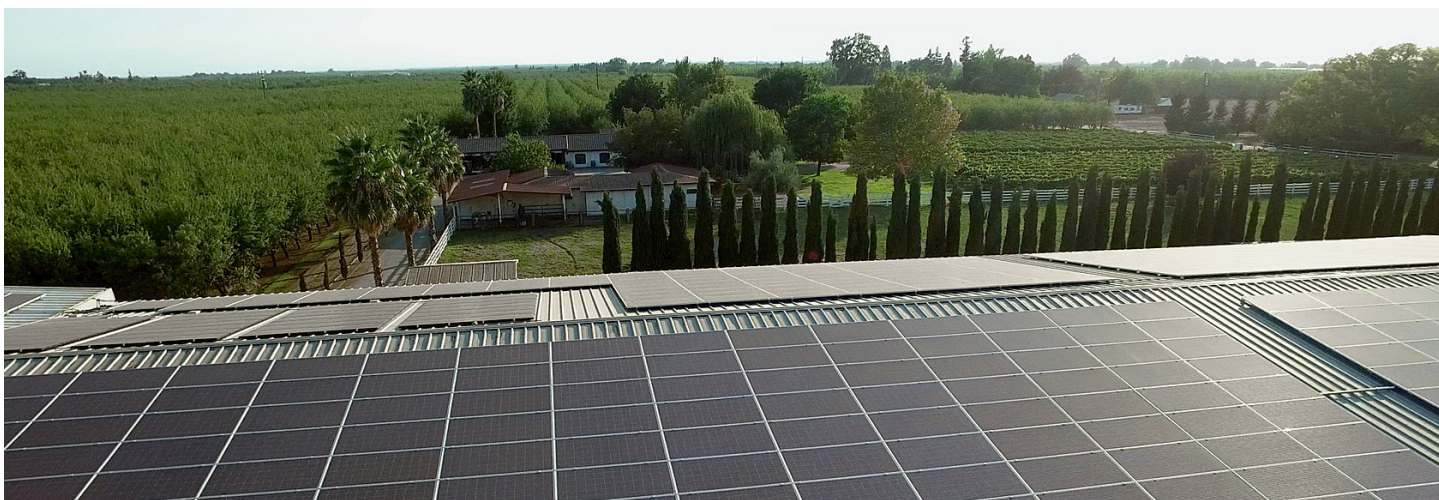
In addition, we launched our excess supply pilot, which is meant to help balance fluctuations of power supply created by renewable power generation. This pilot allows residential owners of batteries, fleets of electric vehicles and other technologies to absorb excess energy when power supplies from solar and wind temporarily exceeds demand. We are also working to add non-residential participants to the program.

Measuring Progress

Through our demand response programs, PG&E and our customers had the ability to provide up to 525 MW of load reduction in 2016—about the capacity of a large conventional power plant. This includes 17 MW from the first year of the Demand Response Auction Mechanism pilot, which enables California's investor-owned energy companies to purchase the ability to activate demand response actions from third parties via a competitive auction.

Looking Ahead

PG&E will continue to explore and offer new data platforms and programs that enable our customers to better manage their energy use, and we will partner with third parties to deliver innovative products and services that help ensure the reliability of the energy grid.



Solar and Distributed Generation

Each month, PG&E brings online an average of nearly 5,000 new private solar systems, with more than 300,000 solar customers now connected to the energy grid. That figure accounts for about one fifth of all private solar systems in the United States.

We are proud to partner with businesses and households who want to use solar energy, and we aid in that effort with one of the fastest times in the nation for connecting new private solar customers to the energy grid. PG&E sees a future in which innovative energy technologies allow customers to have more choice and control over what type of energy they use and their overall energy usage, and we are making investments now that support higher levels of distributed energy resources, including solar, battery storage and electric vehicles.

Our Approach

PG&E is committed to expanding the use of clean energy options that meet customer energy needs and California's environmental goals in a smart and meaningful way. We are working to promote a shared understanding of the value provided by a connected grid while supporting new energy policies that allow for the continued growth of clean and affordable energy for all of our customers.

PG&E supports a variety of tools and resources for customers who want to use solar energy and other distributed energy resources. Our website provides information regarding the process of adopting solar and helps customers determine if solar is right for them. PG&E also offers incentive programs for low-income solar, solar thermal water heating, fuel cells, wind, battery storage and other advanced technologies.

In its 2016 rankings, the Solar Electric Power Association recognized Pacific Gas and Electric Company as a leader among energy companies for adding 773 MW of solar to the grid over the course of the year.

If installing private solar isn't an option, customers can also enroll in PG&E's Solar Choice program, which gives customers the option to purchase up to 100 percent of their electricity from a universal solar program generated within California.

To help customers go solar, PG&E offers online tools and tips for customers to use as they consider solar for their home at www.pge.com/solar, including:

- Tools to help customers increase energy efficiency at home before going solar, to reduce the size of the system needed for the customer's home and save customers money,
- A solar calculator to help customers estimate costs of installing solar, potential bill savings and financing options,
- Guidance on how to find a solar installer,
- Guidance on exploring different financing options,
- Assistance in understanding solar billing, and
- Guidance on monitoring and maintaining the solar system after installation.

PG&E sends an interactive welcome kit to guide customers on how solar billing works, how to read solar bills and how to understand the true-up process at the end of the billing cycle. PG&E follows up with customers through targeted communications at key times throughout their first year as solar customers. A dedicated solar call center offers specialized customer service representatives to answer questions at any point in the solar adoption process. Additionally, an easy-to-use online portal allows solar customers to log in to their PG&E account and track their charges and credits throughout the year, and to compare their usage month-over-month and year-over-year.

2016 Milestones

In 2016, PG&E reached a milestone of 2,527 megawatts of installed private solar capacity on the energy grid, representing approximately 285,000 solar customers in Northern and Central California.

Beyond this milestone, PG&E continued its strong support for solar and other clean energy technologies in numerous other ways:

- **Continued to offer Solar Choice.** The Solar Choice and Regional Renewable Choice programs give customers the option to purchase 100 percent of their electricity from a universal solar program generated within California, without the need to install private solar panels.
- **Continued to improve the customer experience.** On average, PG&E connects a new private solar system to the energy grid in less than three days. This is one of the fastest processes in the United States and compares to an industry average of four weeks. We've also enhanced the experience for new solar customers with a welcome kit, updated solar calculator and other online resources.
- **Supported other customer self-generation.** As of early 2017, PG&E had supported 693 projects representing \$341 million in incentives for energy storage, fuel cells, wind turbines, internal combustion engines and other distributed generation through the Self-Generation Incentive Program. The goal of the program is to reduce peak load and greenhouse gas emissions for participating customers.



For 12 years, PG&E's Better Together Solar Habitat program has provided more than \$11.6 million to help respond to the housing needs of families in our service area. As the exclusive solar partner of Habitat for Humanity in Northern and Central California, PG&E has funded the installation of solar on more than 800 Habitat for Humanity homes in our service area.

Solar water heating education and workshops



PG&E workshops help educate solar water heating contractors and the public about thermal technology and details of the California Solar Initiative-Thermal program, including:

- Solar water heating basics workshop, which provides an overview of the various technologies,
- Solar water heating systems for homeowners workshop, which covers the design, specification and installation of systems for residential applications,
- Solar water heating workshop—advanced commercial systems, which focuses on large-scale systems for commercial applications, and
- CSI-Thermal workshop, which is required to become an eligible installer with the CSI-Thermal Program.



PG&E is part of the Northern and Central California Alliance for the U.S. Department of Energy SunShot Initiative, which plans to construct and interconnect private solar systems in one day or less, an unprecedented goal given the industry's average of 30 days. The alliance, which includes PG&E, solar and technology companies, and local governments, is competing in the small systems category (1 to 100 kW) for a first-place prize of \$3 million and second-place prize of \$1 million.

- **Supported customer solar water heating.** We provided average incentives of about \$2,600 each to single-family residential solar water heating projects, and more than \$35,000 on average for multi-family residential and commercial installations. These incentives have helped support over 1,200 gas-offsetting projects of all types since the program's inception, which, in total, are expected to avoid over 1.7 million therms annually. The program is scheduled to run through December 2017 or until the budget of \$250 million is exhausted, whichever occurs first, though state legislation may further extend the program.
- **Raised customer awareness of solar power and other generation technology options.** We offered a wide range of training opportunities on solar and other technologies for different audiences and education levels, both live and simulcast. We held 30 solar classes in 2016 with nearly 700 attendees in total.

Measuring Progress

In early 2017, we surpassed 300,000 interconnected solar systems, representing about 20 percent of all private solar in America—a significant milestone for PG&E, the solar industry and our customers. Additionally, as of January 2017, there were nearly 3,900 Solar Choice accounts.

PG&E INTERCONNECTED CUSTOMER SOLAR SYSTEMS

Total Solar Interconnections = 300,000+

1993 – 2000	156	2009	9,236
2001	560	2010	10,340
2002	1,222	2011	13,583
2003	1,844	2012	17,416
2004	3,071	2013	28,657
2005	2,776	2014	44,988
2006	4,310	2015	65,616
2007	6,517	2016	67,951
2008	6,488	2017	27,598 ¹

1. Total through June 30, 2017.

Looking Ahead

The future looks bright for clean distributed energy technologies like private solar. PG&E is committed to supporting customers who are interested in going solar, and we look forward to working with our stakeholders to make it easier to adopt solar and other distributed technologies in a sustainable way.

PG&E is focused on building a flexible energy grid capable of seamlessly integrating all forms of clean technology needed to reduce our carbon footprint. Clean energy sources become more valuable by connecting to the grid, much like how a smartphone is more valuable when it's connected to a data network or the internet. With a modern, resilient, dynamic energy grid, we can bring clean, carbon-free energy to everyone, offering our customers more choices, more control and more convenience when it comes to their energy.

To realize this potential, PG&E advocates a forward-looking energy policy that supports evolving rate structures to compensate both energy companies for the grid services we provide to customers and customers for the value they bring to the grid. We look forward to working with regulators, customers and other stakeholders to develop new models that support a future when customers will use the energy grid as a system to complement the new energy technologies they have in their home.



PG&E breaks ground on new solar sites for clean energy program

PG&E is collaborating with renewable developers to break ground on eight new solar sites in Northern and Central California that will provide the energy for PG&E's Solar Choice program and bring more renewable energy to the state.

Additionally, in 2017, the cost to participate in PG&E's Solar Choice program dropped by nearly 30 percent for residential customers for the year. Businesses saw even more savings, with Solar Choice costs dropping by nearly 50 percent in some sectors.



Clean Transportation

PG&E is committed to making plug-in electric vehicle (EV) ownership easy and affordable. In collaboration with automakers, charging equipment providers and state programs, we are actively working to support the large-scale electric infrastructure needed to incorporate EV charging systems into the energy grid and help California achieve its target of deploying the infrastructure needed to support one million zero-emission vehicles on the road by 2020. Accelerating EV adoption will help California meet its clean air and greenhouse-gas emission reduction goals.

Our Approach

With about 270,000 EVs already on California roads, and 120,000 in PG&E's service area, PG&E is working proactively to expand charging infrastructure and simplify EV ownership. One in five EVs in the United States plugs into PG&E's grid, charging with electricity that is nearly 70 percent greenhouse gas-free. We also offer electric rate plans tailored for customers who drive EVs and seminars and test-drive events to help customers understand the benefits of EVs.

Examples of our work include:

- **A three-year plan to deploy 7,500 EV charging stations** throughout our service area of Northern and Central California,
- **Cutting-edge pilot programs** to promote the adoption of EV charging rate plans, including our work with BMW on demand-response smart-charging for EV owners to delay charging when energy demand peaks,

PG&E supports National Drive Electric Week



PG&E sponsored several events as part of the sixth annual National Drive Electric Week, demonstrating our ongoing support for the adoption of electric vehicles in California. According to Plug-In America, these events are making a difference in driving the sales of electric vehicles, with sales increasing by as much as 23 percent in the month after past events.

- **Active community outreach** through participation in events, including Charge Across Town's EV Week, National Drive Electric Week and the San Francisco International Auto Show, and

- **Promoting employee electric vehicle adoption through workplace charging and incentives.** PG&E installed nearly 350 chargers at our facilities in 2016 and offered a shareholder-funded \$2,000 incentive to employees to promote the adoption of electric vehicles. Nearly 1,000 employees have taken advantage of the offer.

PG&E also continues to green its fleet by integrating more low-emission vehicles, from hybrid-electric bucket trucks to compressed natural gas vehicles.

We are also participating in California's Low Carbon Fuel Standard (LCFS) program, which aims to lower the carbon impact of California's transportation fuels by 10 percent by 2020. Through this program, PG&E earns credits when customers charge their EVs or purchase compressed natural gas (CNG) for their vehicles, which we sell to LCFS-regulated parties and then pass on to our customers, as a \$500 Clean Fuel Rebate for electric vehicle owners, and as an on-bill credit for CNG-vehicle drivers.



On our EV rate plans, customers pay the equivalent of \$1.20 per gallon to charge their vehicle overnight. Customers can choose to enroll in a single meter time-of-use rate plan for their entire home or install a separate meter for their EV charging needs.

2016 Milestones

Highlights of our work to transition customers to EVs include:

- **Received CPUC approval to roll out the EV Charge Network.** Over the next three years, we plan to install up to 7,500 level 2 EV charging stations at multi-family dwellings and workplaces. Installations are scheduled to begin in late 2017, and those interested in siting chargers can sign-up for more information and to receive updates as the network launches.
- **Launched an interactive map identifying 300 potential locations for fast chargers.** Direct current fast chargers can "fill up" an EV in 20 to 30 minutes, but suitable locations require complex analysis. PG&E's new interactive map tool identifies potential installation locations based on travel demand and capacity in PG&E's electric system. The California Energy Commission provided additional support for this technology by approving \$9 million in grants for the installation of fast chargers along major state freeways.
- **Collaborated on White House EV initiative.** In 2016, PG&E signed on to a White House initiative to deploy EV charging infrastructure covering 25,000 miles of roads across 35 states.
- **Continued to explore new technologies for submetering EV charging.** To enable access to new rates, PG&E is piloting third-party submetering technologies to measure customers' EV charging usage. Within this pilot, customers can have their EV charges billed at a different rate than their home or business usage.



PG&E bolsters employee EV adoption through workplace charging and incentives

PG&E encourages its own employees to make the switch to EVs through an incentive program. As of early 2017, nearly 1,000 employees had received a shareholder-funded \$2,000 cash incentive toward the purchase of EVs. PG&E also supports employees who drive their EVs to work by maintaining about 600 charge points at PG&E facilities via our workplace charging program, including more than 100 chargers at our Bishop Ranch location in San Ramon—the largest single-building EV charging installation in California.

Measuring Progress

The number of EVs in PG&E’s service area continued to increase in 2016, with battery and plug-in hybrid EV ownership reaching 111,000 vehicles. PG&E expects that by 2020, our customers will own and operate more than 200,000 plug-in vehicles.

In addition, PG&E maintains a network of 24 compressed natural gas (CNG) vehicle refueling facilities that are open to customers—refueling vehicles or fleets with about 2.3 million gallon equivalents each year. PG&E also uses its expertise to help commercial customers take advantage of this relatively low-emitting, domestic alternative fuel in their own fleets.

PLUG-IN ELECTRIC VEHICLES IN PG&E’S SERVICE AREA ¹						
	2011	2012	2013	2014	2015	2016
Approximate Number of EVs	3,224	11,565	30,348	57,772	78,490	111,232

1. Electric Power Research Institute, based on external registration data, 2016.

Looking Ahead

With EV ownership accelerating across the state, PG&E remains focused on designing programs that meet customer needs and promote EV adoption.

In January 2017, PG&E submitted a \$250 million proposal to the CPUC for seven projects aimed at accelerating widespread electric vehicle adoption in California and reducing greenhouse-gas emissions. These projects include:

- A five-year program that would build electric infrastructure for medium- to heavy-duty electric vehicles and off-road fleets.
- A five-year program to support the development of public fast charging plazas across Northern and Central California. Fast charging stations can refuel an EV in 20 to 30 minutes, but they require specialized infrastructure to install and have been slower to develop.
- Five pilot projects to simplify charging installation for residential customers, heavy-duty and commercial smart vehicle charging, and potential third-party electrification projects.

While PG&E awaits regulatory approval for its proposal, we are working closely with transit agencies and medium-to-heavy duty fleet operators who are piloting new technologies. PG&E is helping these market leaders manage charging infrastructure requirements and energy rates to enable a smooth transition toward cleaner electric fleets.

Looking ahead, PG&E will also continue to promote low-carbon fuel options for customers, including CNG, liquefied natural gas and hydrogen for heavy-duty truck and marine transportation.



EVs give back—and test how smart charging can support the energy grid

PG&E and BMW launched the second phase of testing in the BMW ChargeForward program, which explores the ability of EVs to add value to the energy grid. This phase will explore the ability to charge at times of higher electricity demand wherever the vehicle is charging—at home or on the go. The goal is to expand and test new smart charging functionality to generate greater benefits for the energy grid and for EV drivers, including optimizing customer charging across multiple charging events.



Energy Affordability

At PG&E, we're focused on keeping our energy service affordable while we modernize and invest in the safety of our electric and gas systems. PG&E's average residential bill remains below the national average, thanks in part to our energy efficiency programs, which help customers save money by reducing their energy use. We also offer a number of financial assistance programs to help customers who are facing financial challenges.

Our Approach

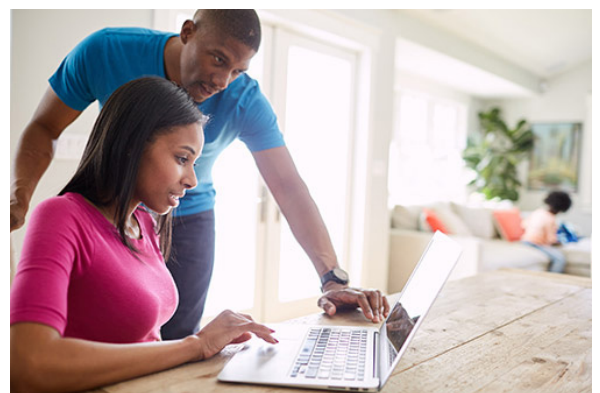
In January 2017, PG&E announced streamlined management structures and efficiency measures implemented to help keep customer bills affordable while investing in the future. This included reducing support services costs in order to continue to invest in important safety initiatives and in modernizing our system to meet our customers' future needs while keeping their bills as low as possible.

In addition, we continue to take a multipronged approach to keeping our energy services affordable for customers throughout our service area.

Helping Customers Save through Energy Efficiency

PG&E's suite of energy efficiency programs plays an essential role in energy affordability. Our website includes an extensive set of energy-saving tips and lists of appliances and equipment that are eligible for rebates. It also provides tools like Home Energy Checkup and Home Energy Reports that help customers analyze their usage and pinpoint ways to save.

PG&E also offers customers a number of rate plans to choose from that provide them with opportunities to save while still meeting their energy needs.



PG&E helped customers save \$258 million on their energy bills through energy efficiency programs in 2016.

- Time-of-use rates enable customers to save money by providing lower-cost energy during off-peak times of the day, encouraging them to shift energy usage from peak hours to less-expensive periods.
- The SmartRate™ plan offers a reduced rate during certain months of the year, which enables customers to save money by conserving energy during as many as 15 SmartDays™ each summer, when their rates are higher because demand for electricity is high.

Helping Customers in Need

PG&E works closely with customers facing financial challenges so they can continue to receive gas and electric service. Programs designed for those in need include:

- The California Alternate Rates for Energy Program (CARE), which offers a monthly discount on energy bills for income-qualified households and housing facilities. Qualified households can save 20 percent or more on their energy bills.
- Budget Billing, which spreads costs out evenly over the year and eliminates swings in customers' monthly energy bills caused by seasonal changes in usage.
- The Relief for Energy Assistance through Community Help (REACH) plan, which pays up to \$300 of the energy bill for low-income customers experiencing a crisis that prevents them from paying their gas or electric bill. This assistance program, funded in part with charitable dollars from shareholders, is administered by The Salvation Army.
- The Family Electric Rate Assistance Program, which provides a monthly discount on electric bills for income-qualified households of three or more people.

In addition, discounts are available for customers that have special energy needs due to certain qualifying medical conditions.

Providing Assistance to Businesses

We actively partner with local, regional and statewide economic development organizations in a variety of ways, from providing funding to nearly 50 organizations to having PG&E employees serve in leadership roles on boards of directors.

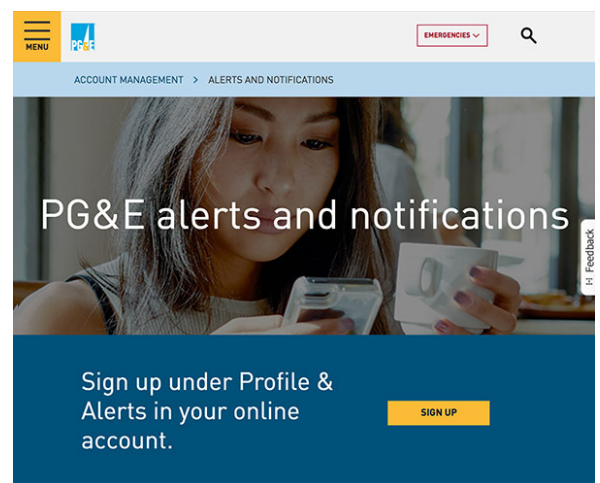
PG&E's economic development team also provides one-on-one assistance to current and future commercial customers who are considering competing locations inside or outside California. The team directly supports local efforts to attract, retain and grow companies by helping them analyze and lower their energy costs through a variety of programs.

We also work to help keep jobs in California and bring new jobs to the state. We offer an Economic Development Rate to businesses with high energy loads who are considering locating in California, relocating from California to other states or closing their existing California operations. Eligible companies can receive a 12 percent rate reduction for five years, and companies in cities and counties where the annual unemployment rate is at least 25 percent higher than the state average can receive a 30 percent rate reduction for five years.



Ways to take control of energy use

The most powerful tool customers have to take control of their energy use and manage their bills is their online account. On pge.com, customers can sign up to access cost and usage analysis tools with information down to the hour, get personalized information on the right rate plan for themselves and their family, and more.

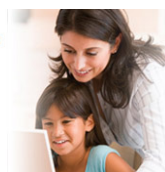


Bill Forecast Alerts let customers take more control over their energy bills

Automated Bill Forecast Alerts help customers manage costs by notifying them when their forecasted bill amount is approaching their personal budget threshold. Customers set their preference to receive alerts via email, text or a phone call—or all three.

Adopting More Efficient Work Methods and Technologies

To help keep customer energy bills affordable, we continue to increase efficiency in our processes and infrastructure by implementing the latest technologies. One example is the advanced automation technology installed on power lines throughout our service area that can self-heal the power grid by rerouting the flow of electricity around a damaged power line, restoring power to the majority of impacted customers within minutes. This allows PG&E field crews to be deployed more efficiently, reduces the costs of repairs, and improves the reliability of the service we provide our customers.



[Ver en español](#)

You have the power to lower your energy bill.
And we can help.

More than 1.4 million customers enrolled in CARE

For PG&E customers who qualify, the CARE Program saves money each month. Since 1989, the CARE program has saved customers \$7.8 billion on their energy bills.

2016 Milestones

In 2016, we continued to aid customers in need through our financial assistance programs:

- **CARE:** Over 1.4 million customers, or 88 percent of those who were eligible, received discounts through the CARE program in 2016. Since the program's inception in 1989, PG&E CARE customers have saved \$7.8 billion on their energy bills.
- **REACH:** PG&E provided over \$1.7 million to help more than 6,200 customers through the 2015-2016 REACH program year (October 2015 through September 2016).
- **Budget Billing:** Approximately 225,000 customers took advantage of Budget Billing in 2016, which helped even out the highs and lows of monthly bills.

We also continued to contribute to local economic and community vitality:

- We partnered locally for economic development with the Governor's Office and the California Association of Local Economic Development—hosting four economic development workshops in local communities that educated community leaders about what they could do to grow their economies, among other actions.
- We helped attract out of state companies that were looking to locate and expand in our service area, and retain key local businesses. Since 2014, PG&E has been successful in helping to attract 22 companies to locate within our service area, bringing more than 1,600 jobs to California.

We also continued to enable and support energy savings through a suite of energy efficiency options, different rate plans, demand response options and engagement campaigns to help customers save energy and money.

- Businesses in San Francisco and San Jose and residents in Redwood City, San Carlos and Woodland participated in Step Up and Power Down, an 18-month community initiative to help customers save energy and money. One of the first companies to sign up was Cisco, which retrofitted five offices and lab buildings with energy efficient cooling equipment, saving more than \$1.1 million.

Measuring Progress

PG&E's Energy Savings Assistance Program helps low-income customers who are also CARE customers reduce energy use and better manage costs through a variety of energy education and energy efficiency measures, including home weatherization to reduce air flow in and out of the home and guidance to help reduce water use.

HOME WEATHERPROOFING IMPROVEMENT PROJECTS THROUGH ENERGY SAVINGS ASSISTANCE PROGRAM

2007	63,319	2013	123,566
2008	61,034	2014	123,539
2009	81,308	2015	100,573
2010	133,329	2016	74,319 ¹
2011	128,071	2017	90,030 ²
2012	115,229		

1. In 2016, PG&E's efforts were impacted by challenges enrolling new, hard-to-reach customers and the timing of regulatory approval for Energy Savings Assistance Program funding.

2. Projected

PG&E’s residential electric customers paid less than the average of nearly every region in the country in 2015, the most recent year for which comparative data are available. Their average bill of \$88.28 per month was 17 percent less than the national average of \$106.26.

The average PG&E residential gas customer paid \$35.23 per month, which was 36 percent less than the national average of \$55.33.

AVERAGE MONTHLY ELECTRIC BILLS (2015)	
U.S. Average	\$106.26
PG&E	\$88.28
Pacific	\$93.84
East North Central	\$93.39
Middle Atlantic	\$96.77
Mountain	\$96.86
West North Central	\$98.87
New England	\$109.05
West South Central	\$124.23
South Atlantic	\$127.37
East South Central	\$130.29

Source: Edison Electric Institute

AVERAGE MONTHLY GAS BILLS (2015)	
U.S. Average	\$55.33
PG&E	\$35.23
Pacific	\$38.83
Mountain	\$46.50
West South Central	\$43.75
East South Central	\$50.25
South Atlantic	\$56.58
West North Central	\$57.08
East North Central	\$63.42
Middle Atlantic	\$73.67
New England	\$95.42

Source: American Gas Association

Looking Ahead

The way Californians are being charged for energy is changing. PG&E has been working with regulators, state officials and other stakeholders to more closely align the price customers pay for energy with the actual cost of providing that energy and to encourage residential customers to shift usage to times of day that support a cleaner, more reliable grid.

This effort is part of a multiyear path toward simplifying the rate structure. On March 1, 2017, we simplified the structure for PG&E rate plans by reducing the number of rate tiers from three to two. Additionally, to encourage conservation, a surcharge was added for customers who exceed four times the baseline amount of electricity usage. The surcharge, which does not apply to Time-of-Use rates, impacts less than 10 percent of the residential electric customers on the tiered rate plan.

Energy efficiency and other programs will remain at the heart of our efforts to help customers save money on their bills, including our CARE, REACH and Energy Savings Assistance Programs.

PG&E supports economic vitality in San Luis Obispo County

PG&E donated \$25,000 to the Economic Vitality Corporation (EVC) of San Luis Obispo County in support of its mission to create a stronger regional economy. We are committed to helping the EVC and nearby communities in the near-decade-long process of transitioning to a future without the Diablo Canyon Power Plant in operation.



Helping Spanish-speaking customers find energy savings

PG&E held a community workshop in Bakersfield to help local Hispanic residents learn ways to save money on their energy bills. The first 100 customers received a PG&E Simple Savings Kit, containing a high-efficiency shower head, two bath faucet aerators, two LED light bulbs and more. PG&E has a dedicated Spanish customer service line (1-800-660-6789) and bills available in Spanish.



Community Investments

As a business partner and community member, we start with the simple belief that we are better together. We are investing in partnerships across our service area that enrich educational opportunities, preserve our environment, promote emergency preparedness and support economic vitality.

Our Approach

Reflecting our local approach, PG&E's Better Together Local Giving Program provides grants every year to 501(c)(3) nonprofit organizations, schools and local governments across Northern and Central California. These investments can come from PG&E or from The PG&E Corporation Foundation, and generally focus on four areas: education, economic and community vitality, the environment and emergency preparedness.

In 2016, we provided more than 1,600 grants in these areas, with a special focus on supporting underserved communities. We also prioritize partnerships that provide volunteer opportunities for our employees and often make in-kind contributions to organizations, such as vehicle donations and surplus equipment and tools.

PG&E's community investment program is funded entirely by shareholders and has no impact on our customers' electric or natural gas rates.

PG&E also offers several ways for employees to get involved in the community investment process on a local level:

- Our Community Service Award Program allows employees who volunteer for more than 25 hours to send \$350 to a qualifying nonprofit organization of their choice.

2016 CHARITABLE CONTRIBUTIONS

Category	Percentage ¹
Education	31%
Economic and Community Vitality	51%
Environment	14%
Emergency Preparedness	3%

1. Numbers may not add up to 100 due to rounding.

For the fifth year in a row, Pacific Gas and Electric Company earned a spot on the Civic 50 as one of America's most community-minded companies. The list highlighted the S&P 500 corporations that best use their time, talent and resources to improve the quality of life in the communities where they do business.



- We give each of PG&E's 10 Employee Resource Groups (ERGs)—representing different aspects of PG&E's diverse workforce—the opportunity to direct \$10,000 to community groups and activities.
- Through the Matching Gifts Program, eligible gifts from employees, retirees or current members of the PG&E Corporation Board of Directors are matched, dollar-for-dollar, up to \$1,000 per calendar year per individual.

2016 Milestones

Our Better Together Giving Program makes a difference in the lives of our customers and in the communities we serve.

Education

Today's students are our future engineers and scientists. To help them succeed, PG&E continues to support California students with scholarships and grants in science, technology, engineering and math (STEM). Highlights from 2016 include:

- **Better Together STEM Scholarships.** More than \$1 million in scholarships were awarded to students pursuing higher education in STEM fields. Ten students each received a \$100,000 scholarship (up to \$20,000 per year for five years), and program finalists were awarded a one-time \$2,000 scholarship. Since 2012, the Better Together STEM Scholarship Program has awarded more than \$3 million to accomplished students based on a combined demonstration of community leadership, personal triumph, financial need and academic achievement.
- **Solar Suitcase Program.** For the 2016-2017 school year, 19 schools in Northern and Central California participated in the second year of the PG&E Solar Suitcase Program, part of our Better Together Classroom Grants, in partnership with We Care Solar. Under the program, each school is awarded \$8,000 worth of equipment and training to help students build portable solar units that can bring clean, renewable energy to communities in Kenya. The program has provided light for more than 15,000 Kenyans and given more than 2,000 students in California a unique global service and educational opportunity.
- **Better Together Energy Academy.** Created in partnership with the California Department of Education, this one-of-a-kind program offers in-school STEM-focused training for students in grades 10 through 12 to help them prepare for careers in our industry. Energy Academy schools receive grants, targeted professional development workshops, and assistance from industry and government experts, and 11th graders in the program receive access to a paid summer internship opportunity at PG&E.

Economic and Community Vitality

PG&E invests in job creation and career training opportunities, supports local businesses and offers energy assistance to low-income families to improve the quality of life in the communities we serve. Highlights from our efforts in 2016 include:

- **Better Together Economic Vitality Grants.** PG&E's Better Together Economic Vitality Grants invested \$200,000 in programs designed to boost local job creation and promote economic opportunity throughout our service area. Grants of up to \$20,000 were awarded for programs ranging from business development to workforce training.
- **Better Together Summer Jobs Program.** We committed nearly \$1 million to PG&E's Better Together Summer Jobs, which we offer in partnership with local Boys & Girls Club chapters in Fresno, Sacramento and Bakersfield. Through the program, PG&E provided 210 youth with paid summer jobs, and approximately 850 youth with workforce training. The program, now in its fifth year, has a major impact on youth and is made possible through partnerships with cities and local businesses.

Partnering with FIRST Robotics

We launched a partnership with FIRST's® Robotics program and Playing at Learning



to develop our next generation of STEM leaders by providing grants to students participating in robotics competitions. FIRST's mission is to inspire and celebrate science and technology in a team-based context and FIRST is dedicated to providing access to STEM education opportunities for diverse and underserved communities.



PG&E takes part in state economic summit

With a need for 1 million more skilled workers over the next decade to meet California's employer needs, the 2016 California Economic Summit gathered more than 500 leaders from across various business sectors to address the current workforce skills gap. The panel was led by the heads of California's education system including community college, state university and University of California systems, as well as the state's board of education. Dinyar Mistry, the Senior Vice President of Human Resources for PG&E Corporation and Pacific Gas and Electric Company, spoke about the importance of creating partnerships with California's education systems to build a steady and diverse workforce pipeline.

- **REACH.** In partnership with the Salvation Army, the PG&E REACH (Relief for Energy Assistance through Community Help) program has provided critical financial assistance for gas and electric services to thousands of families for more than 30 years. Support for the program comes primarily from PG&E, but our employees and customers also contribute donations. PG&E supports 100 percent of all administration costs, ensuring that 100 percent of the charitable donations reach even more of those in need.

Emergency Preparedness

Preparing for natural disasters helps PG&E respond to emergencies efficiently and effectively when our customers need us most. We partner with first responders and community leaders to promote community readiness in the event of an emergency, such as a wildfire, storm or earthquake. In 2016, our efforts included:

- **Partners in Preparedness.** PG&E contributed \$1 million to the American Red Cross Home Fire Preparedness Campaign to transform disaster readiness levels in our communities in addition to supporting year-round disaster response efforts. The program aims to reduce the number of lives lost due to a preventable cause: home fire.
- **Community Preparedness Support.** PG&E has awarded local grants to California Fire Safe Councils and participated in the Governor's Task Force on Tree Mortality. We also provided local support to cities and school districts, disaster response agencies, police and fire departments, and neighborhood watch organizations in high-fire-risk counties to help communities protect themselves from wildfires.

Environment

PG&E is committed to protecting the environment, and this commitment drives our programs that promote renewable energy, foster energy efficiency and protect our parks, recreation areas and natural habitats. Recently offered programs include:

- **Better Together Solar Habitat.** Through this program, PG&E fully funds the installation of solar panels on every new home built by Habitat for Humanity in our service area. The program lowers the electrical bill for each home by an average of \$500 a year, avoids the release of 132,000 pounds of carbon dioxide to the atmosphere over the 30-year life of the system, and provides popular volunteer opportunities for our employees. PG&E's Better Together Solar Habitat Program has provided more than \$11.6 million to help respond to housing needs and bring solar energy over the past 12 years to hardworking families with limited incomes.
- **Better Together Nature Restoration Grants.** Working in close partnership with the National Fish and Wildlife Foundation, PG&E has helped repair over 80 natural areas since 2000. Through these grants and community-based projects, PG&E has committed \$2.3 million to protect and restore critical natural habitats within our service area, including the following projects and programs:
 - McClellan Ranch Preserve—restoration of a riparian meadow, which is increasingly threatened by urban growth (Santa Clara County).
 - Forebay Aquatic Center—a restoration and clean water science ambassador project (Butte County).
 - Centennial Creek Community—local students and residents as well as PG&E employees planted more than 60 riparian shrubs (Paso Robles).
 - EarthTeam—a sustainable youth program creating green infrastructure through community-based urban forestry (Contra Costa County).



PG&E honored for “exceptional” emergency preparedness efforts

The California Emergency Services Association honored PG&E with its Gold Award for “exceptional efforts in the field of emergency preparedness.” Our participation in the state's California Day of Preparedness, among other events, helped both PG&E and our partners prepare for natural disasters.



PG&E to award \$1 million to help communities prepare for climate change

Cities and communities across California are facing threats of damage and disruption from climate change. Through the Better Together Resilient Communities grant program, PG&E will invest \$1 million over the next five years to support local planning efforts to manage extreme weather events such as flooding, heat waves, drought and wildfires. To assess grant proposals for this shareholder-funded program, PG&E will consider replicability (how others can learn from these strategies), demonstrated partnership, assistance to disadvantaged communities and measurable impact.

Measuring Progress

In 2016, PG&E supported \$28 million in contributions to charitable organizations. Those amounts are equivalent to 1.23 percent of PG&E's pretax earnings from operations from the prior year.

PG&E's community investments are focused on providing assistance to underserved communities, such as low-income individuals, communities of color, the long-term unemployed, women and girls, veterans, senior citizens, people with disabilities and members of the lesbian, gay, bisexual, transgender and queer (LGBTQ) community.

In 2016, nonprofit organizations self-identified that approximately 66 percent of PG&E's community investments were directed toward communities of color and approximately 16 percent were directed to women and girls, veterans, senior citizens, people who are homeless, people with disabilities, and members of the LGBTQ community.

TOTAL CHARITABLE CONTRIBUTIONS	
Year	Charitable Contributions (millions)
2009	\$19.2
2010	\$19.3
2011	\$23.2
2012	\$23.2
2013	\$23.2
2014	\$23.2
2015	\$25.0
2016	\$28.0

Looking Ahead

In 2017, PG&E will sustain its charitable funding to support underserved communities, with a particular focus on supporting the next generation of California's energy workforce. This will include developing partnerships with local community colleges and non-profit organizations focused on preparing an energy workforce. We will work to build a sustainable and scalable local and diverse workforce pipeline that starts with career awareness at the K-12 level in the engineering and trades disciplines. We will also continue to strengthen the linkages between our community investments and our future workforce needs by partnering to provide students with internships and job-shadowing opportunities.



Supplier Diversity

Every day, PG&E relies on a large network of diverse suppliers and small businesses as we provide safe, reliable, affordable and clean energy to our customers. For 36 years, this supply chain has helped us to better serve our customers and support economic development, create local jobs and support diversity in our communities.

Our Approach

PG&E makes it a priority to bring diverse business enterprises (DBEs)—small businesses and businesses owned by women, minorities, service-disabled veterans and LGBTQ individuals—into our supply chain. We also connect DBEs with other organizations to help grow their businesses and empower them to succeed in today's economy.

In addition, we host workshops and training sessions to help our suppliers operate more safely, securely and sustainably. Helping our diverse suppliers improve and grow, in turn, helps us better achieve our energy delivery goals, improve our local communities and ultimately better serve our customers.

Championing Diverse Suppliers

Within PG&E, a group of supplier diversity champions set diversity goals, share best practices and monitor progress within their lines of business, with the direct support of senior leadership. In addition, PG&E's annual Supply Chain Responsibility Awards recognize employees who have made the largest impact on our diversity efforts.

At diverse business community events, we are represented by more than 100 volunteer outreach ambassadors who share information about how to do business with PG&E.



Earning recognition from the National Gay and Lesbian Chamber of Commerce

Recognizing our long-term support and dedication to providing fair and equal opportunities for LGBTQ suppliers, customers and employees, Pacific Gas and Electric Company was named Corporation of the Year by the National Gay and Lesbian Chamber of Commerce. In accepting the award, PG&E Corporation's Vice President of Federal Affairs and Policy and Chief Sustainability Officer Melissa Lavinson said, "It's the strength of our diversity that makes our company and communities successful."

Focusing on Small Businesses

To support small businesses, PG&E hosted several workshops and training sessions throughout the year, including collaborating with the U.S. Small Business Administration to hold capacity-building training seminars. Training topics ranged from how to complete a request for proposal to the importance of certifications, to financial education on understanding credit profiles and financial statements.

PG&E also developed the Accelerated Pay Program in 2015 to support small business suppliers in need of financial and cash flow assistance. Through the program, PG&E offers business owners scholarships to business financial analysis and management courses at the University of California, Berkeley, as well as one-on-one business coaching sessions with a professional advisor.

Encouraging Prime Suppliers to Participate in Supplier Diversity

We encourage our prime suppliers to submit a supplier diversity plan, set a supplier diversity performance goal, report on subcontracting with diverse suppliers and then detail their progress toward these goals. We've also established a new Prime Supplier Academy to provide prime suppliers with training sessions designed to increase their understanding of the business case for supplier diversity. Training sessions also provided attendees with the strategies and tactics to implement best practice supplier diversity program elements into their own programs.

Strengthening Suppliers and Relationships

PG&E offers a wide variety of technical assistance and training programs to our suppliers, many in collaboration with community organizations. These initiatives help diverse suppliers build their business acumen and include scholarship opportunities for the UCLA Management Development for Entrepreneurs Program, the University of Washington Minority Business Executive Program and U.C. Berkeley.

PG&E also sponsors educational scholarships that help suppliers manage supply chain risk and improve quality via International Organization for Standardization (ISO) certification. These scholarships provide DBEs with one-on-one training that helps them successfully implement ISO standards in their management systems.

PG&E's Technical Assistance Program includes signature training packages for diverse suppliers:

- Diverse Suppliers are Safe educates diverse suppliers on developing and improving their safety plans.
- Diverse Suppliers are Cyber-Secure raises cybersecurity awareness and offers approaches that a small business can take to cost-effectively assess its vulnerabilities and reduce risks.
- Diverse Suppliers Go Green instructs participants on how to establish a sustainability program, reduce their environmental footprint and identify green business opportunities.
- Diverse Suppliers Go Global offers information and shares resources on how to evaluate and participate in the global marketplace.

Additionally, PG&E sponsors the participation of mature DBE suppliers in the University of California Advanced Technology Management Institute, an executive training initiative focused on the strategic importance of innovation and technology.

PG&E recognized for supplier diversity

Pacific Gas and Electric Company is honored to have been named to Minority Business News USA Magazine's



2016 Corporate 101: Most Admired Companies in Supplier Diversity. This list recognizes companies that help drive minority business development through a strong commitment to supply chain diversity.

Highlighting our success in accelerating the growth of minority-owned businesses, Pacific Gas and Electric Company also became the first local or regional enterprise to receive the Gazelle Award from the National Minority Supplier Development Council.

Earning an "A" for supplier diversity

The Greenlining Institute, a Berkeley-based policy and research group



working for racial and economic justice, awarded Pacific Gas and Electric Company an "A" for its supplier diversity efforts. In its report card, Greenlining praised Pacific Gas and Electric Company for its supplier diversity success and acknowledged it for being the top spender in 2015 among the 19 California energy companies graded.

2016 Milestones

In 2016, PG&E spent \$2.85 billion with diverse suppliers, representing 44.4 percent of our total procurement. This was the fifth consecutive year that PG&E exceeded \$2 billion and the 11th consecutive year Pacific Gas and Electric Company exceeded the California Public Utilities Commission's goal of 21.5 percent.

In addition, PG&E's supplier diversity subcontracting performance increased, with prime suppliers reporting more than \$679 million in spending with DBEs, representing a 9.8 percent increase over the prior year.

Highlights from 2016 include:

- **Graduated five businesses from the Supplier Development Program.** For the last six years, we've provided participating suppliers with mentorship, capacity-building resources, opportunity identification and value chain analysis. PG&E recognized five businesses that completed the program in 2016 and welcomed five new DBE participants into the program.
- **Strengthened training for prime suppliers.** Through our Prime Supplier Academy, we launched courses and programs for prime suppliers covering the role that supply chain diversity and sustainability play in corporate strategies and providing best practice tools to support their efforts.
- **Offered innovative supplier development initiatives.** As a part of our Technical Assistance Program, PG&E offers workshops that raise awareness in the diverse business community about important business considerations such as cybersecurity, safety, environmental sustainability and global supply chains.
- **Continued to support the national SupplierPay initiative.** PG&E was the first energy provider and one of the initial 26 companies to participate in the federal SupplierPay Initiative, which helps small business suppliers better manage their cash flow by expediting payments for goods and services and promoting better access to financing.

Measuring Progress

In 2016, PG&E spent \$6.4 billion on products and services, a 14.6 percent increase of \$817.5 million compared to the prior year. In comparison, at \$2.85 billion, our diverse spending increased by 15.5 percent—or more than \$382.8 million—surpassing the general rate of increase in overall procurement.

Highlights from 2016 include the following spending statistics:

- Minority-owned business enterprises: \$1.8 billion, a 14.9 percent increase,
- Woman-owned business enterprises: \$797.7 million, a 10.3 percent increase,
- Service-disabled veteran-owned business enterprises: \$223.9 million, a 44.8 percent increase, and
- LGBTQ-owned business enterprises: \$1.2 million in PG&E's first year of reporting.

5-YEAR SUPPLIER DIVERSITY TREND

Category	2012	2013	2014	2015	2016
Total DBE \$ (millions)	\$2,052	\$2,317	\$2,112	\$2,468	\$2,851
Total DBE % (based on total spend)	38.8%	42.1%	40.9%	44.0%	44.4%

SUPPLIER DIVERSITY AND SMALL BUSINESS RESULTS (PERCENT OF TOTAL SPEND)			
Category	2014 (%)	2015 (%)	2016 (%)
Minority Men	19.0	20.2	20.2
Minority Women	7.4	8.1	8.3
Minority Business Enterprise	26.4	28.4	28.5
Women Business Enterprise (WBE)	12.1	12.9	12.4
Service-Disabled-Veteran Business Enterprise (DVBE)	2.4	2.8	3.5
Total DBE	40.9	44.0	44.4
PG&E Target	40.0	41.0	42.0
Non-Diverse Small Business ¹	7.5	6.2	0.8
Grand Total¹	48.4	50.2	45.2

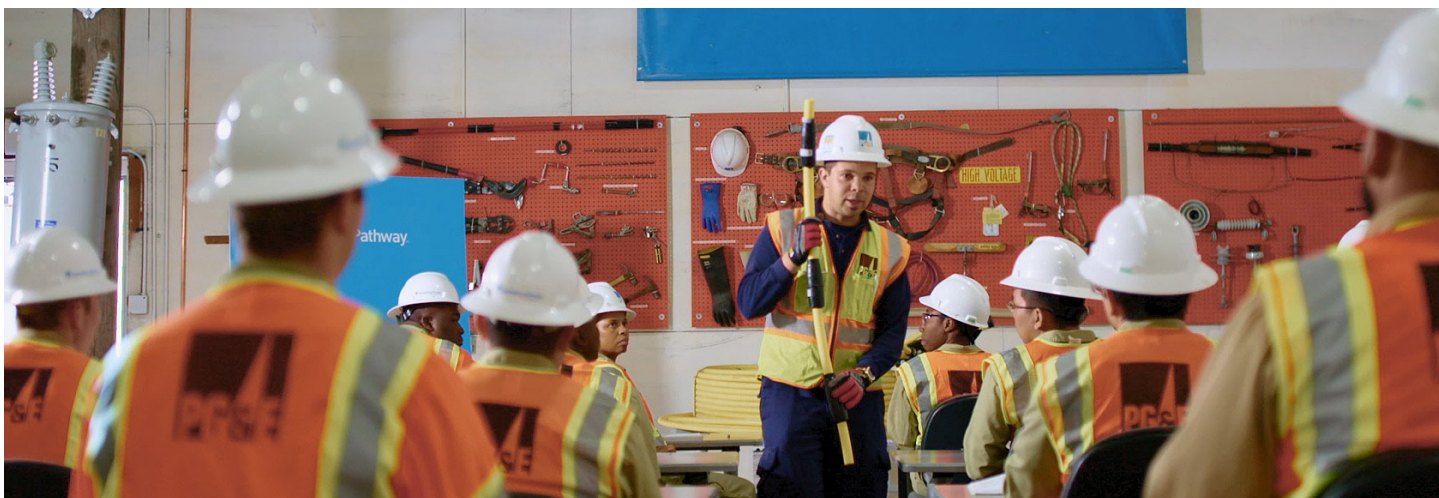
Spend	2014 (\$ millions)	2015 (\$ millions)	2016 (\$ millions)
Supplier Diversity Spend	2,112	2,468	2,851
Non-Diverse Small Business Enterprise Spend	385	349	257
Total Diverse and Small Business Spend	2,497	2,818	3,108

1. Beginning with the 2015 reporting period, PG&E is reporting Small Business Enterprise results on a calendar-year basis. Previous-year reporting on small business enterprise spending aggregated partial year results (October through December of the previous year plus January through September of the reporting year). This accounts for the changes in percentages and spending totals reflected in the 2014 data versus what was previously reported.

Looking Ahead

With the many benefits our supplier diversity program brings, we will continue to expand and grow the program, our outreach and supplier support. In 2017, PG&E will focus on the following areas:

- Continuing to educate the community of small and diverse businesses about the importance of having rigorous safety programs,
- Promoting increased prime supplier support of PG&E's supplier diversity initiatives through the Prime Supplier Academy training courses,
- Supporting executive training initiatives that encourage mature diverse businesses to consider competing for opportunities in emerging technology,
- Providing scholarships for ISO 9001 and 14001 certification training to help diverse businesses build the necessary practices for successful, scalable growth, and
- Focusing on LGBTQ business growth through targeted outreach and workshops on how to do business with PG&E.



Employees

During times of rain and wind, snow and ice, or sunshine and calm, PG&E employees can be found throughout Northern and Central California delivering on our plans to be the safest, most reliable energy provider in the nation. Our employees bring a customer focus to their work, whether they are maintaining and improving our gas and electric infrastructure or interacting with a customer at a local office. We are also working every day to build and sustain the workforce of tomorrow: well-trained, engaged and diverse employees who can meet the demands of the changing energy industry.

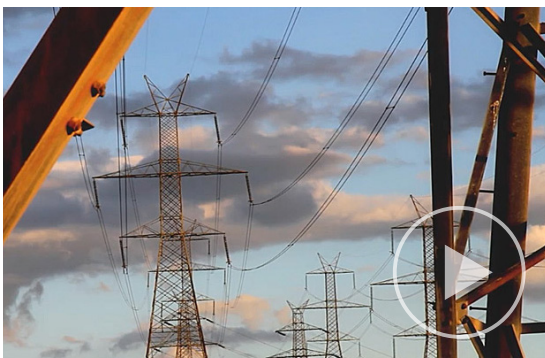
Key Sustainability Indicators

Percentage of PowerPathway graduates hired into industry jobs:

82%

Number of employee volunteer hours:

96,800 hours



Embedding sustainability into operations

Widely used in the energy industry at electric substations, sulfur hexafluoride (SF₆) is a potent greenhouse gas. PG&E has been reducing our SF₆ emissions for years through a comprehensive program to find and fix equipment leaks.

To further reduce SF₆ emissions, PG&E is now working to procure SF₆-free equipment by collaborating with suppliers, industry groups and other stakeholders. Doing so will help build the market for SF₆-free equipment and cleaner technology while reducing costs and benefitting the environment.

2016 Highlights

Continued to create a workplace where every **employee is empowered to speak up** to share new ideas and raise concerns.

Developed our leadership ranks through Leading Forward, a program designed to grow leaders at every level and support our goal of filling 75 percent of director-and-above vacancies from within PG&E.

Set a **company record for employee volunteerism**, contributing 96,800 hours of community service.

Provided career opportunities for veterans and women through our pioneering PowerPathway™ workforce development program, including enrolling our first-ever class of active duty military members.

Engaged 5,500 employees in our Employee Resource Groups to promote diversity and inclusion, employee development and community service.

Continued to see a reduction in the number of employees unable to work due to health-related issues.

Delivered more than 791,000 hours of technical, leadership and employee training.

Achieved \$8.4 million in pledges from employees and retirees in our annual **Campaign for the Community**—setting a new record for PG&E.



Employee Engagement

PG&E strives to create a workplace where employees feel engaged—where they are excited about their work, confident in our future and understand and apply PG&E’s values to help us better serve our customers. To promote engagement, we are cultivating an environment where employees are empowered to speak up about safety and other important topics, have the opportunity to learn and grow in their careers, connect with the communities where they work and offer ideas about how to make PG&E a better place to work.

Our Approach

Engaged employees share a meaningful connection to their jobs, can articulate PG&E’s goals and understand how they and their broader organization contribute to PG&E’s success.

Governance and Key Initiatives

Our executive-level People Committee drives PG&E-wide efforts to improve engagement and work toward continuous improvement by reviewing and approving long-term people strategies and assessing the impact of people, plans and programs. One of the committee’s areas of focus continues to be a biennial employee survey that provides insights into the employee experience and our culture. In recent years, employee engagement has been a top priority, as demonstrated by its inclusion in our Executive Guidance, which provides the framework to guide PG&E’s planning for the next five years by establishing strategic focus areas that underpin the individual projects and programs that PG&E’s lines of business will develop and implement.

We have also implemented employee engagement action plans driven by senior leaders designed to create an environment where employees are empowered to speak up, a dedicated communications campaign and interim surveys to keep organizations within PG&E on track to meet their engagement goals.

We track employee engagement through the biennial employee survey, most recently conducted in 2016, as well as a number of other measures to hold leaders at all levels accountable for driving engagement. The People Committee provides guidance on senior leadership's role in addressing the survey results to drive continuous improvement.

Collaborating with our Unions

Approximately 60 percent of PG&E employees are covered by collective bargaining agreements with three labor unions: the International Brotherhood of Electrical Workers (IBEW) Local 1245, the Engineers and Scientists of California International Federation of Professional and Technical Engineers (ESC/IFPTE) Local 20, and the Service Employees International Union (SEIU) United Service Workers West. A negotiated labor agreement with each union establishes the working rules and other terms and conditions of employment.

These employees support areas critical to our business, including gas and electric operations, customer service, power generation, environmental and land services, telecommunications, and shared services.

PG&E and its unions work closely together in many important areas, such as enhancing technical training programs, fostering health and wellness, building career pathways and implementing numerous initiatives to promote a stronger culture of safety.

Engaging at the Grassroots Level

Employee-led initiatives play an important role in engaging employees. These include grassroots initiatives focused on safety, wellness and environmental leadership, as well as ambassador teams that provide employees with engagement opportunities within their lines of business. Approximately 5,500 employees participate in our Employee Resource Groups (ERGs), each of which contributes to building an inclusive culture that ensures our employees' voices are heard and valued.

Every year, we honor employees whose work at the grassroots level embodies our highest values—such as safety, diversity and inclusion, environmental leadership, and community service—in our annual Employee Champions Awards ceremony. The event also features the Margaret Mooney Award for Innovation, which recognizes individuals and teams who apply innovative solutions to their work.

Engaging in our Communities

We also drive engagement through employee volunteer and giving programs. Our volunteerism efforts continue to grow, in part because PG&E's Better Together Giving Program, which supports deserving local organizations through community investments, prioritizes initiatives that offer opportunities for employees to volunteer. Our efforts are supported by local employee leadership teams that spearhead engagement opportunities in local communities.

PG&E also actively supports local nonprofit organizations by encouraging its senior leaders to serve on the boards of local charities. Among officers who have been with PG&E for more than a year, more than 90 percent serve on nonprofit boards such as the California Academy of Sciences, the American Red Cross, Habitat for Humanity and the San Francisco Chapter of the United Negro College Fund.

2016 Milestones

Highlights from 2016 included the following:

- **Improved employee engagement and continued building a strong safety culture.** PG&E conducted its biennial employee survey on employee engagement and other topics, with nearly 19,000 employees taking the time to participate. Employee engagement increased slightly when compared to results from the 2014 survey. Results also showed that PG&E has made strides in building our safety culture, with results exceeding industry benchmarks.
- **Redesigned time-off benefits for management, administrative and technical employees.** The new benefits include 15 vacation days per year for new and current employees with up to eight years of service, as well as improvements to our short-term disability and paid family leave benefits. Under our new Paid Family Leave policy, PG&E will supplement California's six-week benefit so employees receive 100 percent wage replacement for eight weeks.
- **Set a PG&E record for employee volunteerism.** Employees at every level contributed to our total of 96,800 hours of community service—the most volunteer hours in our history—significantly outperforming our goal of 90,000 hours. When multiplied by the California industry-standard value of \$27.59 for a volunteer hour, this represents more than \$2.6 million in equivalent labor.
- **Created an online tool to help drive engagement.** We launched an online planning tool for leaders to leverage employee insights shared in response to the biennial survey, with measures to hold officers and directors accountable for driving engagement within their teams. The tool also provided best practices for promoting employee engagement.
- **Reached new agreements with union-represented employees.** PG&E employees represented by ESC ratified an agreement that included wages, working conditions and the same redesigned time-off benefits provided for management, administrative and technical employees, while employees represented by IBEW and SEIU ratified new agreements covering wages; improved short-term, long-term and paid family leave benefits; and working conditions.

Measuring Progress

The employee engagement score from our 2016 biennial survey was 77 percent—up from the 2014 score of 76—and more than 81 percent of employees participated in the survey. Overall, the 2016 survey showed improved scores in engagement, continuous improvement and workforce empowerment. However, the survey results also revealed opportunities for us to improve in creating a speak-up culture and in our communications with employees.

To address these concerns and respond to employees' feedback in the biennial survey, all officers and directors are required to develop and implement targeted employee action plans, which address areas ranging from customer focus to work-life balance, with measures to hold all levels of leadership accountable for driving engagement within their teams.

In 2016, the total number of employee volunteer hours more than doubled from five years ago. For 2017, we set a goal of 91,000 hours from employee volunteers.



Volunteering on Earth Day 2017

Wearing blue volunteer T-shirts, more than 540 PG&E employees, their families and friends spent Earth Day cleaning and repairing parts of 11 state parks. During the day, volunteers planted trees, painted buildings, and restored trails, leaving a trail of goodwill wherever they went.

Earth Day volunteers tackled numerous projects:

- Painting visitor kiosks and clearing trails on Angel Island in San Francisco Bay
- Planting trees in Fresno's Millerton Lake State Recreation Area in remembrance of recent shooting victims, including Pacific Gas and Electric Company employee Zackary Randalls
- Weeding invasive plants and restoring planter boxes in Half Moon Bay
- Cleaning up the historic Fox Theater in downtown Bakersfield



PG&E's Campaign for the Community is an annual employee and retiree giving campaign. Employees can pledge a percentage of their salary and direct their donations to qualifying schools and nonprofits that are important to them. In 2016, employees and retirees pledged \$8.4 million—exceeding our goal and setting a new record for PG&E. Pledges were made by more than 10,500 employees and retirees, a 1.5 percent increase over 2015. Since 2000, PG&E employees and retirees have raised nearly \$80 million through the Campaign for the Community, benefitting schools and nonprofit organizations primarily in communities where PG&E employees live and work.

EMPLOYEE SURVEY RESULTS	
Year	Score ¹
2011	67%
2012	71%
2013	No survey
2014	76%
2015	No Survey
2016	77%

1. Refers to the percentage of favorable responses to questions that measure employee engagement.

EMPLOYEE VOLUNTEER HOURS		
Year	Target	Actual
2011	28,875	32,585
2012	34,215	41,792
2013	43,050	47,855
2014	50,000	75,000
2015	79,000	87,000
2016	90,000	96,800
2017	91,000	

Looking Ahead

Spearheaded by our executive-level People Committee, PG&E will continue implementing an enterprise-wide engagement strategy, which includes action plans in every line of business to address employee feedback from our biennial employee survey.

In addition, PG&E will collaborate closely with our unions, boost volunteerism and implement employee engagement action plans led by senior leaders so that we retain top talent, attract the best candidates and cultivate the workforce of tomorrow.



Career Pathways

To keep pace with the transformational change in our industry, PG&E's focus is on developing a next-generation workforce with the skills and expertise needed to operate our business safely, meet customer needs and explore the new frontiers opened by technology.

Our Approach

PG&E has a two-fold approach for preparing for the large percentage of employees who will become eligible to retire in the next five years. First, we are cultivating emerging leaders within PG&E by providing best-in-class training and development pathways for employees to grow within the organization. Our goal is to continuously improve the quality of our training programs and hire from within our own ranks whenever possible. Second, we engage in active community outreach to identify and hire potential candidates for employment.

PowerPathway™

PG&E's nationally recognized PowerPathway™ program continues to play a central role in our workforce development strategy. Students enrolled in the program receive industry-specific training that addresses the academic, vocational and physical abilities students will need to enter the energy industry workforce.

Created in 2008, the program targets those who are out of work or underemployed, and has a strong focus on enhancing opportunities for women and those who have served our country in the military.

PowerPathway involves close collaboration with our local communities—including community colleges, community-minded organizations, unions and the public workforce development system—to attract and train future workers in the skills necessary for a career in the gas and electric business. The program is helping to create a pipeline of qualified candidates, with a growing number of graduates finding employment at PG&E.

Military Outreach and Support

PG&E has been a strong supporter of training and hiring veterans and military members and recognizes the invaluable skills and perspectives they can offer companies looking for mature, highly qualified employees.

Internally, more than 1,100 employees, both veterans and those who support them, are part of PG&E's Veterans Employee Resource Group.

Targeted Recruiting

In 2016, we reached nearly 10,000 new potential jobseekers through sourcing and events. More than 7,000 of these were from recruiting outreach efforts specific to minority, women, veteran, individuals with disabilities, and LGBTQ communities. PG&E's job prospect relationship management system included 43 percent minority, female, individuals with disabilities and veteran candidate leads by the end of 2016.

University Programs

PG&E offers summer internships for students and entry-level engineer and other rotational programs for recent college graduates to introduce emerging professionals to new work experiences and career development opportunities.

Employee Technical Training

For employees, we provide a range of technical training on the knowledge and skills to perform their jobs safely using approved tools and work procedures. These courses help prepare our workforce as we integrate new technologies, systems and processes into our operations. Consistent with PG&E's commitment to ensuring all employees are qualified to perform their assigned tasks over the duration of their careers, PG&E offers a range of skill refresher and employee development courses.

Historically, much of this hands-on training is provided at our two primary training facilities: the 44-acre Livermore Training and Qualification Center and the San Ramon Valley Conference Center. Beyond these facilities, we bring the classroom to employees with our virtual learning studio and two mobile training centers that allow for on-site instruction.

In 2016, we continued to make progress on a \$75 million, state-of-the-art Gas Operations technical training center in Winters, California. Once construction is complete in 2017, the facility will employ approximately 50 full-time employees and provide about 36,000 technical training hours per year, with 100 to 150 students on site each day.

Leadership and Employee Development

PG&E's long-term strategic planning includes employee and leadership development, as well as succession planning.

All new employees begin their time at PG&E with a full-day onboarding program where they learn about our history, vision, values and safety culture. To support employees' growth throughout their careers, PG&E offers a variety of career development tools and courses, a mentoring program, tuition reimbursement for qualifying education expenses, temporary rotational assignments and other tools to help them grow in their current roles and advance.

PG&E has committed to continually fill 75 percent of management vacancies in the positions of director-level and higher with internal candidates. Our focus on hiring from within the organization has helped keep the turnover rate at PG&E low, with less than 5 percent of new employees leaving voluntarily within one to three years from their hire date. That retention record places PG&E within the first quartile among gas and electric providers.

Our Leading Forward leadership development program features integrated training and experiences to inspire our leaders at all levels to take on industry challenges. The curriculum builds skills in areas such as safety leadership, managing operations and developing teams—all of which contribute to how we are shaping our leadership culture. Leading Forward consists of eight leadership development courses with both hands-on and classroom experiences to give participants a clear career map for continued development.

In addition, we offer two formal rotational programs:

- **MBA Leadership Program**, a two-year program that places graduates from the nation's top business schools in positions to work on some of our toughest business challenges and prepare them for long-term leadership careers.
- **Engineer Rotational Development Program**, an 18-month program in partnership with Stanford University, which gives employees the opportunity to earn a PG&E Engineering Management certification.

2016 Milestones

In 2016, notable PowerPathway program accomplishments included:

- **Graduated the first-ever class comprised of active-duty military members.** The first cohort of participants—all service members stationed at Joint Base Lewis-McChord, a U.S. Army-U.S. Air Force installation—graduated from the program, held at Bates Technical College in Tacoma, Washington.
- **Graduated first PowerPathway class in Bakersfield.** The first class of PowerPathway students in Kern County graduated after completing a nine-week training program that provided them critical skills that could help them land jobs in the energy industry.
- **Completed the second direct hire PowerPathway program for military veterans.** We developed a four-week training program to help military veterans transition to roles in PG&E's Customer Care organization. The program produced 20 highly qualified customer service representatives, all of whom transferred to positions in PG&E's Sacramento Contact Center.

We also continued to make strides toward our leadership and employee development goals. Highlights included:

- **Continued Leading Forward** by offering courses for newly hired or promoted leaders, directors and officers to accelerate their development, as well as a program for employees with supervisory potential.
- **Continued our Apprenticeship Line Worker Program**, a comprehensive five-year program designed to develop the safest and most proficient line workers in the industry through a combination of field and classroom work.

Measuring Progress

The wide variety of PowerPathway programs—ranging from customer service representatives to gas pipeline inspectors—are adding new, diverse and qualified candidates to the energy industry's talent pool. By the end of 2016, more than 800 people—including 477 veterans—had graduated from one of the programs. Approximately 80 percent of program graduates have gone on to find employment in the energy industry. Other program highlights include:

- 133 program graduates in 2016 and
- 417 graduates hired into PG&E since 2008.



PG&E's 1,000 Careers Project

PG&E's "1,000 Careers Project" is a program to hire 1,000 veterans by 2023. The project will include educating PG&E recruiters, hiring managers and field leadership on the skills and abilities of military veterans, help ensure that veterans have access to ongoing support and professional development opportunities as they build careers at PG&E, and make PG&E a preferred employer for veterans in California. Through 2016, PG&E had hired over 400 veterans as part of the project.



PG&E honored for support of National Guard and Reserve service

Pacific Gas and Electric Company was recognized in 2016 for its sustained employer support of National Guard and Reserve service by the Employer Support of the Guard and Reserve, a U.S. Department of Defense office. PG&E received the Extraordinary Employer Support Award during a ceremony at our Diablo Canyon Power Plant in recognition of the plant's large contingent of veteran employees.

Additionally, as part of our continuing commitment to our employees, we delivered more than 791,000 hours of technical, leadership and employee training in 2016. To measure the success of that training, participating employees complete surveys and provide feedback on how much the training has increased their knowledge. For courses that teach technical skills or reinforce skills that involve high-consequence tasks, every employee is required to pass an assessment that covers both knowledge and skills gained.

At PG&E Academy, our in-house organization charged with enhancing employees' skills and qualifications, we introduced a new five-point scale survey in 2014, asking employees to rate their ability to use training on the job. In 2016, training effectiveness measured 4.48, which exceeded our goal of 4.45.

Looking Ahead

PG&E will remain focused on training, developing and retaining top talent from across our service area and beyond. Via our PowerPathway program, community outreach and recruiting, and university programs, we continue to build skills to support employment in our community and careers in energy.

We also remain committed to delivering high-quality training across a broad spectrum of categories to build and maintain a qualified, motivated and skilled workforce. This includes a new Safety Leadership Program, designed to strengthen skills among our crew leads. This hands-on, interactive course will be delivered to over 1,700 leaders over three years.

With many of our employees eligible to retire in the coming years, we continue to focus on capturing the institutional knowledge gained through their years on the job by building it into our formal work practices and training, or through directly training other employees.

PG&E recognized for top training program

In early 2017, Pacific Gas and Electric Company was recognized for having one of the top 20 training programs in the world by *Training Magazine*, an industry-leading publication that promotes corporate best practices for training and workforce development.



Top military friendly employer

For the fifth consecutive year and the sixth time overall, Pacific Gas and Electric Company was designated as a 2017 Military Friendly Employer by *G.I. Jobs Magazine*. Companies earning the designation have shown exceptionally strong hiring programs and provided meaningful jobs for transitioning service members, veterans and spouses.





Diversity and Inclusion

At PG&E, our commitment to diversity and inclusion is fundamental to how we do business. Having access to the widest possible range of ideas, perspectives and backgrounds brings new and innovative thinking to our operations, as does ensuring all voices and opinions are respected and heard. These values create a culture where employees feel comfortable being themselves at work so that they can reach their full potential. Together, they make us stronger, enable us to better serve our customers and communities, and position PG&E for the future.

Our Approach

Governance Structures

PG&E's efforts to foster a diverse and inclusive culture and workforce are led by our Chief Diversity Officer, with support from the senior leadership team. A Diversity Council—composed of PG&E officers and Employee Resource Group (ERG) leaders—meets to inform PG&E's diversity and inclusion strategy. Each line of business has a Workforce Diversity Champion and annual Workforce Diversity Action Plan with goals tailored to that organization.

The Compliance and Public Policy Committee of PG&E Corporation's Board of Directors reviews our diversity and inclusion practices and performance. The goal of this oversight is to ensure that diversity and inclusion principles are embedded throughout the lifecycle of our talent management programs.

To that end, new PG&E leaders attend an Inclusion Leadership Workshop as part of our Leading Forward leadership development program. Materials on applying inclusive best practices are also available to all employees on PG&E's intranet, and PG&E regularly recognizes employees who embody our diversity and inclusion

principles. That recognition culminates each year with the President's Diversity Champion Awards, which honor employees for their outstanding achievements in the areas of diversity and inclusion.

Grassroots Involvement

Our ERGs have been at the forefront of PG&E's diversity and inclusion efforts for more than 40 years. Through awareness campaigns, networking events, skills workshops that promote employee development, community service and volunteerism, our ERGs work to promote and instill diversity and inclusion as values for every employee. In addition, each year, every ERG raises money for college scholarships for local students.

We also support professional organizations such as the Society of Hispanic Professional Engineers, the Society of Women Engineers, the National Society of Black Engineers and the American Association of Blacks in Energy.

2016 Milestones

In 2016, we continued to make progress implementing our diversity and inclusion strategy and furthering our workforce development programs. Highlights included:

- **Championed building the workforce of the future.** Workforce Diversity Champions set goals and took actions to increase workforce diversity and the inclusivity of the line-of-business culture. For example, to address a recruiting challenge, Electric and Gas Operations both convened groups of women in field roles to identify strategies to better attract, develop and retain women in the field.
- **Increased engagement in our ERGs.** Our ERGs continued to grow, with approximately 5,500 members, up 8 percent from 2015, across 27 chapters throughout the service area. More than half of PG&E's officers are executive sponsors to one or more ERG.
- **Spurred access to higher education.** Our ERGs awarded a record \$430,000 in scholarships to 176 students, ranging from \$1,000 to \$8,000 per scholarship. Since 1989, more than \$4.5 million in scholarships have been awarded to thousands of recipients.
- **Pioneered thought leadership.** PG&E instituted workplace gender transitions guidelines and continued to advance policy, training and resources to support workplaces for the transgender community.
- **Garnered high praise from leading diversity advocates.** Pacific Gas and Electric Company's diversity efforts were recognized by a wide variety of groups, including the Asia Society (named one of the top employers for Asian Pacific Americans) and the National Gay and Lesbian Chamber of Commerce (named 2016 Corporation of the Year). In addition, for the ninth straight year, Pacific Gas and Electric Company was named as one of the top five gas and electric energy companies by *DiversityInc*, and earned 100 percent on the Human Rights Campaign's annual Corporate Equality Index for the 14th consecutive year. PG&E Corporation was also named one of the 50 best companies for diversity by *Black Enterprise Magazine*. Additionally, Pacific Gas and Electric Company earned a score of 100 percent for the second consecutive year in the annual Disability Equality Index, a measure of disability inclusion policies and practices, and joined the Best for Vets list for 2016, ranking no. 41 in our first year taking part in the *Military Times* survey.



PG&E's Employee Resource Groups

- Access Network (supporters of, and people with, disabilities)
- Asian
- Black
- Latino
- Legacy (tenured employees)
- NuEnergy (new to the workforce or to PG&E)
- PrideNetwork (LGBTQ and allies)
- Samahan (Filipino)
- Veterans
- Women's Network

Equal Employment Opportunity and Affirmative Action

PG&E is committed to maintaining a work environment that is free from any and all forms of unlawful discrimination, harassment and retaliation. In accordance with federal and state laws, including the California Fair Employment and Housing Act, it is PG&E's policy to prohibit discrimination and harassment against any applicant, employee, unpaid intern, volunteer, vendor, contractor, customer, or client on the basis of race, color, national origin, ancestry, sex (which includes but is not limited to pregnancy, childbirth, breastfeeding and medical conditions related to pregnancy, childbirth or breastfeeding), sexual orientation, gender, gender identity, gender expression, transgender status, age, religion, religious creed, physical or mental disability, protected veteran status, medical condition, marital status, genetic information, military and veteran status, citizenship status, utilization of leaves of absence protected under state or federal law, any other reason prohibited by law, or any other factor that is not job-related.

Measuring Progress

PG&E continues to employ a higher percentage of women and minorities in our workforce than the national average for gas and electric companies. PG&E's workforce statistics by race, ethnicity and gender for 2014 to 2016 are below.

PG&E WORKFORCE DEMOGRAPHICS, 2014 – 2016			
EEOC Category	2014	2015	2016
Women	28.2%	28.1%	28.4%
Officials and Managers	32.2%	32.0%	33.6%
Professionals	35.0%	35.2%	34.5%
Technicians	18.7%	18.6%	18.6%
Administrative Support Workers	72.3%	71.8%	72.0%
Craft Workers	2.7%	2.6%	2.4%
Operatives	3.4%	4.8%	4.0%
Laborers and Helpers	9.2%	11.2%	12.0%
Service Workers	9.7%	10.3%	8.0%
Ethnic Minorities	41.1%	41.7%	42.7%
Officials and Managers	31.3%	32.0%	32.6%
Professionals	42.5%	43.8%	44.9%
Technicians	41.9%	39.4%	39.6%
Administrative Support Workers	59.7%	60.7%	62.4%
Craft Workers	31.9%	32.6%	33.0%
Operatives	33.3%	41.8%	39.3%
Laborers and Helpers	47.7%	48.1%	48.2%
Service Workers	32.2%	33.2%	34.7%
Minority Groups			
American Indian or Alaskan Native	1.4%	1.3%	1.2%
Asian	14.6%	14.7%	14.7%
Black/African American	6.3%	6.3%	6.4%
Hispanic/Latino	16.7%	17.0%	17.6%
Native Hawaiian or Pacific Islander	0.4%	0.5%	0.5%
Two or more races	1.7%	1.9%	2.3%

PG&E Corporation EEO-1 Report, as of July 1, 2016.

BENCHMARKING WORKFORCE DEMOGRAPHICS		
Category	PG&E	U.S. Energy Company Average ¹
Women	28.4%	25.5%
Ethnic Minorities	42.7%	24.9%

1. Source: 2016 EEO-1 Reports: Combined Electric and Gas Utilities, U.S. Total. NAICS Code 2211 – Electric Power Generation, Transmission & Distribution, U.S. NAICS Code 2212 – Natural Gas Distribution, U.S.

Looking Ahead

To continue to build a culture where all employees feel safe being themselves at work, we are focused on further embedding diversity and inclusion principles and tools within our business. We will also continue to update our training materials to increase awareness of unconscious bias and how it can influence processes and practices.

Finally, we will continue our focus on several key areas:

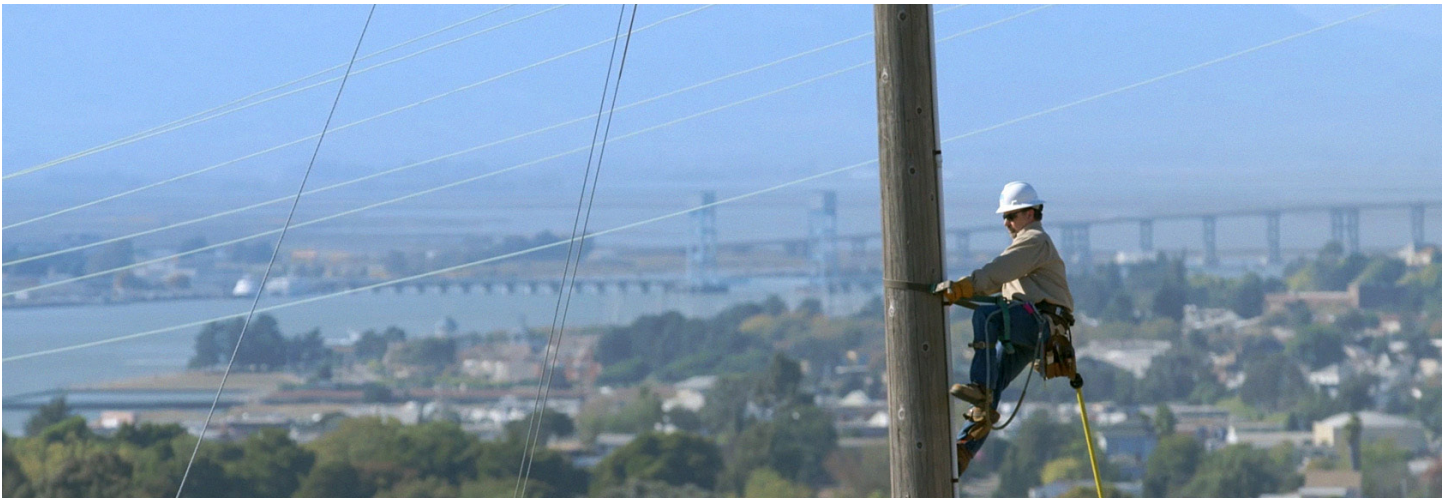
- Growing careers by developing and promoting employees from within PG&E and reaching out to hire talent from our communities,
- Fostering an inclusive culture where all employees contribute by raising concerns and listening with integrity and authenticity, and
- Preparing our communities for careers in energy by developing talent locally.

PG&E recognized for diversity and inclusion efforts



Pacific Gas and Electric Company was honored to receive the California Black Chamber of Commerce's 2016 Corporate Community Leader Award during the organization's 21st annual Ron Brown Business and Economic Summit and Women's Symposium in Los Angeles.

The award reflects our numerous partnerships with the chamber and other community organizations and the investments PG&E has made in college scholarships, job creation and in working to develop more options for renewable energy sources.



Health and Wellness

The health and wellness of our employees has a direct connection to their ability to work safely and meet the needs of our customers and communities. That's why PG&E provides integrated solutions and programs that cover all aspects of employee health and wellness—physical, emotional and financial—as we seek to empower employees to live healthier lives.

Our Approach

Through benchmarking and adopting best practices from companies in similar industries, PG&E is driving a prevention-first approach that aims to improve employee health by identifying and treating issues before they start. We believe in taking a comprehensive approach to wellness that encompasses physical, emotional and financial health—and we are prioritizing preventive efforts in all three areas.

Physical Health

PG&E's medical plan and benefits provide comprehensive care and service options designed to promote the overall health of our workforce, including several preventive services offered at no cost to our employees. Employees have access to a wide range of options, such as employee health screenings, our tobacco cessation program and team competitions to promote active and healthy lifestyles. In addition, we offer in-person or telephonic health coaching, which provides employees an opportunity to work with a dedicated coach to get personalized support for their health goals.

In PG&E's efforts to provide accessible, affordable and quality health care, our telemedicine program provides the ability to virtually meet with a doctor anytime, anywhere, using a computer or mobile device or one of our



Health screenings promote healthy behaviors

By participating in PG&E's annual health screening program and either being tobacco-free or completing a tobacco-cessation program, employees can earn credits in a health reimbursement account, which can be used to cover their deductible and pay for out-of-pocket medical expenses. In 2016, 88 percent of eligible employees received a health screening—a top decile participation rate.

seven on-site telemedicine kiosks. In early 2017, we also opened an on-site medical clinic offering comprehensive primary care medical services, including chiropractic, acupuncture and physical therapy at our San Francisco headquarters.

Our Wellness Ambassadors—employees located throughout our service area—help implement and increase awareness of our wellness programs and services.

For employees in our highest-risk positions, we continue to expand our Industrial Athlete Program, a job-specific set of actions designed to reduce injuries and improve the physical resilience of employees working in physically demanding jobs.

Our 24/7 Nurse Report Line provides immediate access to trained medical professionals able to advise employees on how to care for work-related discomforts or injuries, emphasizing our belief that early assessment and treatment are key to recovering and remaining healthy.

Emotional Health

PG&E's Employee Assistance Program offers employees options to help them manage life's demands at work and at home, from confidential counseling to referrals for local legal, financial and other services—whether by telephone, with counselors at their job site or in the communities where they live. We also offer applied behavioral analysis benefits for autism at no charge, with no deductible.

Additionally, our Peer Volunteer Program promotes a culture of openness, acceptance and recovery, with PG&E employees who are in long-term recovery from substance use disorders—or who have lived with a loved one with an alcohol or substance use issue—assisting others who need help. Run in collaboration with union leadership, the program's network of peers throughout our service area continues to grow as we work to shed the stigma and increase early intervention and treatment related to substance use disorders and other mental health issues.

Financial Health

Financial challenges have the potential to negatively impact one's health, increase absenteeism and adversely affect on-the-job performance. PG&E provides employees with a wide range of services to help them manage their finances and plan for the future, including free access to a financial advisor, life and accident insurance, and 401(k) and pension retirement plans.

2016 Milestones

Highlights included the following:

- **Expanded our Industrial Athlete Program.** We rolled out the program across PG&E's service area, beginning with those areas showing the greatest need. The program includes a component based on sports medicine principles and led by an on-site prevention specialist, which focuses on early signs and symptoms of musculoskeletal discomfort, observing work tasks and teaching employees how to avoid aggravating symptoms. Early intervention can stop symptoms from worsening—and even reverse them—helping to shorten periods of discomfort and limitation.
- **Expanded an on-site telemedicine kiosk program.** Touchscreen kiosks enable employees to enter preliminary health information and then get virtually connected via video chat with a doctor.



Office, vehicle and industrial ergonomics

To improve employee health and well-being, we educate our workforce on potential ergonomics risk factors in the office, vehicle and industrial settings. Adding to these efforts, we will implement expanded services in the office and vehicles, with trained professionals working one-on-one with employees to assess muscle imbalances, use and overuse that can lead to injury. Applying first aid techniques, the evaluators will work closely with employees to help resolve any discomfort and aid in the understanding of contributing factors. In the industrial environment, we will assess high-exertion jobs.

Photo by James Green

Employee health and wellness resources include:

- Annual health screenings held on-site so employees can conveniently check key health indicators such as body mass index and cholesterol levels,
- Health coaching for one-on-one support to help employees meet their health goals,
- An extensive online health and wellness portal with calorie trackers, meal and exercise plans and other resources,
- A tobacco-free program providing one-on-one support with a certified tobacco cessation specialist,
- Fitness discounts for employees and their family members,
- Quality care that is accessible and affordable through our telemedicine program and the first of three planned on-site medical clinics (the first of which opened in early 2017),
- Cancer support program and centers of excellence for rare and complex cancers,
- Approximately 60 mothers' rooms throughout our service area to ease the transition for nursing mothers when they return to work, and
- Wellness rooms offering instructor-led group fitness classes.

- **Opened an on-site medical clinic.** The PG&E Health Center at our headquarters offers comprehensive and customized primary care health services. These include preventive care physical exams and immunizations, acute and chronic medical care, and health coaching. Ancillary services such as physical therapy are also available. We also have an on-site occupational health clinic at our Diablo Canyon Power Plant.
- **Redesigned our time-off and disability plans.** PG&E revised existing time-off policies and disability plans to ensure they are comprehensive, sustainable and balanced across all job classifications. The changes included improved short-term disability coverage and an improved paid family leave policy.

Measuring Progress

Over the past five years, PG&E's programs have reduced the number of employees unable to work due to health-related issues. The increase in workforce availability from 2015 to 2016 is equal to approximately \$5 million in savings.

WORKFORCE UNAVAILABLE DUE TO HEALTH ¹	
2012	8.7%
2013	8.2%
2014	7.7%
2015	7.4%
2016	7.2%

1. Percentage of full-time employees unavailable for work due to long-term or short-term health reasons, as measured by total workdays lost for the entire year of 2016.

Looking Ahead

PG&E continues to expand and enhance our services and offerings to help build a healthy and safe workforce. These include:

- **Expanding on-site injury prevention program.** PG&E will increase the reach of its Industrial Athlete program and its ergonomics programs to reduce musculoskeletal injuries and improve employee health and safety, whether in the office, in the field or while driving.
- **Creating and maintaining a culture of health.** As PG&E's network of employee wellness ambassadors continues to grow, ambassadors will receive new and improved tools and support to address wellness at the workplace.
- **Improving convenience and options for quality care.** With the launch of on-site care and telehealth options for employees in 2017, PG&E will continue to expand these offerings by offering both occupational and non-occupational clinics and services at new locations.

PG&E recognized for gold standard mothers' rooms



Pacific Gas and Electric Company was one of 43 organizations recognized at an awards ceremony in San Francisco by the Healthy Mothers Workplace Coalition for its efforts to support the well-being of working mothers. Pacific Gas and Electric Company received a bronze award overall but earned the gold in the lactation accommodation category for its Mothers' Room program, which included creating and upgrading approximately 60 mothers' room throughout its service area.



PG&E team wins International Ergonomics Competition

In an effort to make employees safer, a group of PG&E electric employees implemented a program to improve ergonomic conditions for PG&E's linemen—earning the 2016 Ergo Cup Competition for Ergonomics Program Improvement. The program gives employees the tools they need to stay safe and healthy, which includes hands-on training, a dynamic warm-up program for industrial workers and the replacement of high-risk tools with more ergonomic devices.



Environment

PG&E's long history of environmental leadership serves as a foundational pillar of our sustainability efforts. We continue to commit significant resources toward combating climate change and supporting the transition to a clean energy future. We also continue to add renewable sources to our energy supplies, reduce our operational footprint and protect sensitive habitats and species—while we maintain our commitment to fully meet all environmental requirements.

Key Sustainability Indicators

Percentage of power from eligible renewable resources in 2016, helping PG&E deliver nearly 70 percent greenhouse gas-free electricity to customers:

32.8%

Number of poles retrofitted to be bird-safe:

2,068 poles



Building climate resilience

With a changing climate, PG&E will face increased risks to our assets, operations and employees, as we respond to disruptions caused by more extreme weather. Climate change will also impact the communities we serve.

That's why we're working to build climate resilience into our business planning, operations and infrastructure and collaborating with partners such as the California Academy of Sciences. This work—and the underlying science—will be increasingly important to ensure we and our communities are prepared to withstand and rapidly recover from disruptions caused by climate change.

2016 Highlights

Named to the “Climate A List” by the CDP, an international not-for-profit that represents 827 investors with \$100 trillion in assets.

Piloted the industry’s first export-power-capable plug-in electric hybrid trucks, designed to power buildings or homes in a neighborhood during planned or unplanned outages.

Protected nearly 3,700 acres of land as part of the Land Conservation Commitment, which ultimately will protect 140,000 acres of PG&E-owned watershed lands.

Continued to rate our suppliers’ performance relative to our Supplier Environmental Performance Standards.

Provided \$2 million in funding to local Fire Safe Councils to protect communities from wildfires in 18 high fire-risk counties.

Published a climate change vulnerability assessment—sharing our progress as we examine the risks we face from more extreme weather and changing climate conditions.

Powered all our service centers—nearly 100 facilities—with 100 percent solar energy through PG&E’s Solar Choice program.

Launched the Better Together Resilient Communities grant program, a shareholder-funded initiative that will invest \$1 million over five years to support local climate resilience planning efforts.



Compliance

PG&E is committed to environmental leadership. The cornerstone of our environmental policy is strict adherence to all applicable environmental laws and regulations. We also seek to go beyond compliance—setting rigorous objectives and high standards for ourselves to outperform legal and regulatory requirements.

Our Approach

Environmental Management System

PG&E's operations are subject to extensive federal, state and local environmental laws and regulations. These requirements relate to a broad range of activities, including preventing the discharge of pollutants; safely transporting, handling and storing hazardous materials; properly managing hazardous wastes; protecting threatened and endangered species; and reporting and reducing carbon dioxide and other greenhouse gas (GHG) emissions.

To ensure we meet these requirements, PG&E uses an Environmental Management System (EMS) modeled after the ISO 14001 environmental management standard and consistent with its "Plan, Do, Check, Act" model for continuous improvement. The EMS uses a series of compliance work processes that enable PG&E to manage regulatory compliance and our environmental impacts by each line of business.

The Vice President of Land and Environmental Management for Pacific Gas and Electric Company oversees our commitment to meet environmental requirements. PG&E's integrated planning process provides a mechanism for managing environmental risk and compliance while driving continuous improvement, as do enterprise-wide initiatives such as our Corrective Action Program and numerous other forums.

Compliance performance updates are reviewed monthly by PG&E's officers, and an annual environmental compliance summary is presented to the Compliance and Public Policy Committee of the PG&E Corporation Board of Directors.

2016 Milestones

Planning

In 2016, PG&E conducted an independent third-party gap analysis of our EMS based on the ISO Standard 14001:2015. This gap analysis yielded detailed recommendations to leverage existing programs to close identified gaps, which included the need to update the EMS, include more controls, integrate more stakeholders and better communicate the system with employees and contractors. In 2017, PG&E will address these gaps.

Implementation and Operation

PG&E employs a variety of operational controls to help ensure that the actions we take in meeting our environmental compliance obligations are correct and repeatable. We also learn from our experiences and integrate any lessons into our work processes and staff development.

In 2016, we continued to find new opportunities for applying technologies and processes to further our compliance efforts and minimize impacts on the environment. Key EMS initiatives included:

- Leveraging our SAP-based tool to analyze trends in environmental compliance,
- Enhancing and expanding the use of an automated tool to assess distribution projects for potential environmental impacts using geographic information system spatial data, and
- Leveraging enterprise-wide initiatives—such as records and information management and the integrated planning process—to strengthen compliance.

In addition, in 2016 PG&E enhanced and standardized the environmental release-to-construction process across all operating lines of business. This process catalogs all activity-specific permits, agreements, authorizations and other environmental requirements that are managed by PG&E's Land and Environmental Management teams.

PG&E conducts extensive training to ensure employees have the skills and knowledge to correctly perform environmental activities associated with their work. Each year, PG&E trains thousands of employees on various environmental compliance responsibilities. Additionally, we require employees to take a training course on our environmental policy to reinforce every employee's role in supporting PG&E's goal of environmental leadership.

Reviews and Corrective Actions

A robust environmental auditing program is critical to ensure compliance with the many environmental laws and regulations relating to our business.

We review and audit environmental performance in four ways: self-assessments, comprehensive reviews, compliance and risk management reviews, and internal audits.

- **Self-Assessments:** Environmental personnel perform self-assessments of facilities or projects they oversee. Each assessment evaluates a facility or project for compliance with environmental regulations.
- **Comprehensive Reviews:** These reviews are performed by personnel from the Land and Environmental Management department who are not responsible for compliance at the facility or the project being inspected. Each comprehensive review involves evaluating all environmental compliance obligations associated with the operation of a facility or project.
- **Compliance and Risk Management Reviews:** These reviews, designed to assess adequacy of controls and risk mitigation, as well as compliance work processes, are conducted by the Compliance and Risk Management team, which is independent from the Land and Environmental Management department.
- **Internal Audits:** The Internal Audit department, which reports directly to the PG&E Corporation Chief Financial Officer, conducts systemic and programmatic controls-based audits to independently analyze the effectiveness of our environmental compliance management systems. The results of these audits are reported annually to the Audit Committees of the PG&E Corporation and Pacific Gas and Electric Company Boards of Directors.

During 2016, we performed 4,752 self-assessments, 57 comprehensive reviews, 4 internal audits and one compliance and risk management review of various environmental processes, facilities and projects.

To drive continuous improvement, we employ a rigorous corrective action process, which includes performing root cause analyses of noncompliance issues identified through environmental agency inspections and tracking detailed corrective action plans to resolution.

Measuring Progress

Operational Performance

PG&E tracks and reports a wide range of annual environmental compliance performance indicators. This section covers our performance results for 2016.

Reported Unintentional Releases and Permit Exceedances

We report unintentional releases that exceed regulatory thresholds, as well as many smaller releases, in an effort to ensure operational transparency to local agencies. We reported a total of 225 releases, defined as an unintentional discharge of a regulated substance that exceeds a reporting threshold or thresholds allowed in applicable permits.

Agency Inspections

In 2016, a total of 790 agency inspections were conducted at our facilities. The majority of these inspections were performed by Certified Unified Program Agencies, such as city and county environmental health departments and fire departments.

Environmental Sanctions and Penalties

To measure compliance results, we categorize all written enforcement actions issued by a regulatory agency as either Level 1 (findings that resulted in an actual or potential environmental impact) or Level 2 (findings that did not result in an actual or potential environmental impact). We also track the percentage of agency inspections that do not result in written enforcement actions.

We received three Level 1 enforcement actions in 2016. Our rate of inspections without a written sanction was 95 percent, nearly 5 points above our target of 90.25 percent.

In 2016, PG&E paid a total of \$135,650 in environmental penalties.

COMPLIANCE DATA			
	2014	2015	2016
Level 1 Enforcement Actions	5	3	3
Percentage of Inspections Without a Written Enforcement Action	93%	91%	95%
Releases/Exceedances	134	170	225
Penalties Paid	\$3,100	\$188,445	\$135,650
Agency Inspections	571	641	790
Audits Performed ¹	44	67	62
Self-Assessments Performed	5,633	5,540	4,752

1. Includes system audits, comprehensive reviews and compliance and risk management reviews.

Looking Ahead

We will maintain our commitment to continuous improvement as we work to enhance our EMS and address results from our third-party gap analysis. We will continue to focus on expanding the use of technology to minimize environmental impacts as we perform gas and electric infrastructure improvements. We will also leverage our enterprise-wide strategic planning process to adopt shared goals regarding environmental compliance and enhance our EMS to better measure our progress in achieving these goals.



Climate Change

Taking action to combat climate change is integral to PG&E's mission to provide safe, reliable, affordable and clean energy to customers. We remain focused on reducing our carbon footprint, helping our customers do the same and leading the transition to a low-carbon economy. Our efforts extend to adapting our operations and infrastructure to changing climate conditions, as well as supporting efforts at the local level to make the communities we serve more resilient.

Our Approach

Our commitment begins locally but extends to state and international levels. PG&E leaders joined California's delegation at the 2015 COP21 international climate talks in Paris, where we voiced our support for an agreement to slow global warming, and in 2016 we participated in the seventh Clean Energy Ministerial, which brought the energy ministers from 25 nations around the world together with business leaders, entrepreneurs, industry experts and others to help nations deliver on the pledges made in Paris.

In addition, after being selected as PG&E Corporation CEO and President, Geisha Williams issued a message to customers expressing PG&E's commitment to reaching California's clean energy goals, and our conviction that climate change is real and action must be taken.

At the state level, PG&E supported Senate Bill (SB) 350, which increases the state's Renewables Portfolio Standard (RPS) to 50 percent by 2030 and doubles state energy efficiency goals. PG&E views SB 350 as an important step toward achieving California's climate change and clean energy goals. It continues our state's long history of policy leadership, which has spurred advancements in technology and innovation, and kept California at the forefront of environmental progress.

Additionally, SB 32 requires that the California Air Resources Board (ARB) ensure a 40 percent reduction in greenhouse gases by 2030 compared to 1990 levels. PG&E

PG&E named global leader on climate change

PG&E was named to the "Climate A List" by the CDP, an international not-for-profit that represents 827 investors with \$100 trillion in assets. PG&E was selected from thousands of companies that submitted annual climate disclosures to the CDP for an independent assessment against the organization's scoring methodology. PG&E made the list in recognition of our actions to reduce emissions and address climate change.



supported the state's successful effort to approve a comprehensive bill package that extends California's cap-and-trade program through 2030 and PG&E remains actively engaged with policymakers and various stakeholders on SB 32 implementation.

To do our part, we are taking an integrated approach to reduce GHG emissions in a way that manages costs for customers, delivers safe and reliable electric and gas service, and creates a model for others to follow.

Reporting Our Impacts

We believe it is essential that investors, customers, policymakers and other stakeholders have access to information that allows them to assess and understand a company's risks and opportunities associated with climate change.

PG&E reports its greenhouse gas emissions to the California Air Resources Board and the U.S. Environmental Protection Agency (EPA) on a mandatory basis. On a voluntary basis, PG&E reports a more comprehensive emissions inventory to The Climate Registry, a nonprofit organization. Each year, PG&E also reports its greenhouse gas emissions and climate change strategies to the CDP, an international not-for-profit organization that requests information on behalf of institutional investors.

Engaging Our Customers

PG&E actively works with customers to help them achieve energy savings and greenhouse gas emission reductions through some of the nation's leading programs and incentives for energy efficiency, demand response and solar installation. These efforts include helping local governments develop strategies and implementation plans to save energy and reduce emissions, and connecting them with PG&E programs and other resources to help them meet their energy goals.

Addressing Our Own Carbon Footprint

PG&E believes that gas and electric providers have a responsibility to reduce greenhouse gas emissions.

In step with California's evolving energy policy, in June 2016 PG&E announced a Joint Proposal with labor and leading environmental organizations that would increase investment in energy efficiency, renewables and storage beyond current state mandates while phasing out PG&E's production of nuclear power in California by 2025. It includes PG&E's commitment to a 55 percent renewable energy target in 2031, an unprecedented voluntary commitment by a major U.S. energy company.

We are committed to helping the state meet the long-term targets established by SB 32, which codified Governor Brown's May 2015 Executive Order and calls for a 40 percent reduction in California's greenhouse gases by 2030 compared to 1990 levels.

In the near term, California's Global Warming Solutions Act, or Assembly Bill (AB) 32, requires California to gradually reduce its greenhouse gas emissions to the 1990 level of 431 million metric tons of carbon dioxide-equivalent (CO₂-e) by 2020. The law covers emissions from PG&E's fossil-fuel power plants, natural gas compressor stations and electricity imported into California. In 2015, the law was expanded to cover emissions from the combustion of natural gas delivered to customers.

We are actively working to reduce our carbon footprint by increasing our supply of clean and renewable energy, reducing energy use in our facilities, avoiding emissions in our operations, investing in lower-emission vehicles and building a more sustainable supply chain.

Clean Energy Policy

PG&E supports the decarbonization of California's economy through timely, durable, environmentally effective and least-cost policy and energy solutions and remains committed to

California's Approval of Cap-and-Trade Legislation

PG&E applauds the leadership of the Governor and state legislature on addressing climate change. Approval of the joint Cap-and-Trade proposal puts achievement of the state's historic climate goals within striking distance. We believe this represents the right balance of taking a sustainable cost-effective approach to achieving greenhouse gas emissions reductions while providing strong consumer protections. California has left no question that it is embracing its leadership role and moving full speed ahead to decarbonize our state's economy and ensure that a clean energy future is accessible and affordable for everyone.

—Geisha Williams, CEO and President, PG&E Corporation

ARE STILL IN

We Are Still In

In the wake of the Trump Administration's decision to withdraw from the Paris climate accord, PG&E Corporation signed on to the We Are Still In letter—joining over 1,000 U.S. governors, mayors, businesses, investors, and colleges and universities to express our support for the continued commitment of the United States to bold action on climate change. The letter followed our earlier efforts to join U.S. business sector support for the agreement.



Helping customers go solar

PG&E's Solar Choice program offers customers the option to receive up to 100 percent solar power without the need to install private solar panels. The solar energy is produced locally in Northern and Central California.

climate actions to reduce greenhouse gases and address the impacts of global warming—from deploying clean energy technologies to continuing to lead and innovate on energy efficiency.

As required by SB 32, ARB is finalizing a second update to its 2008 Scoping Plan, which will establish a framework of action to meet the state's 2030 target. We are actively engaged in state regulatory and legislative climate change activities, including those around implementing California's cap-and-trade program, in order to meet the state's greenhouse gas emissions reduction goals at the lowest possible cost to customers.

We also remain focused on other Scoping Plan measures such as Low Carbon Fuel Standard implementation and the reduction of Short-Lived Climate Pollutants per SB 1383, which includes specific 2030 emission reduction goals for methane, fluorinated gases and anthropogenic black carbon.

At the federal level, the EPA is charged with implementation and enforcement of the Clean Air Act. In August 2015, EPA released the final Clean Power Plan, which includes guidelines for each state to develop plans to achieve greenhouse gas reduction targets under section 111(d) of the Clean Air Act. Following publication of EPA's regulations, a number of parties challenged EPA's section 111(d) regulations in the United States Court of Appeals for the District of Columbia Circuit and petitioned the Court to stay the regulations pending review of the appeal on the merits. The D.C. Circuit denied the request for a stay, but in February 2016, the U.S. Supreme Court granted a stay, pending review of the appeal by the D.C. Circuit. The Supreme Court's decision may affect the nature, extent and timing of implementation of these regulations.

In March 2017, the Trump Administration issued an Executive Order directing EPA to undertake a review to suspend, revise or rescind the final regulations. There is significant uncertainty with regard to what further actions may occur regarding climate change at the federal level.

PG&E joins EPA's Methane Challenge

PG&E joined the EPA's Natural Gas Methane



Challenge as a founding partner along with 40 other U.S. companies. The challenge calls on oil and natural gas companies to voluntarily reduce methane emissions beyond regulatory requirements, and to highlight these efforts in a comprehensive and transparent manner. As part of the challenge, PG&E committed to further reduce emissions from its natural gas transmission and distribution systems and adopt five best management practices recommended by EPA over the next five years.



PG&E's Climate Policy Principles

We seek to make PG&E a valuable partner in reducing greenhouse gas (GHG) emissions in California and other jurisdictions through advancing innovation; facilitating technology deployment, adoption and integration; and providing affordable, low-carbon energy solutions to our customers. To do this, we will advocate for policies that:

- Employ a broad, multi-sector approach to emissions reduction
- Extend the current AB 32 cap-and-trade program beyond 2020 and, ultimately, create a linked North American multi-sector cap-and-trade program that provides the majority of abatement needed to reach science-based 2030 and 2050 GHG reduction goals for California and the larger linked program area
- Transition away from the use of "complementary policies" (or technology mandates) as the primary vehicle to reduce GHG emissions to one in which complementary policies are used only to improve the cost-effectiveness of the GHG reducing technologies needed to reach 2050 GHG reduction goals
- Facilitate broad acceptance of the use of offsets and carbon sinks as a valuable tool in mitigating GHG emissions, improving local air quality, and enhancing the resiliency and adaptability of natural ecosystems and communities
- Promote GHG reductions at the regional and national level, with California positioned as a key policy innovator, technology exporter and "proving ground" that supports the broader decarbonization of the U.S. economy
- Help our customers become more climate resilient and reduce their own GHG footprint affordably through solutions that include energy efficiency and demand response, renewable energy, storage, and low carbon transportation fuels and fueling infrastructure

Central to our overall approach is engaging at the state, federal and international levels through a variety of policy think tanks and advocacy groups, such as the Center for a New Energy Economy, Georgetown Climate Center, Center for Climate and Energy Solutions, Alliance to Save Energy, Edison Electric Institute, Bipartisan Policy Center, Electric Power Research Institute, International Emissions Trading Association, Business Council for Sustainable Energy, Natural Gas Downstream Initiative, the Electric Drive Transportation Association, and the California Electric Transportation Coalition.

Planning for Potential Climate Change Impacts

As a provider of critical infrastructure services, PG&E faces a variety of risks from a changing climate, including heat waves, more frequent and extreme storms, wildfires and rising sea levels. Building greater climate resilience involves understanding the impacts of climate change on our business and being prepared to withstand and rapidly recover from major disruptions to service that are driven by changing climate conditions and weather events.

PG&E has established an internal Climate Resilience Officer Committee to coordinate work across enterprise risk management; internal culture, integration and planning; and external engagement. Using climate science as a foundation, the Committee is overseeing a multi-year research plan to close gaps in our approach to addressing the impacts of climate change.

Key aspects to PG&E's approach include:

- **Near-term planning:** Robust emergency response plans and procedures to address near-term risks, including more extreme storms, heat and wildfires.
- **Risk assessment and operational planning:** A multi-year, comprehensive risk assessment process to prioritize infrastructure investments for longer term risks, such as sea level rise.
- **External engagement:** Active engagement at the federal, state and local level on climate change adaptation and resilience.

We also continue to make substantial investments to build a more modern and resilient gas and electric system that can better withstand extreme weather and natural disasters. PG&E's progress and perspective can be found in our Climate Change Vulnerability Assessment and Resilient Strategies report.

After the torrential rains of early 2017, much of California is no longer experiencing drought conditions. However, PG&E continues to treat water as a precious resource in our operations and our facilities, while working with customers to help them do so as well. Given the strong nexus between water and energy—about 20 percent of California's electricity usage goes toward moving, treating, disposing of, heating and consuming water—responsible water management will continue to be a priority for PG&E.

With regard to increased electricity demand from more extreme, persistent and frequent hot weather, PG&E believes its strategies to reduce greenhouse gas emissions—such as energy efficiency and demand response programs, infrastructure improvements and the support of renewable energy development and storage—will help address the state's evolving energy demands.

We also continue to engage with key stakeholder groups on climate adaptation, including numerous cities and counties, the Bay Area Council, the Resilient by Design Bay Area Challenge, the U.S. Department of Energy's Partnership for Energy Sector Climate Resilience and a variety of other forums at the state and local level.



Advancing climate change resilience

PG&E published a Climate Change Vulnerability Assessment and Resilience Strategies report, examining our exposure to the forces of climate change, including flooding during severe storms, sea level rise, land subsidence, heat waves, changes in precipitation patterns and wildfire danger. Developed as part of PG&E's participation in the U.S. Department of Energy's Partnership for Energy Sector Climate Resilience, the report shares PG&E's progress examining the physical risks associated with climate change. It also describes the steps PG&E is taking to address these climate risks on behalf of our customers and communities.

PG&E shares progress on climate resilience

PG&E participated in a climate change adaptation workshop, co-hosted by the California Energy Commission and California Public Utilities Commission, at which we shared our progress on climate change resilience. The event explored the physical vulnerabilities of California's gas and electric systems due to climate change and the actions that gas and electric providers like PG&E are taking to adapt to those changes.



PG&E installs innovative methane detection technology

PG&E became the first energy company in the United States to pilot an innovative methane detection device developed for the Methane Detectors Challenge, a groundbreaking partnership between the Environmental Defense Fund, oil and gas companies and distributors, U.S.-based technology developers and other experts. Continuous 24-hour monitoring offered by this technology will make leaks detectable in real-time.

2016 Milestones

In 2016, we continued to minimize our carbon footprint:

- **Delivered clean energy to customers.** Nearly 70 percent of the electricity PG&E delivered to customers in 2016 came from greenhouse gas-free resources—a mix of renewable, large hydro and nuclear sources of energy.
- **Reduced facility energy use.** We reduced energy use in our facilities by 1.2 percent—aided in part by employee participation in PG&E's Step Up and Power Down initiative, a behavior-driven energy savings campaign.
- **Reduced methane emissions.** We avoided the release of more than 99,000 metric tons of CO₂-e emissions. These savings were achieved primarily through upgrades to gas pipelines and other infrastructure and implementing a technique called cross-compression, where natural gas is transferred from one pipeline to another during pipeline construction and repair projects rather than releasing it into the atmosphere.
- **Continued to green our fleet.** Through the deployment of alternative fuel vehicles, we reduced greenhouse gas emissions by more than 10,000 metric tons. We added new plug-in electric vehicles to our fleet, including becoming the first electric and gas provider in the nation to deploy Class 3, Class 5 and Class 6 export-power-capable plug-in electric hybrid bucket trucks and work trucks. Exportable power allows a truck to power buildings or homes in a neighborhood during planned or unplanned outages.
- **Reduced our sulfur hexafluoride (SF₆) emissions.** We reduced our SF₆ emissions by more than 1,600 metric tons of CO₂-e and achieved an SF₆ emission rate of 1.03 percent, nearly achieving the state's 1 percent target for 2020. SF₆ is used as an electrical insulating material in high-voltage circuit breakers and gas-insulated switchgear.

Measuring Progress

Mandatory Emissions Reporting

Under AB 32's annual reporting requirements, PG&E reports greenhouse gas emissions to the ARB. These reports include emissions from our electric generation facilities, natural gas compressor stations, natural gas supplied to customers and the fugitive emissions from our natural gas distribution system and compressor stations.

The following table shows the greenhouse gas emissions data PG&E reported to ARB under AB 32.

PG&E EMISSIONS REPORTED TO THE CALIFORNIA AIR RESOURCES BOARD: CO₂ EMISSIONS FROM OWNED POWER GENERATION¹ AND OPERATIONS

	2014	2015	2016
Total CO₂ Emissions (metric tons)	2,405,407	2,872,416	2,258,822
Humboldt Bay Generating Station	162,385	186,144	171,721
Gateway Generating Station	1,276,932	1,304,656	962,413
Colusa Generating Station	966,090	1,381,616	1,124,688
CO₂ Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	1,023	1,010	1,029
Gateway Generating Station	868	868	871
Colusa Generating Station	857	853	852
Fossil Plants	873	868	872
All Plants ²	184	208	153
Other CO₂-e Emissions (metric tons)			
Natural Gas Compressor Stations ³	348,155	362,472	295,718
Distribution Fugitive Natural Gas Emissions	750,223	676,458	605,690
Customer Natural Gas Use ⁴	41,616,935	43,022,557	38,697,656

1. PG&E's utility-owned generation comprised about 50 percent of our delivered electricity in 2016. PG&E also reported N₂O and CH₄ emissions from each of our generating stations.

2. Includes all PG&E-owned generation sources, including nuclear, hydroelectric and renewable energy.

3. Includes, but not limited to, compressor stations and storage facilities emitting more than 25,000 metric tons of CO₂-e annually.

4. Includes emissions from the combustion of natural gas delivered to all entities on PG&E's distribution system, with the exception of gas delivered to other natural gas local distribution companies. This figure does not represent PG&E's compliance obligation under AB 32, which is equivalent to the above reported value less the fuel that is delivered to covered entities, as calculated by ARB.

PG&E also reports the greenhouse gas emissions from our facilities and operations to EPA under EPA's mandatory reporting requirements.

Voluntary Emissions Reporting

PG&E's voluntary greenhouse gas emissions reporting showed that PG&E's CO₂ emissions rate was approximately one-third of the national average for gas and electric providers in 2015, the most recent year for which verified data are available. PG&E's emissions rate of 405 pounds of CO₂ per megawatt-hour of delivered electricity takes into account both PG&E-owned power generation and power purchased from third parties.

In addition, PG&E saw a corresponding reduction in total carbon dioxide emissions from its electricity sales, falling 1.1 million metric tons in 2015.

From year to year, several factors affect PG&E's power mix and emissions, including the availability of clean hydro power, renewable energy added to our energy mix and the availability and flexibility of the power plants in our portfolio.

BENCHMARKING GREENHOUSE GAS EMISSIONS FOR DELIVERED ELECTRICITY (Pounds of CO₂ per MWh)

U.S. Average¹	1,143
Pacific Gas and Electric Company²	
2015	405
2014	435
2013	427
2012	445
2011	393
2010	445
2009	575

1. U.S. Environmental Protection Agency eGRID.

2. Because PG&E purchases a portion of its electricity from the wholesale market, we are not able to track some of our delivered electricity back to a specific generator. Therefore, there is some unavoidable uncertainty in PG&E's total emissions and emissions rate for delivered electricity.

TOTAL GREENHOUSE GAS EMISSIONS BY SOURCE CATEGORY (Million Metric Tonnes CO₂-e)¹

	2013	2014	2015
Delivered Electricity²	15.81	15.91	14.81
Electricity Transmission and Distribution Line Losses	1.15	1.24	0.95
Customer Natural Gas Use	39.20	36.89	36.57
Process and Fugitive Emissions from Natural Gas Systems	0.87	1.10	1.50 ³
Gas Compressor Stations	0.33	0.35	0.34
Transportation	0.10	0.10	0.11
Facility Gas and Electricity Use	0.06	0.01	0.05
Sulfur Hexafluoride (SF₆) from Electrical Equipment	0.07	0.02	0.05
Other Emissions	0.01	0.01	0.01
Total	57.61	55.69	54.39

1. The protocols for measuring greenhouse gas emissions differ between mandatory and voluntary reporting regimes, resulting in some differences in the table above compared to PG&E's emissions reported to the California Air Resources Board.

2. Because PG&E purchases a portion of its electricity from the wholesale market, we are not able to track some of our delivered electricity back to a specific generator. Therefore, there is some unavoidable uncertainty in PG&E's total emissions and emissions rate for delivered electricity.

3. The increase in PG&E's overall emissions reported in 2015 can be attributed to changes in emissions factors used for deriving emissions and new, more granular data requirements.

In 2015, PG&E's reported combined Scope 1 and 2 greenhouse gas emissions rose slightly, largely due to increased output from our owned natural gas power plants and an updated reporting methodology for natural gas process and fugitive emissions. PG&E's Scope 3 emissions were lower as a result of less reliance on power generated by third-parties.

PG&E'S SCOPE 1, 2 AND 3 GREENHOUSE GAS EMISSIONS (Million Metric Tons CO₂-e)¹

	2013	2014	2015
Scope 1	3.77	4.00	4.90
Scope 2	1.20	1.29	1.00
Scope 3^{2,3}	52.63	50.40	48.50
Subtotal	57.61	55.69	54.39

1. Because PG&E purchases a portion of its electricity from the wholesale market, we are not able to track some of our delivered electricity back to a specific generator. Therefore, there is some unavoidable uncertainty in PG&E's total emissions and emissions rate for delivered electricity.

2. The emissions associated with purchased electricity are considered Scope 3 per The Climate Registry's Electric Power Sector Protocol for the Voluntary Reporting Program, Annex I to the General Reporting Protocol, June 2009, Version 1.0.

3. This figure includes the emissions from the combustion of natural gas delivered to all entities on PG&E's distribution system, with the exception of gas delivered to other natural gas local distribution companies, as well as gas delivered to PG&E facilities such as power plants, compressor stations and offices, the emissions of which are reported separately.

PG&E'S SCOPE 1 GREENHOUSE GAS EMISSIONS
(Million Metric Tons CO₂-e)

	2013	2014	2015
SF ₆ from Electrical Equipment	0.07	0.02	0.05
Facility Natural Gas Use	0.01	0.06	0.01
Gas Compressor Stations	0.33	0.35	0.34
Owned Fossil Generation	2.39	2.42	2.88
Process and Fugitive Emissions from Natural Gas System	0.87	1.10	1.50 ¹
Transportation	0.10	0.10	0.11
Total Scope 1 Greenhouse Gas Emissions	3.77	4.00	4.90

1. The increase in PG&E's overall reported emissions in 2015 can be attributed to changes in emissions factors used for deriving emissions, and new, more granular data requirements.

PG&E'S SCOPE 2 GREENHOUSE GAS EMISSIONS
(Million Metric Tons CO₂-e)

	2013	2014	2015
Electricity Transmission and Distribution Line Losses	1.15	1.24	0.95
Facility Electricity Use	0.06	0.05	0.05
Total Scope 2 Greenhouse Gas Emissions	1.20	1.29	1.00

PG&E'S SCOPE 3 GREENHOUSE GAS EMISSIONS
(Million Metric Tons CO₂)

	2013	2014	2015
Purchased Electricity (Net)	13.42	13.49	11.93
Customer Natural Gas Use ¹	39.20	36.89	36.57
Other Scope 3 emissions ²	0.01	0.01	0.01
Total Scope 3 Greenhouse Gas Emissions	52.63	50.40	48.50

1. This figure includes the emissions from the combustion of natural gas delivered to all entities on PG&E's distribution system, with the exception of gas delivered to other natural gas local distribution companies, as well as gas delivered to PG&E facilities such as power plants, compressor stations and offices, the emissions of which are reported separately.

2. Other Scope 3 emissions include the greenhouse gas emissions from business air travel, waste management and employee commuting.

Looking Ahead

As we work toward a low-carbon future, PG&E remains on track to meet California's clean energy goals through renewables, energy efficiency and infrastructure investment, as well as support for distributed private resources, alternative-fueled vehicles and battery storage.

We will continue to do our part to further reduce greenhouse gas emission levels in the energy sector. This includes our active engagement on state and local policy and our continued focus on providing some of the nation's cleanest energy to our customers.



Natural Resource Stewardship

At PG&E, we believe in acting as responsible stewards for the lands we own and where we operate. As one of the largest land owners in California, we recognize our responsibility to protect threatened and endangered species and their habitat, maintain vegetation clearances around our overhead power lines so that customers experience fewer outages, safeguard watershed lands that we have committed to preserve in perpetuity and manage forested lands to minimize the threat of wildfire.

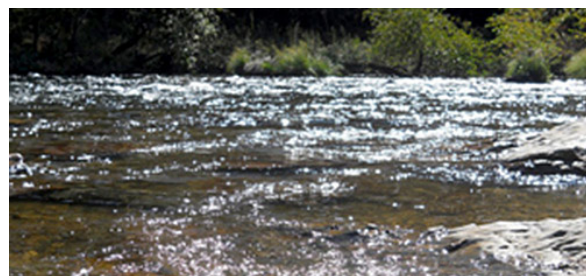
Our Approach

Minimizing Impacts of Our Operations

As we provide safe, reliable, affordable and clean energy to our customers, it is our responsibility to do so while protecting threatened and endangered species and their habitats.

Examples of our efforts to protect local environments include:

- **Providing safe harbor for endangered species:** PG&E maintains Safe Harbor Agreements with the U.S. Fish and Wildlife Service for PG&E-owned land at three locations: Antioch Dunes National Wildlife Refuge in Contra Costa County, Tulare Hill in Santa Clara County and PG&E's hydro lands in Shasta County. These agreements enable our crews to safely maintain and operate infrastructure while enhancing habitat for endangered species such as Lange's metalmark butterfly and the Shasta crayfish, which are especially vulnerable to changes in habitat, invasive species and climate change.



PG&E works collaboratively to remove three dams

PG&E removed three dams along the East Panther Creek, restoring them to their natural flows for the first time in decades and reconnecting fish populations. Working in conjunction with a number of stakeholders, including local and federal environmental agencies, the removal of these dams restored important habitats while allowing continued hydropower generation for customers.

- **Habitat Conservation Plans (HCPs):** In the San Joaquin valley, PG&E continues to maintain and operate our facilities in a way that protects 23 wildlife and 42 plant species and the sensitive habitats in which they are found. This is done under our San Joaquin Valley Operations and Maintenance HCP and a 30-year permit that allows us to maintain our infrastructure without having to acquire individual project-by-project permits.

PG&E achieved a major milestone for its second HCP, the Bay Area Operations and Maintenance HCP, which was listed in the *Federal Register* in 2017 for public comment. Once approved, the HCP will cover 32 wildlife and plant species in the nine-county San Francisco Bay Area.

Protecting Birds

PG&E's commitment to protecting birds helps us accomplish three important goals: comply with state and federal laws, protect migratory birds and raptors, and improve system safety and electric service reliability for customers.

Our commitment is spelled out in PG&E's Avian Protection Plan, which is one of the most comprehensive in the nation. This plan includes training our employees and partners on bird protection laws, collaborating with federal and state agencies such as the U.S. Fish and Wildlife Service to promote habitat conservation and retrofitting power poles to make them "bird safe," especially within designated raptor concentration zones.

We also have companion plans to augment our Avian Protection Plan:

- A Nesting Bird Management Plan to provide internal guidelines for operational and construction activities when working near active bird nests, and
- An Eagle Conservation Plan, under development in conjunction with the U.S. Fish and Wildlife Service, that aims to lead the industry in protecting eagles and other migratory birds while also improving service reliability.

Sustainably Managing Lands and Watersheds

Through our management practices, PG&E contributes to the restoration and enhancement of fish and wildlife habitat. We also maintain 52,000 acres of forested land in ways that help prevent the spread of wildfires. This includes partnering with local communities in wildfire prevention programs and collecting and storing seeds from PG&E forested lands for future restoration purposes.

As part of our Land Conservation Commitment, PG&E is permanently protecting more than 140,000 acres through the donations of fee title and conservation easements on watershed lands to public agencies and qualified conservation organizations. An independent nonprofit organization, the Pacific Forest and Watershed Lands Stewardship Council, identifies the organizations that receive these donations. The conservation easements permanently protect natural habitats for fish, wildlife and plants, open space and existing outdoor recreation for the general public, sustainable forestry, agricultural uses and historic and cultural values.

Vegetation Management

PG&E prunes and removes trees growing too close to power lines while maintaining as much vegetation as possible to balance land use and environmental stewardship with customer needs. Through a well-established and innovative vegetation management program, PG&E balances the need to maintain a vast system of trees growing along power lines while complying with state and federal regulations and delivering safe, reliable and affordable electric service. All work includes steps to protect water and air quality, as well as endangered species and habitats.



PG&E expands wildlife efforts

Our newest avian-protection efforts supplement our ongoing 14-year program to retrofit electric lines to make them safer for birds. We've started a new program to help offset bird fatalities related to wind farms at the request of the U.S. Fish and Wildlife Service. Through this effort, the agency identifies the number of power poles that need to be made bird-safe or retrofitted as part of a third-party wind developer's Eagle Conservation Plan and incidental take permit. We're also protecting the California condor near Big Sur by replacing conductive lines with tree wire that has polyethylene covers that help make the lines more visible.



PG&E partners to restore wetland adjacent to Monterey Bay

PG&E, in partnership with the Monterey County Water Resources Agency and the Central Coast Wetlands Group, re-flooded an 18-acre wetland next to Monterey Bay in November 2016 and planted more than 30,000 native plants. The restored wetland provides an ecosystem that is able to naturally clean 80,000 gallons of surface water for the community every day.

Photo by Shaun Maccoun

Pacific Gas and Electric Company has been recognized by the National Arbor Day Foundation as a Tree Line USA recipient every year since 1985 for following industry standards in pruning, annual worker training, sponsorship of Arbor Day celebrations and providing customer education to plant the right tree in the right place. Additionally, our vegetation management efforts were recognized by several organizations:

- 2016 Fire Safe Partner of the Year Award by the Nevada County Fire Safe Council for PG&E's partnership to expand the effectiveness of the group's efforts.
- Wildlife Habitat Council's 2016 Integrated Vegetation Management Conservation Program Award for PG&E's 18-acre grassland habitat project in El Cerrito, which also received Conservation Certification from the organization.

2016 Milestones

In 2016, our efforts to deliver safe and reliable service while protecting wildlife and other natural resources included:

- **Continuing to protect bees and other pollinators** through research and partnerships that spotlight the needs of pollinators. For decades, PG&E has reduced the amount of trees and heavy brush that threaten power lines by replacing them with low-growing, flowering plants and shrubs that support butterflies and bees. PG&E is part of the nonprofit Pollinator Partnership, which allows beekeepers access to bee forage on our corporate lands. We are the only energy member of Business for Bees—American Business Collaboration for Pollinator Conservation Action—designed to establish sustainable vegetation management along infrastructure corridors.
- **Joined Save the Bay to introduce Bay Day**, a celebration of the San Francisco Bay and an opportunity to host cleanup and educational activities. PG&E and the non-profit Save the Bay organization kicked off this inaugural event and both organizations continue working to make Bay Area communities clean, sustainable and resilient to climate change.
- **Permanently protected 3,677 acres of land** by completing eight Land Conservation Commitment transactions. Five fee donations were completed, including land donated to the U.S. Forest Service in the Mokelumne River watershed and to the University of California in Nevada County. Conservation easements were recorded on three separate PG&E properties.
- **Earned renewed accreditation** from the Wildlife Habitat Council's Corporate Lands for Learning for our Diablo Canyon Land Stewardship Program, which recognizes our wildlife habitat management and environmental education programs. PG&E manages and protects natural resources on more than 14 miles of coastline surrounding the nuclear power plant, and opens the land to researchers and the public. PG&E has earned "Wildlife at Work" certification for five additional sites.
- **Enhanced an online reservation system for our recreational areas**, making it easy to reserve recreational areas and campsites at PG&E campgrounds. Nearly 80 percent of PG&E's campsites can now be reserved online.
- **Continued to reduce the effects of tree mortality** along power lines, removing 236,000 trees and inspecting 72,000 miles of line with redundant patrols to identify and remove dead and dying trees in high-risk fire areas. Additionally, PG&E provided customers with assistance in hauling away larger woody debris at no cost; qualified customers reside in counties that have declared tree mortality emergencies.



Partnering to address tree mortality

Drought conditions and bark beetle infestation have killed nearly 100 million trees in California. PG&E continued its partnership with CAL FIRE and local Fire Safe Councils, providing funds for preventive fire safety work to protect local communities from wildfires.

Photo by James Green



PG&E promotes pollinator research

PG&E continues to support pollinator research at Sonoma State University's Fairfield Osborn Preserve. Preliminary research results show there are higher counts and more diversity of bees in the area being managed with hand cutting and selective herbicides compared to adjacent areas that are unmanaged. The research will continue through 2018.

Measuring Progress

PG&E restores and protects environmental habitats to fulfill state and federal regulatory requirements and to support voluntary environmental initiatives. In 2016, our efforts protected or restored more than 4,400 acres of habitat and 8.6 miles of stream and river riparian vegetation.

PROTECTED AND RESTORED HABITAT ¹			
	2014	2015	2016
Acres set aside and protected	259.3 acres	3,336.8 acres	3,656 acres
Acres of restored habitat	1,539.3 acres	731.3 acres	748.1 acres
Miles of stream and river riparian vegetation protected	11.6 miles	8.6 miles	8.6 miles

1. PG&E undertook these activities to meet various regulatory requirements.

Protecting Birds

Since 2002, PG&E has made nearly 31,000 existing power poles and towers bird-safe. In that time, we have also retrofitted more than 33,800 power poles in areas where bird injuries or fatalities or bird-related power outages have occurred. All new poles and replacement poles in our designated “Raptor Concentration Zone” are also built to be bird-safe.

BIRD PROTECTION PROGRAM (Bird-Safe Retrofits)			
	2014	2015	2016
Poles Planned	2,000	2,000	2,000
Poles Completed	2,089	2,161	2,068
% Poles Completed	104%	108%	103%

Looking Ahead

As part of our environmental commitment, we will continue to look for ways to protect the ecosystems where we work and minimize the impacts of our operations on sensitive habitats and species. By collaborating with federal, state and local stakeholders, as well as other energy companies, we will continue striving to manage lands and waters in a responsible and environmentally sensitive way.

Despite drought conditions improving in Northern California, we face a sustained risk of wildfires. We are using emerging aerial LiDAR (light detection and ranging) imagery patrol technologies to proactively detect hazardous trees near power lines. In the future, we anticipate using this technology as part of our routine operations to maintain power lines in compliance with required vegetation clearances.

In addition, we will continue to take proactive measures in conjunction with the Governor’s Tree Mortality Task Force, educating homeowners who are planting new trees to avoid future conflicts with power lines and working with communities and nonprofits such as California RELEAF to plant trees at Arbor Day events.



Water

After the torrential rains of early 2017, much of California is no longer experiencing drought conditions. However, water remains a precious resource and PG&E treats it as one, in our operations and our facilities. We work to help our customers to do so as well, particularly in places such as the south Central Valley, where groundwater supplies have yet to recover. In addition, PG&E partners with the state and local communities to protect against wildfires in areas where fire risk is elevated due to increased tree mortality.

Our Approach

In recent years, as the state faced extreme drought conditions, an internal Drought Task Force led our response by working to identify and address impacts on PG&E's operations, on our customers and in our communities.

Water is essential to operating our infrastructure—including our vast network of hydroelectric generating stations—just as it is essential to our customers in their daily lives. At the same time, about 20 percent of California's electricity usage goes toward moving, treating, disposing of, heating and consuming water. This connection, also known as the “water-energy nexus,” places PG&E in a unique position to help our state and our customers.

PG&E is promoting sustainable water use in a number of ways:

- Strategically managing our power generation facilities,
- Reducing water consumption at PG&E offices and service yards,
- Coordinating with key agencies to prevent and prepare for wildfires, and
- Providing outreach and guidance to customers, particularly those in the agricultural community, on how to reduce water usage.

PG&E also reports its water data and strategies to the CDP, an international not-for-profit organization that requests information on behalf of institutional investors.

Water Use at Diablo Canyon

PG&E does not use freshwater for cooling at any of our power plants. At the Diablo Canyon Power Plant, we use saltwater from the Pacific Ocean for once-through cooling. The 2,240 MW nuclear power plant has a maximum discharge of 2.5 billion gallons per day, set by the facility's Clean Water Act permit. PG&E closely monitors the marine environment at the plant by conducting regular studies and sampling, also required under the plant's Clean Water Act permit.

In May 2014, the Environmental Protection Agency issued federal regulations under Section 316(b) of the Clean Water Act to minimize adverse environmental impacts from facilities that use once-through cooling. These regulations allow Diablo Canyon to continue to be regulated under California's once-through cooling policy adopted in 2010, which is considered to be at least as stringent as the new federal regulations. At the state level, the California Water Board has adopted a policy on once-through cooling that generally requires the installation of cooling towers or other significant measures to reduce the impact on marine life from existing power generation facilities in California by at least 85 percent.

Diablo Canyon must comply with state policy by December 31, 2024. However, nuclear facilities may be granted an alternative to the compliance requirements if they meet certain cost and technical feasibility criteria. An alternative technologies assessment was completed in 2014 by Bechtel, with oversight by the nuclear review committee established by the State Water Resources Control Board. Given PG&E's announcement of a joint proposal indicating that, pending CPUC approval, we would not seek to relicense Diablo Canyon at the end of our existing nuclear licenses, we will comply with the state's policy without approval of alternative compliance requirements and pay an annual interim mitigation fee until Diablo Canyon ceases operation.

In addition, PG&E uses an on-site desalination plant to generate the majority of freshwater that supports the internal operations of the Diablo Canyon facility.

Dry Cooled Conventional Sources

PG&E relies on air for cooling at its three natural gas power plants:

- Humboldt Bay Generating Station is cooled with air radiators using a closed-loop liquid coolant and requires minimal water use.
- Gateway Generating Station employs an air-cooled condenser, which uses approximately 97 percent less water and discharges 98 percent less wastewater than a traditional once-through cooled plant.
- Colusa Generating Station uses dry cooling and a zero liquid discharge system that recycles wastewater.

PG&E uses some freshwater for internal operations at the plants, but these are largely closed-loop systems that minimize the amount of water consumed.

Hydroelectric Generation

PG&E owns and operates one of the nation's largest investor-owned hydroelectric systems. Our hydroelectric power plants are largely non-consumptive, meaning that after water passes through turbines to produce electricity, it is returned to the river.

PG&E's 1,212 MW Helms Pumped Storage Project also uses water for energy storage to help balance daily variations in electric demand. Nested high in the Sierra Nevada mountains, the non-consumptive Helms facility dispatches water from an upper reservoir to a lower reservoir to produce electricity when demand is high, pumping it back uphill when demand is low.

Water Conservation in Our Facilities

PG&E's offices and service centers rely on water for restrooms, kitchens, mechanical system cooling, vehicle washing and landscape irrigation. We remain focused on identifying, reporting and repairing leaks quickly; managing our irrigation systems; installing low-flow plumbing fixtures; and replacing landscaping with drought-resistant approaches.

Helping Customers Reduce Water Use

PG&E offers customers a wide range of options to help them reduce their water use. Our water-saving solutions for residential customers include energy efficiency rebates for high-efficiency appliances, such as clothes washers and shower heads, and free wood chips for landscape mulching, which reduces evaporation. We also offer incentives to agricultural customers who convert from sprinkler systems to water-efficient drip irrigation, as well as programs for energy efficient pumping systems and more.

Altogether, customers who participated in PG&E's programs reduced water usage by about 780 million gallons in 2016, based on an analysis of our most common energy efficiency measures that deliver water savings.

2016 Milestones

As the drought's effects persisted, PG&E partnered to conserve water and protect the watersheds where we operate. Our achievements in 2016 included:

- **Strategically managed our hydroelectric facilities.** Working with state agencies and other stakeholders, we found ways to manage water in our reservoirs so we could generate power during the summer peak demand periods. Conserving water early in the season also helps ensure adequate water supplies for communities, supports recreation and benefits the many species that depend on water.
- **Took additional steps to prevent and mitigate wildfires.** In addition to our routine vegetation management program through which we inspect all of our overhead electric lines, PG&E provided \$2 million in funding to local Fire Safe Councils to protect communities from wildfires in at least 18 high fire-risk counties by clearing brush and dead, dying or diseased trees for the current fire season. PG&E also conducted daily aerial smoke patrols over much of our service area—more than 2,800 hours of flight time in total—spotting 142 fires.
- **Conserved water at PG&E facilities.** We took steps to reduce water usage; however, unexpected leaks at three sites proved challenging and impacted our performance. As a result, water use remained steady and we fell short of our 3.5 percent reduction target.
- **Expanded agricultural energy efficiency programs and incentives.** We offered rebates and incentives on water- and energy-saving appliances and equipment for our agricultural customers, including pump efficiency incentives, variable frequency drive rebates and energy efficiency financing. We are developing new approaches for managing irrigation and using audits to recommend energy and water conservation for food processing facilities.

PG&E assists farmers with new water management technology

PG&E is working with Wexus Technologies to enable both water and energy conservation, through an energy management software system now available to agricultural customers. One of the most significant energy uses on farms is moving and pumping water. Wexus remotely connects pumps, buildings, PG&E electric SmartMeters and water flow meters via cloud technology. This gives agricultural customers another option to track, interpret and manage their water and energy use effectively.



Measuring Progress

WATER USE STATISTICS			
	2014	2015	2016
Water Withdrawal (Saltwater and Freshwater) (thousand gallons)			
Water Withdrawal (Saltwater)			
Diablo Canyon Power Plant ¹	852,781,935	861,064,313	867,817,856
Once-Through Cooling	852,463,000	860,732,000	867,498,000
Seawater Withdrawal for Reverse Osmosis	318,935	332,313	319,856
Domestic and Process Water (Freshwater)			
Diablo Canyon Power Plant ²	17,930	8,150	13,030
Humboldt Bay Generating Station ¹	168	208	141
Gateway Generating Station ¹	20,726	21,320	20,725
Colusa Generating Station ¹	18,877	25,473	24,938
Facilities (Freshwater)			
Offices and Service Yards ³	111,807	106,491	106,608
Permitted Water Systems ⁴	63,231	110,784	87,474
Hydrostatic Testing (Freshwater)			
Water Withdrawal	5,974	5,537	3,175
Water Discharged (Saltwater and Freshwater) (thousand gallons)			
Water Discharge (Saltwater)⁵			
Diablo Canyon Power Plant	852,651,462	860,928,367	867,687,006
Domestic and Process Water (Freshwater)			
Diablo Canyon Power Plant (Permitted Discharge)	140,223	140,405	131,217
Humboldt Bay Generating Station (Sanitary Sewer)	80	114	104
Gateway Generating Station (Sanitary Sewer)	10,395	10,153	10,501
Colusa Generating Station ⁶	0	0	0
Hydrostatic Testing (Freshwater)			
Total Discharge ⁷	4,120	2,789	2,885

1. Net operating capacity on December 31, 2016: Diablo Canyon: 2,240 MW; Humboldt Bay Generating Station: 163 MW; Gateway Generating Station: 580 MW; Colusa Generating Station: 657 MW.

2. Freshwater sources consist of well water for backup and emergency purposes.

3. This figure represents the water supplied to offices and service yards managed by the Utility's Corporate Real Estate Strategy and Services department for the 12-month period from October to September.

4. PG&E monitors water usage at permitted, public water systems owned and operated by PG&E. These systems are metered in accordance with state regulations.

5. These figures incorporate once-through cooling discharge (equivalent to withdrawal) plus estimated reverse osmosis system brine/backwash discharge.

6. Colusa Generating Station uses a zero liquid discharge system. A septic system is used to manage sanitary waste.

7. Of these totals, a portion of water was reused for other hydrostatic testing prior to being discharged, and more than half was recycled or reused for irrigation or dust control.

Looking Ahead

Even though drought conditions have eased considerably for much of California, the impacts on groundwater supplies and tree mortality are still evident. Moreover, this year's record precipitation following the historic drought signals the importance of planning for extreme weather conditions and their effects, including increased land subsidence and flooding risk as snow melts in the Sierra Nevada.

PG&E will continue to promote water conservation with our customers, in our communities and at our facilities. We will also continue our wildfire prevention efforts—pruning or removing trees to prevent them from contacting power lines. We will also continue to strategically manage our hydroelectric operations and coordinate with business and government partners to manage extreme weather events.



Greening Our Fleet

PG&E operates one of the cleanest transportation fleets in the energy industry, with nearly 3,100 alternative fuel vehicles ranging from hybrid-electric bucket trucks to compressed natural gas vehicles. By integrating the latest available technologies and partnering with automakers to meet needs unique to our fleet operations, PG&E reduces emissions and operating costs, supports local businesses and expands our portfolio of low-emission vehicles.

Our Approach

Fulfilling our commitment to a clean fleet begins by exceeding federal and state vehicle emissions and alternative fuel requirements. To do so, we are making significant investments in new vehicle technologies.

Federal regulations require that 90 percent of all light-duty vehicles purchased for our fleet be capable of using an alternative fuel—such as electricity or compressed natural gas—provided the technology is commercially available. In order to comply with California’s on-road diesel vehicle regulations, all of PG&E’s medium- and heavy-duty diesel vehicles met or exceeded 2007 standards for particulate levels by the end of 2016, and all vehicles in our fleet will meet 2010 standards for nitrogen oxide emissions by the end of 2017.

VERGE

where tech meets sustainability



PG&E plugs into the energy technology of the future

At VERGE in Santa Clara, a PG&E plug-in electric hybrid bucket truck exported renewable energy into a temporary microgrid that powered the conference.

2016 Milestones

Last year, PG&E invested in a number of new vehicles and technologies to green our fleet. Among other efforts, we:

- **Deployed additional electric power take-off equipped (ePTO) bucket trucks.** PG&E, in partnership with Altec Industries, pioneered the development of these advanced vehicles and first deployed them in 2011. By the end of 2016, we deployed nearly 900 ePTO bucket trucks in our service area. These vehicles use a series of on-board batteries to allow crews to operate the bucket and other onboard equipment without having to idle the engine. Through the broad implementation of ePTO technology alone, we have avoided over 2.3 million gallons of fuel.
- **Expanded use of plug-in electric hybrid technology exportable power.** PG&E became the first electric and gas provider in the nation to deploy Class 3, Class 5 and Class 6 export-power-capable plug-in electric hybrid bucket trucks and work trucks, developed in partnership with Efficient Drivetrains Incorporated, a Silicon Valley-based electric vehicle manufacturer. Exportable power allows a truck to power buildings or homes in a neighborhood during planned or unplanned outages.
- **Integrated driver feedback technology in multiple ways.** We installed Telogis telematics in nearly 5,000 vehicles and pieces of equipment by the end of 2016. In-cab alerts enabled on most of these vehicles can indicate hard braking, hard acceleration and exceeding the speed limit, and other actions that can affect fuel efficiency and safety. This driver feedback promotes safe driving behavior and fuel efficiency, and we plan to install more than 2,000 additional units in 2017.
- **Promoted employee electric vehicle adoption through workplace charging.** PG&E installed nearly 350 chargers at our facilities via our Workplace Charging Program in 2016. PG&E has more than 100 chargers at our Bishop Ranch location in San Ramon—the largest single-building EV charging installation in California.

Measuring Progress

PG&E managed approximately 14,600 on-road vehicles and equipment in its fleet at the end of 2016. Of those, about 1,600 were electric-based, 300 were powered by compressed natural gas (CNG) and 1,200 were fueled by biodiesel. Our network of electric charging stations is also growing: last year we reached 600 charge points at about 90 locations across our service area.

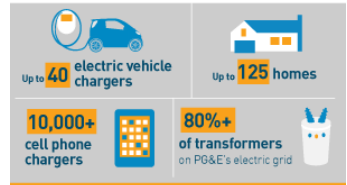
We also maintain a network of 32 CNG vehicle refueling facilities, 24 of which are open to customers. PG&E uses its expertise to help commercial customers take advantage of this relatively low-emitting, domestic alternative fuel in their own fleets.

PG&E sees benefits in both fuel and emission reductions

Through the deployment of alternative fuel vehicles, PG&E has reduced its fleet emissions by nearly 40,000 metric tons since 2011, equivalent to taking about 8,500 conventional fuel vehicles off the road for one year. In 2016 alone, PG&E saw a reduction of over 10,000 metric tons in greenhouse gas emissions, equal to taking approximately 2,200 gas-powered vehicles off the road for one year. Since 2011, PG&E has displaced nearly four million gallons of diesel and gasoline.

PG&E Hybrid Trucks Provide Power

PG&E is deploying plug-in hybrid electric trucks that can export electric power to customers during an outage. Here is the equivalent power exported for the trucks.



Pioneering trucks with exportable power technology

PG&E is deploying plug-in hybrid electric trucks with the potential to export power to customers during an outage:

- Class 3 pickup trucks are capable of exporting up to 75 kVA of utility-grade power.
- Class 5 bucket trucks are capable of exporting up to 120 kVA of utility-grade power, which can power up to 100 homes.
- Class 6 flatbed trucks combine up to 50 miles of all-electric driving with 300 more miles of driving range in hybrid mode, reducing emissions by 80 percent compared to conventional vehicles. The truck also has exportable power capacity of up to 160 kVA, capable of providing power to up to 125 homes.

By the end of 2016, PG&E had two Class 3, three Class 5 and two Class 6 trucks.

Fuel Use Statistics

TRANSPORTATION FUEL CONSUMED BY PACIFIC GAS AND ELECTRIC COMPANY			
	2014	2015	2016
Petroleum Consumed by PG&E Fleet (gallons)	10,182,712	11,173,337	10,861,933
Biodiesel Consumed by PG&E Fleet (gallons) ¹	175,809	160,973	187,152

1. Reported as B100 gallons.

Looking Ahead

Looking to the future, PG&E's goals remain the same: to build a smarter, cleaner fleet of vehicles while exceeding state and federal emissions regulations.

This includes increasing the use of the ePTO system across our fleet and adding more idle mitigation technologies to reduce fuel consumption and vehicle noise. In addition, by continuing to integrate Telogis telematics in our vehicles, we can gain deeper insight into how equipment is being used and how trucks are performing.

As a member of the U.S. DOE Workplace Charging Challenge, PG&E also continues to increase EV charging access for both fleet and employee vehicles, with plans to add about 150 charge points per year over the next three years.

We will also continue to work with industry, regulators, automakers and other partners to promote the transition to alternative fuel vehicles. This commitment includes our engagement with EEI to help speed the incorporation of plug-in electric technologies into vehicle fleets. We will also continue to promote CNG, liquefied natural gas (LNG) and hydrogen for heavy-duty truck and marine transportation.

PG&E ELECTRIC VEHICLE CHARGE POINTS INSTALLED	
2013	22
2014	75
2015	156
2016	347
2017	390 ¹

1. Total through June 5, 2017



Buildings and Facilities

Our focus on responsible practices at PG&E extends to our buildings and facilities, where we are working to reduce our environmental footprint through reduced water and energy usage and increased diversion of waste from landfills. Our efforts rely on the engagement and participation of all employees, including a network of employee volunteers who develop environmental expertise, share it with their colleagues and demonstrate the positive impact employees can have at work.

Our Approach

Energy, Water and Waste Reduction

We continue to execute a multifaceted strategy to invest in key facility improvements, engage employees and incorporate sustainability principles and continuous improvement into our real estate management. In 2016, we worked to achieve annual targets for reducing energy, water and landfill waste in our office facilities and service yards. We also continued toward our goal to achieve top-decile performance in facility energy and water reduction among industry peers by 2020, adopted as part of PG&E's climate pledge under the federal American Business Act on Climate initiative.

We powered all our service centers—nearly 100 facilities in Northern and Central California—with 100 percent solar energy through PG&E's Solar Choice program.

We also continue to pursue Leadership in Energy and Environmental Design (LEED) certification for new buildings and large remodel projects, guided by a set of healthy building standards and practices to help us improve indoor air quality, generate less waste and increase operational efficiency over the lifespan of our facilities. We targeted LEED Silver certification for all major projects started in 2016.

Hazardous and Other Waste

In the normal course of business, our operations generate certain hazardous wastes. Waste is also created during the remediation and cleanup of historic legacy sites.

PG&E manages all hazardous waste in accordance with federal and state regulations. Our comprehensive approach includes providing guidance and training to employees to reduce waste and ensure it is properly managed from the point of generation to its ultimate disposal or recycling.

Applicable federal hazardous waste management statutes include the Resource Conservation and Recovery Act and the Toxic Substances Control Act. In addition, our operations are subject to California's hazardous waste management laws and regulations, which are more stringent and encompass a broader scope of waste streams than the federal requirements. For example, wastes such as used oil are subject to California's hazardous waste requirements.

2016 Milestones

Highlights of our efforts at office facilities and service yards include:

- **Reduced energy use by 1.2 percent compared to 2015, below our 2.0 percent target.** We achieved reductions through energy efficiency upgrades, such as installing interior and exterior LED lighting, and by adopting energy efficient designs during major remodel projects. PG&E's Step Up and Power Down initiative, an employee behavior-driven energy savings campaign, also contributed to our gains. However, the results were impacted by increases in project activity and our operational footprint, as well as new equipment at high-usage sites.
- **Reached an 80 percent waste-diversion rate, meeting our target.** Key strategies included optimizing diversion at high-volume sites, right-sizing waste bins and enhancing pick-up frequency. We also hosted our annual zero-waste competition at two major offices to engage employees and keep more waste out of the landfill.
- **Conserved water but fell short of our 3.5 percent target.** We remained focused on identifying, reporting and repairing leaks quickly; managing our irrigation systems; installing low-flow plumbing fixtures and replacing landscaping with drought-resistant approaches. However, unexpected leaks proved challenging and impacted our performance, resulting in water usage comparable to the prior year.
- **Continued to achieve LEED certification.** Our work in this area continued, with more than 10 LEED-certification projects in progress, including seven major remodel and new construction projects. Once complete, approximately 43 percent of PG&E's total portfolio square footage will be LEED certified.

Measuring Progress

PROGRESS TOWARD PG&E'S ENERGY, WATER AND WASTE REDUCTION GOALS

	2009-2015 Composite Total	2016 Target	2016 Actual	2017 Target
Energy Reduction ¹	16.4%	2.0%	1.2%	— ³
Water Reduction ²	30.4%	3.5%	0%	— ³
Waste Diversion Rate ⁴	81%	80%	80%	80%

1. The energy reduction goal is measured in thousand BTUs (MBtus) and is shown as a percentage reduction in MBtus. The metric included between 156 and 171 sites from 2010 to 2015 and 180 sites in 2016.

2. The water reduction goal is measured in gallons. The metric included between 91 and 135 sites from 2010 to 2015 and 133 sites in 2016.

3. In 2017, PG&E is establishing new longer-term goals for reducing the environmental impact of our internal operations.

4. The waste diversion rate measures the rate for diverting waste from landfills in the final quarter of each year for all non-hazardous waste at 115 sites covered by the California Mandatory Recycling regulation.

For 2017, our goal is to maintain our overall waste diversion rate of 80 percent and to enhance our overall strategy for reducing energy and water consumption, in alignment with new longer-term sustainability goals.

Energy Consumption Statistics

These figures represent electricity and natural gas usage at 180 facilities managed by our Corporate Real Estate Strategy and Services department.

ENERGY CONSUMED ¹			
	2014	2015	2016
Electricity Consumed (Gigawatt hours)	73	89	90
Natural Gas Consumed (Million cubic feet)	101	100	113
Energy Intensity (Million BTUs per square foot) ²	58	59	58

1. The data reflects the 12-month period from December to November and is normalized for weather. Data for 2015 was updated with the 12 additional sites also reported for 2016.

2. Figures are reported in the industry standard of BTU per square foot, which incorporates all of the energy used in a facility into one comparative number.

Water Use Statistics

In 2016, we tracked and reported on water use throughout the year. Please see the Water section for statistics on PG&E's water usage.

Waste Generation Statistics

PG&E strives to minimize the overall amount of waste we generate, while composting organic waste and recycling non-hazardous materials such as glass, paper and certain metals. These figures represent the total waste diverted from the landfill at 115 sites managed by our Corporate Real Estate Strategy and Services department.

Other waste reduction efforts included:

- Recycling more than 28 million pounds of scrap iron, aluminum and copper from conductors, meters and miscellaneous material. We also recycled nearly 1.4 million pounds of recovered meters, 17.6 million pounds of transformers and nearly 368,000 pounds of plastic, including pipes and hard hats.
- Recycling nearly 340 tons of e-waste, including consumer electronic devices, CPUs, monitors, servers, printers and other equipment.
- Recycling approximately 309,000 pounds of steel, copper and lead from Humboldt Bay Power Plant and Diablo Canyon Power Plant.

WASTE DIVERSION AT FACILITIES ¹	
	2016
Total Waste Generated (tons)	26,041
Total Waste Diverted (tons)	20,896
Waste Diversion Rate ²	80%

1. The tonnage data reflects all of the non-hazardous municipal waste at 115 sites managed by PG&E's Corporate Real Estate Strategy and Services department for the 12 months from October 2015 to September 2016.

2. The percentage reflects the diversion rate measured in the final quarter of the calendar year.

Hazardous and Other Waste

The following table provides statistics on PG&E's waste generation. While PG&E works to reduce hazardous waste, certain projects such as infrastructure upgrades or remediation of historical contamination may increase the amount generated in a given year.

HAZARDOUS AND OTHER WASTE			
	2014	2015	2016
Total Hazardous Waste (tons)	28,164	78,750	67,645
RCRA ¹ Hazardous Waste	1,391	1,747	1,329
TSCA ² Hazardous Waste	885	1,082	557
California Regulated Hazardous Waste	25,888	75,921 ³	65,759
Federal Regulated Hazardous Waste (TSCA)—PCB Waste ≥ 50 ppm PCB (tons)			
Total	885	1,082	557
Incineration	250	205	58
Landfill	504	804	348
Recycled	131	73	152
% Recycled	14.8%	6.7%	27.3%
California Regulated Hazardous Waste (Non-RCRA)⁴ (tons)			
Total	25,888	75,921	65,759
Disposed	17,860	64,254	58,157
Recycled	8,028	11,667	7,602
% Recycled	31.0%	15.4%	11.6%
Other Waste			
Universal Waste (tons)			
Total	268	488	86
Recycled	268	488	86
% Recycled	100%	100%	100%
Low-Level Radioactive Waste Disposed (cubic feet)			
Diablo Canyon Power Plant	810	947	631
Humboldt Bay Power Plant	18,966	60,814	241,213 ⁵
Radioactively Cleared Waste Disposed (pounds)			
Diablo Canyon Power Plant	291,728	169,577	138,169
Humboldt Bay Power Plant	12,586,215	27,846,637	23,228,666
Recycled Materials from Power Plants (pounds)			
Diablo Canyon Power Plant			
Steel	18,167	0	1,700
Copper	0	12,404	6,125
Lead	3,007	0	0
Humboldt Bay Power Plant			
Steel	129,940	160,820	301,430
Copper	0	0	0
Lead	17,305	35,100	0

1. Refers to the Resource Conservation and Recovery Act (RCRA).

2. Refers to the Toxic Substances Control Act (TSCA).

3. The increase in hazardous waste was largely driven by PG&E's remediation at some larger-scale remediation sites.

4. These figures include polychlorinated biphenyl (PCB) waste < 50 ppm PCB.

5. The cubic feet of low-level radioactive waste disposed increased as the site's remaining bulk commodities, such as buildings and other structures, continued to be removed in 2016.

Air Emissions

To comply with local air quality regulations, PG&E is focused on minimizing air emissions from its conventional sources of power generation. The following figures reflect emissions from PG&E-owned generation sources.

AIR EMISSIONS ¹			
	2014	2015	2016
Total NO_x Emissions (tons)	141	160	141
Humboldt Bay Generating Station	25	30	31
Gateway Generating Station	80	79	68
Colusa Generating Station	36	50	42
NO_x Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	0.15	0.15	0.17
Gateway Generating Station	0.05	0.05	0.06
Colusa Generating Station	0.03	0.03	0.03
Fossil Plants ²	0.05	0.04	0.05
All Plants ³	0.01	0.01	0.01
Total SO₂ Emissions (tons)	14	17	13
Humboldt Bay Generating Station	1	1	1
Gateway Generating Station	8	8	6
Colusa Generating Station	5	8	6
SO₂ Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	0.004	0.005	0.005
Gateway Generating Station	0.005	0.005	0.005
Colusa Generating Station	0.004	0.004	0.004
Fossil Plants	0.005	0.005	0.005
All Plants	0.001	0.001	0.001
Total Particulate Matter Emissions (tons)	92	108	90
Humboldt Bay Generating Station	45	49	44
Gateway Generating Station	23	23	17
Colusa Generating Station	25	35	29
Total CO Emissions (tons)	39	48	59
Humboldt Bay Generating Station	20	29	32
Gateway Generating Station	9	7	11
Colusa Generating Station	10	12	16
Total VOC Emissions (tons)	53	61	53
Humboldt Bay Generating Station	40	46	42
Gateway Generating Station	8	8	6
Colusa Generating Station	5	6	5

1. Due to rounding conventions, some data above sum to an amount greater or less than the totals provided. Additionally, there were no reportable mercury air emissions from PG&E's facilities during 2014 to 2016.

2. Collective emission rates for Humboldt Bay, Gateway, and Colusa Generating Stations.

3. Includes all PG&E-owned generation sources, including fossil fuels, nuclear, hydroelectric and renewable energy.

Looking Ahead

To achieve our top decile goals for 2020, we will continue to enhance sustainability program initiatives that support energy, water and waste reduction and embrace industry best practices—incorporating green building technologies and stepping up efforts to engage our workforce.



PG&E campus earns LEED Gold designation

The U.S. Green Building Council awarded Pacific Gas and Electric Company's 21st LEED certification to the Kendall Road campus. Energy efficiency was built into the campus from the beginning, including overall design and location, water conservation features, use of recycled materials and a 50-kilowatt solar system. Home to Diablo Canyon Power Plant's emergency planning team, the 10,000-square-foot campus opened in 2015.



Supplier Sustainability

PG&E's commitment to sustainability shapes how we assess and manage our supply chain priorities and processes. It guides how we select, engage with and manage these vital business partners, and it influences our product and service choices and strategies, which support our goal of environmental leadership and our mission to deliver safe, affordable, reliable and clean energy.

Our Approach

Driving Strong Supplier Engagement and Performance

Since 2007, we have supported environmental responsibility, excellence and innovation among our suppliers. We focus on advancing the performance of our top-tier suppliers—approximately 100 critical firms that represented about 60 percent of PG&E's spend in 2016.

We expect our top-tier suppliers to follow a set of Supplier Environmental Performance Standards. These standards encourage performance improvement and promote greater transparency and accountability by setting the expectation that all top-tier suppliers:

1. Implement an Environmental Management System and track greenhouse gas emissions (Scope 1 and 2), energy use, water use, waste and compliance with environmental requirements,
2. Set voluntary reduction goals in three of the following areas: greenhouse gas emissions (Scope 1 and 2), energy, water and waste, and
3. Publicly report their performance against these goals.

We conduct annual evaluations of each top-tier supplier on key performance indicators, including safety, product quality and operations, diversity and environmental performance. We work with suppliers to drive continuous improvement and we provide training to all suppliers on PG&E's expectations

and systems for improving sustainability management. Additionally, we provide one-on-one coaching and mentoring to suppliers that need additional support.

Advancing Supplier Sustainability Performance

Since 2007, PG&E has been working to advance sustainability within our supplier network.

2007–2008	2009–2010	2011–2012	2013–2014	2015–2016
<ul style="list-style-type: none"> • Piloted energy efficiency projects with select suppliers • Co-founded Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA) 	<ul style="list-style-type: none"> • Began survey to assess supplier environmental performance • Added green evaluation criteria to request-for-proposal (RFP) process • Added environmental metric to supplier scorecards • Created Green Supplier of the Year Award • Launched Diverse Suppliers Go Green program 	<ul style="list-style-type: none"> • Conducted supply chain carbon emissions study with U.C. Berkeley and Climate Earth • Issued Supplier Environmental Performance Standards 	<ul style="list-style-type: none"> • Conducted assessment to guide program strategies • Updated Supplier Code of Conduct • Enhanced RFP process to engage suppliers • Enhanced supplier sustainability survey • Expanded supplier and internal training 	<ul style="list-style-type: none"> • Earned Electric Utility Industry Outstanding Achievement Award in Supply Chain Sustainability • Served as Chair of EUISSCA and Sustainable Purchasing Leadership Council

Reducing Our Environmental Footprint through Product Strategies

PG&E works to identify product choices and procurement strategies that measurably improve our environmental profile. We use the reduce-reuse-recycle framework to guide our strategies and plans:

- Reduce resource consumption through our product choices. Where there is no feasible option to reduce consumption, we buy products and equipment with a lower environmental footprint.
- Reuse products and equipment when they can be repaired or refurbished to meet required performance standards.
- Recycle products and equipment with licensed vendors if they cannot be refurbished for reuse.

When recycling options are not available, we dispose of products in compliance with environmental requirements.

Partnering with Industry Peers

PG&E continues to partner with industry peers through the Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA or the Alliance), a consortium of energy providers that PG&E cofounded in 2008 to advance sustainable business practices among industry suppliers. The Alliance provides a forum to benchmark our performance and the performance of our suppliers, and to share best practices in areas spanning fleet operations to equipment end-of-life recycling.

In 2015, Pacific Gas and Electric Company earned the EUISSCA Outstanding Achievement Award for our “commitment to a sustainable supply chain and active engagement in and support of EUISSCA.” This was the first award for supply chain sustainability among national energy providers.

2016 Milestones

In 2016, we continued to expand the scope of our efforts to engage suppliers and strengthen our internal partnerships. Highlights included:

- **Benchmarked our performance for continuous improvement.** Beginning in 2015, EUISSCA began benchmarking members against its supply chain environmental sustainability maturity model for electric providers. PG&E benchmarked as a leader for the second year in a row.
- **Deepened focus on internal capacity building and collaboration.** Launched an initiative to embed subject matter expertise in, and drive deeper collaboration with, operational teams within PG&E to drive more clean and affordable opportunities and outcomes.
- **Expanded supplier capacity building.** Continued to develop an online resource as a way to deliver environmental best practices to suppliers. We expanded the resource beyond energy efficiency to include waste management and minimization, water efficiency, greener chemicals and procurement of environmentally preferable products.

Measuring Progress

To rate suppliers' performance relative to our Supplier Environmental Performance Standards, as well as identify areas for improvement, PG&E uses supplier responses to an annual survey conducted by EUISSCA. In 2016, PG&E achieved a 100 percent response rate from surveyed suppliers for the fifth consecutive year.

PG&E's 2016 target was for at least 70 percent of top-tier suppliers to achieve a score of three or higher on a five-point scale. PG&E exceeded that goal, with 74 percent of suppliers meeting the standard. To maintain this progress, PG&E set a goal of 75 percent for 2017.

The following chart shows the progress in reported performance among top-tier suppliers between 2012 and 2016 against our Supplier Environmental Performance Standard.

Performance Against PG&E's Supplier Environmental Performance Standard

PERCENTAGE OF PG&E TOP-TIER SUPPLIERS TRACKING IMPACTS			PERCENTAGE OF PG&E TOP-TIER SUPPLIERS WITH REDUCTION GOALS		
	2012	2016		2012	2016
Greenhouse gases	73%	84%	Greenhouse gases	62%	68%
Energy	71%	87%	Energy	82%	70%
Water	51%	88%	Water	63%	66%
Waste	56%	88%	Waste	77%	65%
Compliance	78%	91%			

Additionally, PG&E's suppliers that are Alliance members have demonstrated leadership among Alliance suppliers in tracking environmental impacts and setting voluntary reduction goals.

Supplier Engagement in Environmental Management Compared to Alliance Suppliers

PERCENTAGE OF PG&E SUPPLIERS TRACKING IMPACTS			PERCENTAGE OF PG&E SUPPLIERS WITH IMPROVEMENT PLANS		
	Alliance Suppliers	PG&E		Alliance Suppliers	PG&E
Greenhouse gases	45%	58%	Greenhouse gases	35%	48%
Energy	50%	65%	Energy	36%	49%
Water	40%	55%	Water	27%	39%
Waste	44%	58%	Waste	30%	42%
Compliance	48%	64%			

As part of our engagement in EUISSCA, we benchmarked our efforts against the other member energy providers on the scope of our supply chain environmental sustainability efforts. Framework attributes included policy, supplier requirements, supplier/product/service selection, performance management and performance reporting and recognition.

PG&E SUPPLY CHAIN SUSTAINABILITY BENCHMARKED PERFORMANCE		
	2015	2016 ¹
Outperforming peers	22%	58%
At or better than peers	55%	83%

1. Two metrics were added in 2016, bringing the total to 12.

Looking Ahead

We will continue our focus on capacity building among internal partners and suppliers in 2017, with two primary objectives. First, we will continue our work to create online, sector-specific best practice resources. Second, we will look to make performance measurement more meaningful by replacing a one-size-fits-all request for proposal and survey questionnaire with sector-specific, best practice-related peer benchmarking and performance scoring.



Historic Impacts

PG&E's environmental commitment extends to our environmental remediation program, which addresses contamination resulting from the historic operations of Pacific Gas and Electric Company and its predecessor companies dating as far back as the mid-to late-1800s. PG&E's overarching goal is to clean up historic impacts by using leading-edge technical approaches and best practices for engaging local stakeholders and suppliers.

Our Approach

PG&E's commitment to environmental stewardship, safety and customer service is reflected in our work. Our sustainable remediation practices and technologies focus on minimizing impacts to the environment and community to the greatest extent possible. We have implemented our guidance for sustainable remediation, prepared and piloted with the California Department of Toxic Substances Control (DTSC).

Stakeholder engagement is an important component of these efforts. We regularly communicate with local businesses, community leaders and residents to promote awareness, solicit feedback and develop strategies to minimize disruptions during the cleanup process. In addition, we partner on initiatives that serve the community, including local hiring and sourcing of goods and services to support the local economy.

We also share best practices and benchmark our efforts against other energy companies and industries, including through the MGP Consortium, a peer group of environmental remediation experts from gas providers across the nation.

2016 Milestones

Natural Gas Compressor Stations

PG&E's natural gas system includes eight compressor stations that receive and move natural gas throughout our gas infrastructure. During the 1950s and 1960s, long before the environmental standards to which we adhere today, PG&E used hexavalent chromium to prevent rust in cooling towers at the Topock and Hinkley compressor stations—a common industry practice at the time. These operations resulted in groundwater contamination, and PG&E continues working diligently under the oversight of state and federal agencies and in coordination with local Native American tribal governments to address these legacy impacts.



Ongoing community engagement

As part of our stakeholder engagement efforts for the Topock project, PG&E staff was on hand at the Chemehuevi Elementary School to provide funding to plant shade trees around the school playground. The school is located at the Chemehuevi Indian Tribe Reservation.

At the Topock Compressor Station, we conducted soil investigation work in and around the compressor station property after years of planning and review with regulators and tribes. The information gathered will be used to determine what soil cleanup work may be needed in the future.

We also submitted final plans for a long-term groundwater cleanup plan at the Topock site. The final remedy is expected to be approved by DTSC and the U.S. Department of the Interior in late 2017. While the long-term groundwater remedy is being finalized, we continued operations of interim groundwater measures, which operate around the clock to ensure that the Colorado River is protected from impacts. Built in 2005, the system has successfully controlled groundwater contamination, treating more than 660 million gallons of groundwater and removing more than 8,000 pounds of chromium.

PG&E also remains committed to protecting public health and safety while remediating the environment and responding to community concerns at the Hinkley Compressor Station. Through 2016, we estimate that approximately 50 percent of the chromium present in the groundwater has been remediated.

We also continue to work with community stakeholders to improve our local presence in the Hinkley community and support community investment priorities focusing on youth, health and wellness, education and workforce development.

Manufactured Gas Plant Sites

In the mid-1800s to the mid-1900s, before natural gas was available as an energy source, thousands of Manufactured Gas Plant (MGP) sites were located across the country, using coal and oil to produce gas for lighting, heating and cooking. With the arrival of natural gas in the 1930s, most of the



Increased agricultural opportunities in Hinkley

To treat hexavalent chromium impacts in Hinkley, we have used highly efficient irrigation technologies that conserve water. We applied drag-and-drip and low-energy precision application methods on 314 acres, saving more water than traditional spray techniques.

MGP facilities were closed and the properties put to other uses. We continue to make progress with remediation at 41 MGPs owned or operated by PG&E or its predecessor companies. The following example reflects how the work is being done in a manner that respects the local community:

- **Keeping our neighbors informed in San Luis Obispo.** As part of the cleanup of an MGP site in San Luis Obispo, PG&E provided briefings to various stakeholders prior to the work starting and continues to provide regular updates to keep stakeholders informed of the work and potential impacts.

Additional Environmental Remediation Projects

PG&E's commitment to community partnerships and sustainable principles, practices and technologies was evident at other remediation projects and activities in 2016, including:

- **Opened Hunters Point Power Plant shoreline.** PG&E began completion of the final phase of work at the former Hunters Point Power Plant in 2016—the cleanup and restoration of a shoreline area that stretches from Heron's Head to India Basin Park. PG&E worked with the City of San Francisco's CityBuild program so that 36 percent of our laborer/operator workforce on the project was hired locally. These individuals worked over 17,000 hours, which included several upgrades to the shoreline trail to increase accessibility and recreational opportunities.
- **Continued underground storage tank cleanup.** PG&E historically operated over 1,400 underground storage tanks at approximately 400 locations in California. Over the last 50 years, a variety of factors has resulted in the physical closure (removal or abandonment in place) of the majority of the tanks. Of these locations, only a small number required remediation, and the closure of the final location and portfolio is expected in 2017.
- **Tested sustainable cleanup options in Bay Point.** Now owned by PG&E, this site in Bay Point is home to a 73-acre former wastewater treatment pond, known as Shell Pond, built and operated by Shell Oil. In July 2016, PG&E began a yearlong pilot study to determine what mixture of compost and plants is most effective at breaking down or trapping material found at the bottom of Shell Pond. This "green" technology, called phytoremediation, treats waste and has been successfully used throughout the world.



PG&E's Old Gas Works Building at the San Luis Obispo MGP site was part of a local architectural tour that highlighted the unique history of the building. Community members also learned about PG&E's cleanup plans for the site.



Demonstrating PG&E's commitment to the community

As PG&E continues cleanup efforts at the Shell Pond site, we maintain our partnerships with local schools and nonprofit organizations. PG&E expanded its annual educational event so that more elementary and middle school students and their parents could learn how wetlands help improve water quality naturally. They also had the opportunity to restore and clean their local wetland.

Restoration of the Hunters Point shoreline area included widening the path and adding lighting, landscaping, water fountains, picnic and play areas, and interpretive signage detailing the history of the area, as well as benches from which the community can enjoy the view of the San Francisco Bay.

Measuring Progress

Sustainable Remediation

In 2016, we tracked the benefits of sustainable practices gathered from more than 97 remediation sites, which included:

- Using heavy construction and remediation equipment meeting Tier 3 and Tier 4 federal emission standards, reflecting the highest standards in the industry,
- Using construction and remediation equipment augmented to further minimize emissions,
- Using alternative fuels and renewable sources of energy for equipment and vehicles, and
- Maximizing recycling, on-site reuse of materials and reductions in liquid and soil wastes generated during remediation.

Through these efforts, PG&E reduced cumulative greenhouse gas emissions by nearly 5,700 metric tons and reduced liquid wastes by an estimated 3.6 million gallons. PG&E also added more than \$9.5 million to the local economies near our project sites, through a concentrated effort on identifying qualified local vendors.

Looking Ahead

PG&E will continue to address any environmental impacts related to our past operations and work closely with regulators and community members as we make progress on our cleanup plans. In 2017, we expect to complete the Hunters Point project in San Francisco and MGP cleanups in Fresno, San Luis Obispo, Red Bluff and San Rafael. We will also continue to explore and implement innovative remediation strategies, such as our second use of a negative-pressure tent enclosure in Eureka to effectively manage air quality for our neighbors.

Global Reporting Initiative

PG&E is committed to continuous improvement when it comes to how we report our impacts and sustainable business strategies, and we use the Global Reporting Initiative (GRI) as an important guide and reference point. The table below shows how this report aligns with GRI's G4 Sustainability Reporting Guidelines and was developed in accordance with a core adherence level. While we are working toward meeting the GRI reporting protocols, for several indicators below we currently only partially meet the recommended standard.

General Standard Disclosures

G4 Indicator	Description	2017 Report Location
Strategy and Analysis		
G4-1	Statement from the most senior decision-maker	Message from the CEO and President
G4-2	Description of key impacts, risks, and opportunities	Materiality Key Sustainability Indicators
Organizational Profile		
G4-3	Name of the organization	Home Page
G4-4	Primary brands, products, and/or services	PG&E Overview
G4-5	Location of organization's headquarters	PG&E Overview
G4-6	Countries in which the company has operations	PG&E Overview
G4-7	Nature of ownership and legal form	PG&E Overview
G4-8	Markets served	PG&E Overview
G4-9	Scale of the reporting organization	PG&E Overview PG&E Corporation and Pacific Gas and Electric Company 2016 Annual Report
G4-10	Gender breakdown of employees	Diversity & Inclusion
G4-11	Percentage of employees covered by collective bargaining agreements	Employee Engagement
G4-13	Significant changes during reporting period of organization's size, structure, ownership or supply chain	No significant changes
G4-EU1	Installed capacity (MW)	PG&E Overview
G4-EU2	Net energy output (GWh)	PG&E Overview
G4-EU3	Number of residential, industrial, institutional, and commercial customer accounts	PG&E Overview
G4-EU4	Length of transmission and distribution lines	PG&E Overview
G4-EU5	Allocation of CO ₂ -e emissions allowances	PG&E Corporation's Climate Change 2015 Information Request response, pgs. 89-90
Commitments to External Initiatives		
G4-14	Explanation of whether and how the precautionary approach or principle is addressed by the organization	Risk Management Ethics and Compliance
G4-15	Externally developed economic, environmental, and social charters	Engaging Stakeholders
G4-16	Memberships in associations	Public Policy Engagement Climate Change

Identified Material Aspects and Boundaries		
G4-17	Operational structure of the organization	PG&E Overview
G4-18	Process for defining report content	Materiality
G4-19	Material aspects identified	Materiality
G4-20 G4-21	Boundaries of material aspects	Throughout the report, when we refer to “PG&E” we are discussing all of PG&E Corporation and its subsidiaries, including Pacific Gas and Electric Company. For specific issues, data and discussion about other entities—such as suppliers or customers—may be disclosed.
G4-22	Explanation of the effect of any re-statements of information provided in earlier reports	No significant re-statements of information
G4-23	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report	No significant changes in scope, boundary or measurement methods
Stakeholder Engagement		
G4-24	Stakeholder groups engaged by the organization	Engaging Stakeholders
G4-25	Identification and selection of stakeholders	Engaging Stakeholders
G4-26	Approaches to stakeholder engagement	Engaging Stakeholders Our Approach Materiality
G4-27	Key topics and concerns raised through stakeholder engagement	Engaging Stakeholders Our Approach Materiality
Report Profile		
G4-28	Reporting period	Home Page; 2016-2017
G4-29	Date of most recent previous report	October 2016
G4-30	Reporting cycle	Our Approach; Annual
G4-31	Contact point for questions regarding the report	Feedback
G4-32	GRI index	GRI Index This report contains Standard Disclosures from the GRI Sustainability Reporting Guidelines.
G4-33	Policy and current practice with regard to seeking external assurance for the report	PG&E has not sought external assurance of its Corporate Responsibility and Sustainability Report. However, some data (such as greenhouse gas emissions) are third-party verified; where this is the case, it is noted in the report.
Governance		
G4-34	Governance structure of the organization, including committees overseeing sustainability	Corporate Governance Our Approach
G4-35	Process for delegating sustainability authority from board to executives	Our Approach
G4-36	Executive-level position over sustainability efforts	Our Approach
G4-37	Stakeholder consultation process on sustainability topics	Engaging Stakeholders
G4-38	Composition of the highest governance body and committees	2017 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 22
G4-39	Indicate whether the Chair of the highest governance body is an executive officer	2017 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 20
G4-40	Process for determining the composition, qualifications, and expertise of the members of the highest governance body.	2017 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 24–25

G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided	2017 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 20
G4-42	Roles in updating company sustainability statements and goals	Our Approach
G4-44	Processes for evaluating the highest governance body's own performance	PG&E Corporate Governance Guidelines
G4-46	Board oversight of sustainability risk management	Our Approach
G4-47	Frequency of the highest governance body's review of sustainability issues	Our Approach
G4-48	Highest committee or position that formally reviews and approves the organization's sustainability report	This report has been approved by PG&E Corporation's CEO and President, as well as the company's officers.
G4-51	Linkage between compensation and the organization's performance	Our Approach
G4-52	Process for determining remuneration	2017 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 39–55
G4-53	How stakeholders' views are sought and taken into account regarding remuneration	Corporate Governance
G4-56	Corporate mission and values, codes of conduct and principles	Our Approach Risk Management Corporate Governance Ethics and Compliance
G4-57	Mechanisms for seeking advice on ethical and lawful behavior	PG&E Compliance and Ethics
G4-58	Mechanisms for reporting concerns about unethical or unlawful behavior	PG&E Employee Code of Conduct—How to Raise Concerns

Specific Standard Disclosures

Material Aspect	G4 Indicator	Description	2017 Report Location
Economic			
Economic Performance	Disclosure of Management Approach (G4-DMA)		PG&E Corporation and Pacific Gas and Electric Company 2016 Annual Report
	G4-EC1	Direct economic value generated and distributed	PG&E Overview
	G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	Climate Change
	G4-EC3	Coverage of the organization's defined benefit plan obligations	PG&E Corporation and Pacific Gas and Electric Company 2016 Annual Report, p. 111–112
Indirect Economic Impacts	Disclosure of Management Approach (G4-DMA)		Our Approach Energy Affordability Community Investments
	G4-EC7	Development and impact of infrastructure investments and services provided primarily for public benefit	Community Investments
	G4-EC8	Understanding and describing significant indirect economic impacts, including the extent of impacts	Community Investments Nuclear Operations
Availability and Reliability	Disclosure of Management Approach (G4-DMA)		Clean Energy
	G4-EU10	Planned capacity against projected electricity demand over the long term	Clean Energy

Demand-Side Management	Disclosure of Management Approach (G4-DMA)		Customer Energy Efficiency Demand Response
Research and Development	Disclosure of Management Approach (G4-DMA)		Electric Operations
Plant Decommissioning	Disclosure of Management Approach (G4-DMA)		Nuclear Operations
Environmental			
Energy	Disclosure of Management Approach (G4-DMA)		Clean Energy Customer Energy Efficiency Buildings and Facilities
	G4-EN3	Energy consumption within the organization	PG&E Overview Clean Energy Buildings and Facilities
	G4-EN4	Energy consumption outside of the organization	PG&E Overview Clean Energy
	G4-EN6	Energy saved due to conservation and efficiency improvements	Customer Energy Efficiency Buildings and Facilities
	G4-EN7	Initiatives to provide energy-efficient or renewable-energy-based products and services, and reductions in energy requirements as a result of these initiatives	Engaging Customers Energy Affordability Customer Energy Efficiency Demand Response Solar and Distributed Generation Clean Energy Renewable Energy
Water	Disclosure of Management Approach (G4-DMA)		Water
	G4-EN8	Total water withdrawal by source	Water
	G4-EN9	Water sources significantly affected by withdrawal of water	Water Hydroelectric Operations Natural Resource Stewardship
Biodiversity	Disclosure of Management Approach (G4-DMA)		Natural Resource Stewardship
	G4-EN12	Description of significant impacts of activities, products, and services on biodiversity	Natural Resource Stewardship
	G4-EN13	Habitats protected or restored	Natural Resource Stewardship
Emissions	Disclosure of Management Approach (G4-DMA)		Climate Change Buildings and Facilities
	G4-EN15	Direct greenhouse gas emissions (Scope 1)	Climate Change
	G4-EN16	Indirect greenhouse gas emissions (Scope 2)	Climate Change
	G4-EN17	Other relevant indirect greenhouse gas emissions (Scope 3)	Climate Change
	G4-EN18	Greenhouse gas emissions intensity	Climate Change
	G4-EN19	Reduction of greenhouse gas emissions	Climate Change
	G4-EN21	NO _x , SO _x , and other significant air emissions by type and weight	Buildings and Facilities

Effluents and Waste	Disclosure of Management Approach (G4-DMA)		Compliance Buildings and Facilities
	G4-EN22	Total water discharge by quality and destination	Water
	G4-EN23	Total weight of waste by type and disposal method	Buildings and Facilities
	G4-EN24	Total number and volume of significant spills	Compliance
	G4-EN25	Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III and VIII	Buildings and Facilities
Products and Services	Disclosure of Management Approach (G4-DMA)		Clean Energy
	G4-EN27	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	Clean Energy Renewable Energy Hydroelectric Operations Conventional Sources Nuclear Operations Customer Energy Efficiency Demand Response Solar and Distributed Generation Natural Resource Stewardship
Compliance	Disclosure of Management Approach (G4-DMA)		Compliance
	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Compliance
Transport	Disclosure of Management Approach (G4-DMA)		
	G4-EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	Greening Our Fleet
Supplier Environmental Assessment	Disclosure of Management Approach (G4-DMA)		Supplier Sustainability
	G4-EN32	Percentage of new suppliers screened using environmental criteria	Supplier Sustainability
Social			
Employment	Disclosure of Management Approach (G4-DMA)		Employees Career Pathways Workplace Safety
	G4-LA1	Total number and rate of employee turnover by age group, gender and region	Career Pathways
	G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Health and Wellness Our Benefits
	G4-EU15	Percentage of employees eligible to retire in the next five years	Career Pathways
Labor/ Management Relations	Disclosure of Management Approach (G4-DMA)		Employee Engagement
Occupational Health and Safety	Disclosure of Management Approach (G4-DMA)		Building a Speak-Up Safety Culture Workplace Safety
	G4-LA6	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region	Workplace Safety

Training and Education	Disclosure of Management Approach		Career Pathways
	G4-LA10	Programs for skills management and lifelong learning	Career Pathways
Diversity and Equal Opportunity	Disclosure of Management Approach		Diversity and Inclusion
	G4-LA12	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity	Diversity and Inclusion 2017 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 11–17
Local Communities	Disclosure of Management Approach (G4-DMA)		Engaging Stakeholders
Anti-Corruption	Disclosure of Management Approach (G4-DMA)		Ethics and Compliance
	G4-SO4	Communication and training on anti-corruption policies and procedures	Ethics and Compliance
	G4-SO5	Confirmed incidents of corruption and actions taken	Ethics and Compliance
Public Policy	Disclosure of Management Approach (G4-DMA)		Public Policy Engagement
	G4-SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions	Public Policy Engagement
Compliance	Disclosure of Management Approach (G4-DMA)		Ethics and Compliance
	G4-SO8	Monetary value of significant fines for noncompliance with laws and regulations	PG&E Overview
Disaster/ Emergency Planning and Response	Disclosure of Management Approach (G4-DMA)		Public Safety
Customer Health and Safety	Disclosure of Management Approach (G4-DMA)		Public Safety
Product and Service Labeling	Disclosure of Management Approach (G4-DMA)		Customers and Communities
	G4-PR5	Results of surveys measuring customer satisfaction	Engaging Customers
Customer Privacy	Disclosure of Management Approach (G4-DMA)		Public Safety
Access	Disclosure of Management Approach (G4-DMA)		Energy Affordability
	G4-EU28	Power outage frequency	Electric Operations
	G4-EU29	Average power outage duration	Electric Operations
	G4-EU30	Average plant availability factor by energy source	Conventional Sources Nuclear Operations
Provision of Information	Disclosure of Management Approach (G4-DMA)		Public Safety
			Engaging Customers

Forward-Looking Statements

This Corporate Responsibility and Sustainability Report, including the Messages from PG&E Corporation's Chief Executive Officer and President and Chief Sustainability Officer, contains forward-looking statements regarding our strategic plans that have been shaped by an assessment of risks and opportunities that management has determined are material to our long-term corporate sustainability.

These plans, the assessment, and the underlying assumptions and forecasts on which they are based, are necessarily subject to various risks and uncertainties, the realization or resolution of which may be outside of management's control. Actual results could differ materially from those expressed or implied in the forward-looking statements. For a discussion of some of the factors that could cause actual results to differ materially, please see our reports filed with the Securities and Exchange Commission, including our Annual Report on Form 10-K for the year ended December 31, 2016 (the 2016 Annual Report") and the Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017 and June 30, 2017.