

Together, Building a Better California

Corporate Responsibility and Sustainability Report

2018



Photo courtesy of Riverview Middle School

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

Message from the CEO and President

To Our Stakeholders:

PG&E has a long history of engagement with the values of sustainability. We issued our first version of this report in 1990, reflecting our long-standing commitment to the environment. In the decades that followed, it has expanded to encompass the full impact of our business, documenting our progress in areas from public safety to diversity and inclusion.

Along the way, we have committed ourselves to profound changes. We supported California policymakers in setting bold goals for transforming the energy sector to cut greenhouse gas emissions. And in 2017, we reached the state's target of providing one-third of the electricity we deliver to customers from renewable sources—three years ahead of schedule.

Today, we see ourselves as a climate-solutions company. In particular, we see our electric grid as a climate-solutions platform that will be indispensable in helping California to achieve its clean-energy goals, while also ensuring that the transition remains affordable for all.

Yet as we've made progress on low-carbon solutions, the evidence of California's changing climate continues to grow: Years of extreme drought conditions, followed by unprecedented rainfall, and then record-breaking heat. Nearly 130 million dead or dying trees. More frequent and destructive wildfires than our state has ever experienced—including the devastating Northern California fires of October 2017 and July and August 2018.

Such events underline that while our actions on behalf of the climate have never been more important, the nature of sustainability is changing, too. It is expanding to include helping our communities build resilience against climate threats, cope with their disruptions, and restore normalcy as quickly as possible.

Indeed, resilience and sustainability are two sides of the same coin. What's different are the paths for getting there.

PG&E's corporate sustainability goals are something we can largely pursue individually, as a company. But meeting the resilience challenge requires a much broader focus on the entire economy—particularly the essential systems of energy, water, and transportation that underlie our prosperity and our quality of life.

That's not something that any one organization can do on its own. It will require engagement at every level of government, industry, and society. It will take a lot of bright minds working together to come up with the answers, and smart investment for implementing them.

At PG&E, we've already started.

We're funding projects around the state to help communities develop strategies for climate resilience through public-private partnerships, and share that knowledge broadly, while encouraging others to do the same.

At the same time, we're hardening our own infrastructure, developing robust emergency response plans and procedures, and evaluating the risks from intense storms and sea level rise, as well as extreme heat and land subsidence.

While the obstacles may be daunting, tackling these types of challenges is familiar territory for our company and our state. From the beginning, California has always been at the front line on climate issues.

I firmly believe this is where the solutions are going to be found.

Sincerely,

Geisha Williams
CEO and President
PG&E Corporation

Northern California Wildfires

Our heartfelt sympathies go out to the thousands of families affected by last year's wildfires, particularly those who lost loved ones and homes. We remain focused on doing everything we can to help them recover and rebuild, while also committing ourselves to meet the challenge of climate change.

Extreme weather events driven by climate change are causing unprecedented and unanticipated wildfires. Years of drought, extreme heat and nearly 130 million dead trees have created a "new normal" for our state, and we must continue to find new solutions to adapt.

In the interest of public safety, we are continuously evolving our plans and programs in response to new standards and regulations – but this new normal means we must partner to do even more to strengthen the resiliency and safety of our energy infrastructure and the customers we serve.

To that end, PG&E announced its new Community Wildfire Safety Program which includes additional precautionary measures that will help further reduce wildfire threats and strengthen our communities for the future.

We are bolstering wildfire prevention and emergency response efforts, putting in place new and enhanced safety measures, and doing more over the long term to harden our electric system to help reduce wildfire risks and to keep our customers safe.

We want to work together to share information, provide resources and help our customers and communities prepare for and stay safe during extreme weather events.

More Information

To learn more about PG&E's commitment to our customers and communities impacted by the wildfires, visit www.pgecommitment.com.



PG&E's commitment to sustainability has never been more fundamental than it is today. Our North Star of a sustainable energy future guides our mission to deliver safe, reliable, affordable and clean energy to our customers. We also recognize that our responsibilities as an energy provider go beyond the basics: we must act as a valued partner in our communities; as a force for economic growth, progress and equity in our state; and as a leader in combatting climate change.

With a steadfast focus on safety, excellence in our operations and environmental leadership, we are working every day to build a better, more sustainable California.



Our Approach

At its core, PG&E's approach to sustainability is to meet the needs of today in a way that creates a better tomorrow. As an energy provider rooted in California, PG&E confronts choices and challenges with environmental, social and economic dimensions that impact the 16 million Californians we are privileged to serve. Finding the right balance in the decisions we make is essential to achieving our goals of providing safe, reliable, affordable and clean energy—today and into the future.

To guide these decisions, we have adopted a 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.



Together, Building
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Governance

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

Boards of Directors

The Boards of PG&E Corporation and Pacific Gas and Electric Company have numerous permanent standing committees, which support each Board's basic responsibilities. The standing committees are as follows:

- Executive
- Audit
- Compensation
- Compliance and Public Policy
- Finance
- Nominating and Governance
- Safety and Nuclear Oversight

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 enable a low-carbon future.

Business-Wide

Pacific Gas and Electric Company'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 an internal Sustainability Leadership Council, co-chaired by the Chief Sustainability Officer and Pacific Gas and Electric Company's Chief Customer Officer. The Council brings together leaders from functions such as gas and electric operations, 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. For example, the Council recommended, and PG&E adopted, a voluntary goal to avoid one million tons of cumulative greenhouse gas emissions from PG&E's operations from 2018 through 2022, compared to a 2016 baseline.

Grassroots Involvement

Employee-led initiatives throughout the business help integrate corporate sustainability priorities into our work. For example, our volunteer Grassroots Green Network has engaged 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 shaped by California's regulatory and public policy priorities. For example, in 2016, the California State Legislature passed Senate Bill (SB) 32, which requires the state to reduce greenhouse gas emissions 40 percent by 2030 compared to 1990 levels. More recently, California Governor Jerry Brown signed Executive Order B-55-18, which sets a new statewide goal to achieve carbon neutrality by 2045.

The Legislature also directs the California Public Utilities Commission (CPUC) to implement state laws and policies. These include laws relating to reducing greenhouse gas emissions, increasing renewable energy resources, deploying distributed and self-generation resources, establishing energy storage procurement targets, and developing a state-wide electric vehicle charging infrastructure. The CPUC approves funding and administration of state-mandated energy efficiency and other customer programs. The CPUC also conducts audits and reviews of Pacific Gas and Electric Company's accounting, performance and compliance with regulatory guidelines.

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.

PG&E reached California’s 2020 renewable energy goal three years ahead of schedule, and we are well positioned to meet the state’s new 60 percent by 2030 renewable energy mandate set forth in SB 100.

With building a sustainable energy future as our North Star, 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.

In recent years, this rigorous strategic process has begun to explicitly recognize risks from a changing climate, including heat waves, more frequent and extreme storms and wildfires, drought, subsidence and rising sea levels. In 2017, we launched an array of foundational work to help PG&E anticipate and plan for changing weather and climate-change related events.

Collaborating with—and listening to—external stakeholders is crucial to this process. That is why PG&E in 2016 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.

We also refreshed our materiality assessment, to guide our sustainability strategy and inform our broader enterprise-wide strategic planning process.

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 2017, 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 2017 and 2018 STIPs, as well as our 2017 results, please see page 50 of the 2018 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement.

Short-Term Incentive Plan – Performance Measures

Measure	2017 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 electric reliability.
- 3. Based on PG&E Corporation’s earnings from operations.

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.

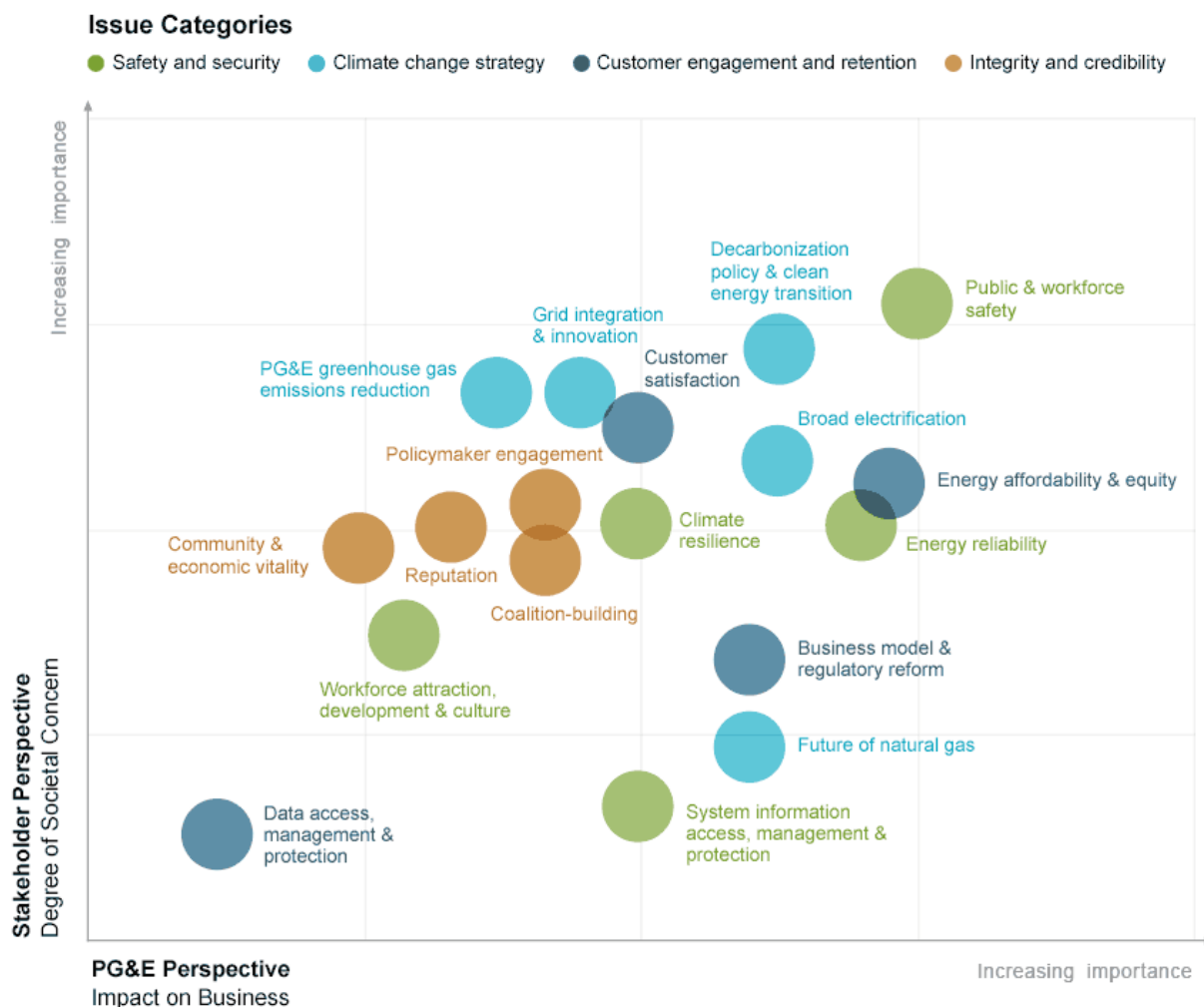


Materiality

PG&E completed its second materiality assessment on corporate sustainability in 2017—a strategic project to refresh our 2014 assessment and 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 and members of our executive team, identified opportunities and risks, and sharpened our corporate sustainability strategy and reporting.

PG&E's Materiality Matrix

PG&E's materiality assessment identified 18 issues, grouped into four categories: safety and security, climate change strategy, customer engagement and retention, and integrity and credibility. 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 performance, results and viability, based on the perspectives of internal and external stakeholders. This is different but related to financial materiality, which is a threshold for influencing the economic decisions of investors. Material corporate sustainability issues typically reflect a wider range of stakeholders and economic, environmental, and social impacts, and are not limited to topics that 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. In the months since its development, the assessment and supporting analysis have been used in numerous ways, including as inputs to PG&E's strategic planning process. They have also informed our corporate sustainability reporting and focus, and will continue to inform our goals and strategies in the coming years.

Key insights of the materiality assessment included:

- **It reinforced our focus on the basics of our business.** The assessment showed that public and workforce safety, energy reliability, affordability and equity, and customer satisfaction are top priorities both for PG&E and our external stakeholders.
- **We operate in a shifting landscape.** The gas and electric industry is experiencing a transformation in how energy is generated and provided. Distributed energy resources, such as private rooftop solar, the increase in electric vehicles on the road, and aggressive emissions-reduction targets set by the state of California are impacting the traditional energy provider business model in significant ways.
- **Issues are highly interdependent.** Each material issue is deeply interrelated with other issues, signifying the importance of systems thinking and the need for collaboration.
- **PG&E's culture matters.** PG&E's general disposition—both internally and externally—about embracing change will have a large influence on how successfully it navigates the future landscape.
- **Finding the right balance is key to success.** Many of the material issues PG&E faces can contradict one another. Balancing these competing forces will be crucial going forward.

Definitions

Safety and Security

Public and workforce safety

Managing the impacts of energy generation, transmission and distribution on long-term public safety; safe operations and accident prevention, including ensuring the safety of PG&E employees and contractors; creating a speak-up-for-safety culture within PG&E.

Energy reliability

Managing and investing in reliable gas and electric infrastructure to provide a consistent energy supply, while balancing stakeholder interests; ensuring that infrastructure and systems are resilient in the face of earthquakes, wildfires and other natural disasters; ensuring strong asset management practices and record-keeping.

Climate resilience

Adapting to a changing climate and changing weather patterns in ways that mitigate the potential consequences to PG&E's assets, infrastructure, operations, employees and customers. Includes the risk of more frequent and severe wildfires, drought, storms, and heat waves, as well as longer-term changes, such as sea level rise.

System information access, management and protection

Addressing the growing interest by third parties in information on PG&E's system and the grid; managing expectations associated with sharing information; reducing cyber and physical security risks through effectively protecting data, systems, infrastructure and facilities.

Workforce attraction, development and culture

Attracting, retaining, developing and engaging employees; effective dialogue with employees and transparency around business goals and operations and labor relations; diversity and inclusion in all roles, especially management-level gender diversity; hiring from the communities that PG&E serves and striving for a workforce that reflects those communities; maintaining a workforce with the required size and skill profile amid generational and technological shifts.

Climate Change Strategy

Decarbonization policy and clean energy transition

The degree to which PG&E is impacted by and able to inform California's climate and energy policies, which are transforming the state's gas and electric sector and energy supply, including aggressive state goals for climate change mitigation and renewable energy; the required investments, infrastructure and integration of renewable energy into the grid.

Broad electrification

California's broad support for rapid electrification of economy-wide energy systems and the associated impacts and opportunities for PG&E's business model and customer affordability objectives.

Future of natural gas

The role of natural gas in California's energy future and PG&E's ability to minimize risk and maximize opportunity from the transition, including leveraging alternative fuel sources such as renewable natural gas/low-carbon gas.

Grid integration and innovation

How PG&E will integrate technologies that enable energy transformation, including private solar, energy storage and electric vehicles, as well as tools for customer engagement and energy management; the growth of distributed energy resources among customers and suppliers, and the associated impacts on PG&E.

PG&E greenhouse gas emissions reduction

The contributions to climate change mitigation by reducing greenhouse gas emissions from PG&E's own operations, including its facilities, vehicle fleet, gas system and supply chain.

Customer Engagement and Retention

Energy affordability and equity

The ability of customers to afford energy service; the degree to which PG&E can control affordability of customer bills through adopting operational efficiency measures and informing evolving rate structures and design; the pursuit of a clean energy future that is accessible and affordable to all customers.

Customer satisfaction

Customer satisfaction with the responsiveness and quality of PG&E's service and engagement with them on energy management (including energy efficiency and other options), bills, safety and PG&E's strategic plans for the future; the degree to which PG&E effectively communicates its value proposition to—and retains—customers, given increasing customer choices for procuring energy.

Business model and regulatory reform

How the gas and electric company business model needs to evolve to reflect the value of grid services, given the rapid growth of distributed energy resources, electrification of transportation and other shifts; how the pricing paradigm evolves to meet changes in how customers generate and use energy; how reform of the regulatory structure must accompany and inform business model evolution.

Data access, management and protection

The growing interest by customers and third-parties in access to customer data and PG&E's ability to manage expectations while ensuring data privacy requirements and broader customer security.

Integrity and Credibility

Community and economic vitality

Contributing to local communities as a business partner (e.g., job creation through supplier diversity) and community partner (e.g., understanding and meeting community needs); effectively considering environmental and social justice concerns in business policies, decisions and operations.

Policymaker engagement

Effectively engaging policymakers and regulators on climate, energy and related policies, including working in coalitions with transparency; ensuring alignment of public policy advocacy with PG&E values.

Coalition-building

Effectively partnering and building broad-based coalitions to work toward mutually beneficial policy and regulatory outcomes for complex business challenges.

Reputation

Earning trust among stakeholders and communicating proactively to be viewed as an authentic enterprise that cares about its customers and communities; behaving ethically and complying with all applicable laws and regulations.



Engaging Stakeholders

PG&E recognizes the importance of seeking out the insights and expertise of our many stakeholders, to both understand their needs and build meaningful, lasting engagements that produce mutually beneficial solutions and help us meet our core mission of delivering safe, reliable, affordable and clean energy.

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.

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.



Engaging our Sustainability Advisory Council

PG&E Corporation's external Sustainability Advisory Council continues to provide feedback and insights on how PG&E can address a range of issues, from operational objectives to California's climate challenges and the importance of energy affordability and social equity.

The need for collaboration was a major focus of discussion during the year. Across these areas, the council said, one of PG&E's biggest opportunities to make a difference is by bringing people together to find creative solutions and approaches—and then sharing those lessons far and wide.

As one approach, PG&E highlighted the California Resilience Challenge, a new corporate-giving initiative jumpstarted by PG&E to help communities prepare for, withstand, and recover from extreme events caused by climate change, as part of PG&E's larger strategy to assist communities in confronting the consequences of climate change.

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.
- *Diablo Canyon Decommissioning Engagement Panel*: provides diverse community viewpoints to help inform PG&E's site-specific decommissioning plan on future land use and repurposing recommendations.

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"> ■ 5.4 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 external Advisory Councils focused on PG&E's Electric Vehicle Charge Network, diversity outreach and engagement, and Solar Choice program ■ 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 ■ Climate resilience organizations 	<ul style="list-style-type: none"> ■ Local PG&E public safety teams ■ Workshops, training and practice drills with local emergency agencies and first responders ■ California Community Advisory Group with leaders representing diverse constituencies ■ Diablo Canyon Decommissioning Engagement Panel, which provides diverse community viewpoints to help inform PG&E's site-specific decommissioning plan on future land use and repurposing recommendations ■ 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 ■ Community meetings, conferences and other 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 (ERGs): 11 ERGs with more than 5,000 participating employees ■ Corrective Action Program for employee feedback and continuous improvement: nearly 52,000 submissions since the program rolled out company-wide in 2017 ■ Awards recognizing employee leadership on safety, diversity, community service, innovation and the environment ■ Mentoring programs ■ Health and wellness resources: 24/7 nurse hotline, Employee Assistance Program, and Peer Volunteer Network for assistance and support for employees with drug or alcohol problems ■ 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, 2017:</p> <ul style="list-style-type: none"> ■ Approximately 84 percent of PG&E Corporation common shares were held by institutional investors ■ The top 10 institutional investors owned approximately 39 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 and the Investor Network Summit on Climate Risk, which focuses on the business risk and opportunities of climate change
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

2017 Result Legend: ■ = Target met or exceeded ■ = Target not met

Metric	2017 Target	2017 Result	2018 Target
Gas Operations			
Strength-Tested Transmission Pipeline (miles)	242	253	259
Transmission Pipeline Replacement (miles)	30	42	28
Valves Automated (number of valves)	35	26	40
Retrofitted Transmission Pipeline (miles)	132	154	185
Gas Dig-Ins¹ (dig-ins per 1,000 Underground Service Alert tickets)	1.92	1.89	1.84
Electric Operations²			
System Average Interruption Frequency Index (SAIFI) average number of outages per customer	1.00	0.958	0.978
System Average Interruption Duration Index (SAIDI) average duration of outages per customer in minutes	107.0	113.4	114.0
Customer Average Interruption Duration Index (CAIDI) average restoration time per outage in minutes	107.0	118.3	116.5
Nuclear Operations			
Diablo Canyon Unit 1 Performance Indicator³	90.5	97.0	96.4
Diablo Canyon Unit 2 Performance Indicator³	87.6	90.0	87.6
Compliance And Risk Management			
Employees Completing Annual Compliance and Ethics Training	99.8%	99.9%	99.8%
Management Employees Completing Annual Code of Conduct Training	99.8%	99.9%	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 PG&E facility).

2. The slight decline in year-over-year reliability can mostly be attributed to a series of extreme weather events, including winter storms, triple-digit heat waves and wildfires.

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

2017 Result Legend: ■ = Target met or exceeded ■ = Target not met

Metric	2017 Target	2017 Result	2018 Target
Public Safety			
Leak Repair Performance¹ (number at year-end)	100 or fewer	65	100 or fewer
Gas Emergency Response² (minutes)	21.0	20.4	21.0
Electric Emergency Response³ (percentage within 60 minutes)	97.5%	96.6%	98%
Public Safety Index⁴	N/A	N/A	1.0
Asset Records Duration Index⁵	N/A	N/A	1.0
Workplace Safety			
Lost Workday Case Rate⁶	0.339	0.487	0.418
Serious Injuries and Fatalities Corrective Action Index⁷	1.0	2.0	1.0
Serious Preventable Motor Vehicle Incident Rate⁸	0.239	0.287	0.239
Timely Reporting of Injuries⁹	71.3%	69.3%	71.3%
Safe Driving Rate¹⁰	N/A	N/A	6.5

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. 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.

4. Weighted average of three electric programs that evaluate the effectiveness of compliance activities in the Fire Index Areas: (1) vegetation non-exempt pole clearing (25%), routine line vegetation management (50%) and tree mortality mitigation program (25%). Introduced in 2018, this index evaluates process compliance and drives process improvements related to wildfire safety.

5. Weighted index that tracks the average number of days to complete the as-built process in the system of record for electric and gas capital and expense jobs from the time construction is completed in the field or released to operations: (1) Gas: Transmission (30%), Station (5%), Distribution (15%) and (2) Electric: Transmission Line (12.5%), Substation (12.5%), Distribution (25%). Introduced in 2018, this metric drives timely updates of gas and electric records and systems.

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

7. For serious injuries and fatalities, this index measures the percentage of corrective actions completed on time and the quality of corrective actions as measured against an externally derived framework.

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

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

10. The total number of alerts for hard braking and hard acceleration per thousand miles driven in company vehicles equipped with in-vehicle performance monitors. Introduced in 2018, this measure drives safe driving behaviors by employees in our fleet vehicles.

Customers and Communities

2017 Result Legend: ■ = Target met or exceeded ■ = Target not met

Metric	2017 Target	2017 Result	2018 Target
Customer Satisfaction			
Customer Satisfaction Score¹	76.4	75.6	75.2
Gas And Electric Meter Billing Accuracy² (Percentage Of Bills)	99.68%	99.68%	99.64%
Customer Connection Cycle Time³ (business days)	N/A	N/A	10
Energy Affordability			
Energy Savings Assistance Program (Number Of Homes Weatherized)	90,030	87,052	94,532
California Alternative Rates For Energy (Number Of Eligible Customers Enrolled)	1,413,000	1,406,396	1,367,000
Customer Energy Efficiency⁴			
Electricity Saved (GWh)	1,144	1,487	916
Natural Gas Saved (Million Therms)	18.6	33.2	20.9
Generation Capacity Avoided (MW)	193	320	172
Supplier Diversity			
Spending On Certified Diverse Suppliers (Percentage)	42.0%	42.3%	40.0%

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.

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. Tracks the 12-month average design and construction cycle time for electric residential disconnect/reconnect work requested by customers and performed through Express Connections (our new customer gateway). This is a new metric introduced in 2018.

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

Employees

2017 Result Legend: ■ = Target met or exceeded ■ = Target not met

Metric	2017 Target	2017 Result	2018 Target
Employee Engagement			
Employee Volunteer Hours	91,000	95,009	91,000
Employee Giving Campaign Pledges/Donations (participation rate)	44%	44%	45%
Employee Engagement Index ¹	N/A ²	N/A ²	70
Career Pathways			
Training Effectiveness ³	4.52	4.52	4.52
Powerpathway™ Graduates Hired Into Industry Jobs (percentage)	82%	79%	82%
Health And Wellness			
Workforce Unavailable Due To Health ⁴	6.9%	8.1%	7.9%

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 prior 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. In 2017, PG&E began administering our paid leave programs, which previously were administered by a third party. This allowed for additional insight into the number of employees using accrued sick time when they should have been on short-term or long-term disability leave. This insight led to a one-time increase in our workforce unavailable due to health result, which is reflected in 2017.

Environment

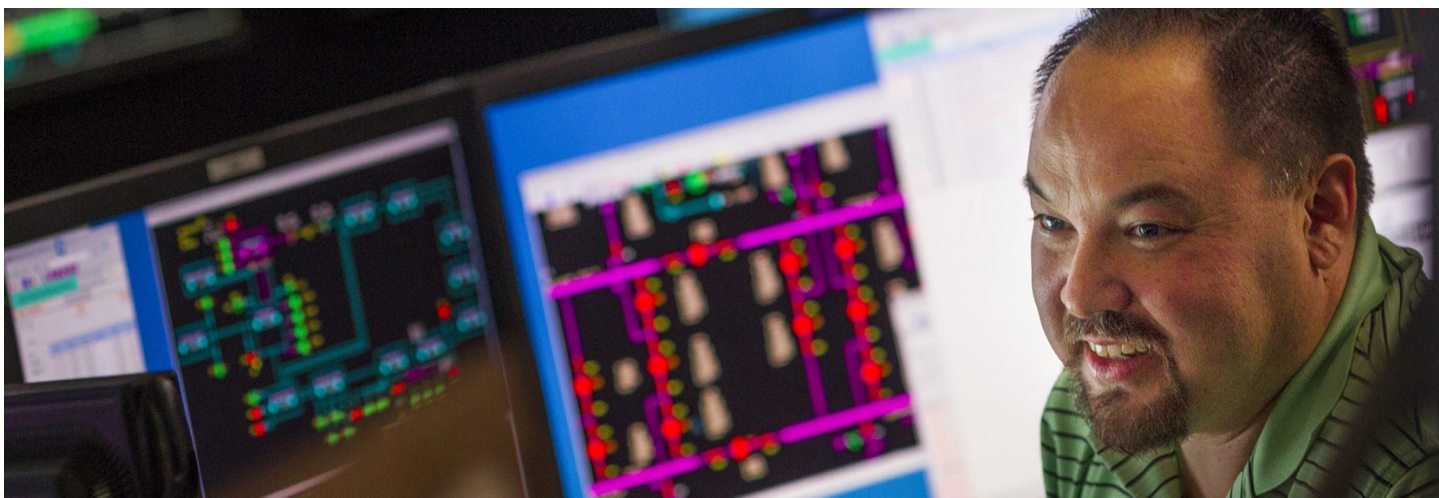
2017 Result Legend: ■ = Target met or exceeded ■ = Target not met

Metric	2017 Target	2017 Result	2018 Target
Compliance			
Agency Inspections Without A Written Enforcement Action	90%	93%	90%
Natural Resource Stewardship			
“Bird-Safe” Utility Pole Retrofits	2,000	2,151	2,000
Clean Energy			
Renewables Portfolio Standard	27% ¹	33%	29% ¹
Supplier Sustainability			
Supplier Environmental Performance Standards ²	75%	78%	75%
Reducing Our Footprint			
Avoided Greenhouse-Gas Emissions (metric tons CO ₂)	N/A	N/A	100,000 ³

1. California's target is to achieve an average of 30 percent over the 2017-2020 Renewables Portfolio Standard compliance period. As defined in Senate Bill 1078, which created California's Renewables Portfolio Standard, and Senate Bill 1038, which modified the definition of “in-state renewable electricity generation technology,” an eligible renewable resource includes geothermal facilities, hydroelectric facilities with a capacity rating of 30 MW or less, biomass and biogas, selected municipal solid waste facilities, photovoltaic, solar thermal, and wind facilities, ocean thermal, tidal current, and wave energy generation technologies. These figures are preliminary and will not be finalized until verified by the California Energy Commission.

2. 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.

3. Represents the first year of PG&E's voluntary goal to avoid one million tons of cumulative greenhouse emissions from 2018 through 2022, compared to a 2016 baseline. The goal, referred to as the “Million Ton Challenge,” aims to reduce emissions from operations through energy-efficient and more sustainable facilities, continuing to deploy clean fleet vehicles, reducing methane emissions from natural gas operations, and adopting environmentally responsible products and services, with an initial focus on reducing the procurement of sulfur hexafluoride-containing electrical equipment.



Recognition

In 2017, PG&E Corporation and Pacific Gas and Electric Company and their employees were honored to be recognized for PG&E's commitment to excellence in three major areas: corporate sustainability and environmental leadership; diversity and inclusion; and innovation and operations.

Corporate Sustainability and Environmental Leadership

- **Dow Jones Sustainability North America Index**—Eighth time named to the Index¹
- **American Council for an Energy-Efficient Economy (ACEEE)**—Ranked as a Top 5 Energy Efficient Company in ACEEE's new Utility Energy Efficiency Scorecard²
- **Civic 50**—One of America's 50 most community-minded companies²
- **Corporate Responsibility Magazine's 100 Best Corporate Citizens**—No. 1 among utilities and No. 22 overall²
- **Newsweek Green Rankings**—No. 1 among electric and gas utilities and No. 4 overall in the United States¹

1. PG&E Corporation

2. Pacific Gas and Electric Company

Diversity and Inclusion

- **Human Rights Campaign**—100 rating in 2017 Best Places to Work for LGBT Equality for the 15th straight year¹
- **Billion Dollar Roundtable**—Inducted into the Roundtable for procuring more than \$1.0 billion annually from certified minority and women-owned businesses on a first-tier basis²
- **Disability Equality Index**—100 rating for 2017 Best Places to Work for Disability Inclusion for the fourth straight year²
- **Greenlining Institute**—"A" rating for Supplier Diversity in 2017 Supplier Diversity Report Card²
- **LATINA Style Magazine**—50 Best Places for Latinas to Work²
- **Women's Business Enterprise National Council**—America's Top Companies for Women-Owned Businesses²
- **Institute for Supply Management**—Charles J. McDonald Supplier Diversity Advocate Award²
- **U.S. Hispanic Chamber of Commerce**—Million Dollar Club: \$500 million to \$1billion category²
- **California Hispanic Chamber of Commerce**—Corporate Advocate of the Year Award²
- **Western Regional Minority Supplier Development Council**—Procurement and Purchasing Leader of the Year³
- **National Business Inclusion Consortium**—Best of the Best Corporations for Inclusion²
- **Omnikal (formerly Diversity Business)**—America's Top 50 Inclusion Corporations²
- **DiversityInc**—Top Five Regional Utilities of the Year²
- **Women's Enterprise USA**—WE 100 Corporations of the Year²
- **Women's Enterprise USA**—Top 100 Leaders in Supplier Diversity³
- **Professional Women's Magazine**—Best of the Best: Top Supplier Diversity Program²
- **Minority Business News USA Magazine**—Corporate 101: Most Admired Companies for Supplier Diversity²
- **Minority Business News USA Magazine**—2017 Corporate Buyers of the Year³
- **Black Enterprise magazine**—One of the 50 best companies for diversity²
- **Military Times**—One of the best employers for veterans²
- **Women's Business Enterprise National Council**—One of America's top companies for women-owned businesses²

1. PG&E Corporation

2. Pacific Gas and Electric Company

3. Individual employee(s)

Innovation and Operations

- **American Association for Laboratory Accreditation**—International Organization for Standardization (ISO) 17025 accreditation¹
- **Chartwell Inc**—3 Best Practice awards: Gold Customer Service award, Silver Outage Communications award, Silver Program Marketing award¹
- **E Source Review**—Ranked #1 North American Electric and Gas Company Residential Website¹
- **Edison Electric Institute**—Emergency Recovery Award¹
- **Edison Electric Institute**—2017 Award for Outstanding National Key Accounts Program Award for Outstanding Customer Service¹
- **InformationWeek**—2017 IT Excellence Award in the Data and Analytics¹
- **Week International Lineman's Rodeo**—Four awards for PG&E linemen²

1. PG&E Corporation

2. Pacific Gas and Electric Company

Employee Champions

In 2017, 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:

- **Power Generation Driver Awareness team** for increasing awareness of driver-safety issues and improving overall driving performance and reducing motor vehicle accidents via driver-safety events throughout PG&E's service area.
- **Diablo Canyon Power Plant team** for their commitment to safety, including performing five refueling outages and over a year of daily maintenance with zero recordable injuries, an outstanding safety record.
- **Gas Transmission and Distribution Construction** for safely executing the transmission and distribution construction work in accordance with PG&E procedures.

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:

- **Brian Maglaya**, who witnessed a motorcyclist skid into a guardrail and tumble down an embankment. Maglaya pulled over and spotted the motorcyclist face down in a rapidly flowing creek. He slid down the embankment, removed the man from the creek, and provided comfort until first responders arrived.
- **Bill Dutra, Marco Fierro, Justin Purdy and Matthew Reddell** were working on routine repairs as a storm approached the area. As the strength of the storm increased later that afternoon, they noticed a bus had become trapped between a set of about 10 downed power poles. The team jumped into action to ensure the 40 children and bus driver were safely off the bus.
- **Rusty Vance** pulled up shortly after a motor vehicle accident occurred and jumped into the back of the car to stabilize the neck of a severely injured and unresponsive teenager and provide rescue breaths until first responders arrived.
- **Clinton Grich, Jr. and Michael Musgrove** encountered a man suffering from a heart attack at a rest stop and performed CPR until emergency personnel arrived.

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:

- **Electric Program Investment Charge (EPIC) team** for developing SolSource, a Solar Data Solution framework that provides PG&E with an accurate picture of past and future solar irradiance, behind-the-meter solar generation and other derivative impacts.
- **General Construction team** for developing pre-fabrication and field erection of regulator stations. The team embarked on an initiative to reduce the cost and time it takes to install a distribution regulator station in PG&E's service area.
- **EPIC Wire Down Detection team** for developing a new algorithm that can be used to discover energized wires down. This innovation allows PG&E to proactively detect energized wire-down situations and respond by quickly and safely deenergizing that portion of the feeder.

Richard A. Clarke Environmental Leadership Award

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

- **Shasta Crayfish** team for developing a Safe Harbor Agreement, working for over a decade with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife to protect the endangered Shasta crayfish near PG&E's hydro facilities.
- **San Rafael Environmental Remediation** team for completing remediation of the former San Rafael manufactured gas plant site that operated from 1875 to 1930. The team demonstrated environmental stewardship, community care and teamwork in completing the project.
- **Solar Suitcase Program** team for training more than 2,000 local high school students across PG&E's service area to build solar technology, implement local environmental sustainability projects and make a lasting global impact by delivering clean energy kits around the world.

Presidents' Diversity Champion Award

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

- **Dionne Adams**, president of the Black Employee Resource Group (ERG), worked with members of her group, the Veterans ERG and PrideNetwork to form healing circles to remember the victims of gun violence in Baton Rouge, Louisiana, and Orlando, Florida. Some 200 employees took part in Sacramento, San Francisco, Concord and San Ramon.
- **Vincent Davis**, senior director of Energy Efficiency, who incorporated diversity through employee participation, into Energy Efficiency 2.0, a new way for PG&E employees to work with each other while supporting customers' energy efficiency needs.
- **Jeremy Laurin**, senior environmental scientist and president of PG&E's PrideNetwork ERG, whose goal is to champion employees so they feel comfortable bringing their full selves to work. Since getting involved in the group in 2012, membership has increased to more than 1,000 members.

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

This award distinguishes Pacific Gas and Electric Company employees who demonstrate an outstanding commitment to the communities where they live and work, and was awarded to:

- **Shaun Chaudhuri**, who demonstrated his commitment to the fight for gender equality through his academic studies and countless volunteered hours in gender activism.
- **Christina Yagjian**, for her dedication and commitment in co-founding AccesoSolar along with a former employee with ties to Latin America. The organization's mission is to empower low-income communities through the development of sustainable energy systems.
- **Matt Meadows**, a hydrographer in Fresno County, for his countless hours volunteering with organizations dedicated to trees so that future generations can benefit from their beauty.

Speak Up Award

This award honors employees who had the courage to speak up about an issue or concern, resulting in a positive impact on PG&E, customers or culture.

- **Karen Marie Denton**, who alerted the company to safety precautions with trash compactors
- **Thom Dang**, who helped promote diversity and inclusion at Diablo Canyon Power Plant
- **Ed Fertuna II**, who saved customers money through corrected billing credits
- **Kevin Bellflower**, who helped ensure safe shipping clearances around transmission lines
- **Sheila Gianelli**, who helped PG&E act with integrity with a third-party vendor



Key Sustainability Indicators

42 miles

Miles of gas transmission pipeline replaced

0.958 outages

Average number of electric outages per customer, fewer than one per customer

Business

PG&E continues to make the foundational investments needed to modernize our gas and electric infrastructure and provide the safe, reliable, affordable and clean energy our customers depend upon. These investments also allow us to enhance our operations to meet the changing demands of our customers, including integrating the private solar, battery storage and other advanced solutions required to deliver on our vision of a sustainable energy future.

Highlights

Invested \$5.6 billion to enhance our infrastructure and improve safety and reliability.

Delivered some of the nation's cleanest electricity to customers, with 33 percent coming from renewable sources.

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

Completed substantial work to strengthen our natural gas system, pioneered groundbreaking gas leak detection technology, and opened two new facilities that directly support gas safety and innovation.

Marked the first year of full operations for three electric distribution control facilities, which act as the nerve centers of the electric grid.

Proposed a clean energy alternative in Oakland designed to replace a third party-owned fossil-fuel power plant with local clean-energy resources, including energy storage, energy efficiency and electric-system upgrades.

Maintained one of the nation's largest investor-owned hydroelectric systems—working collaboratively to manage these resources in times of varying water availability.

Continued to invest in energy storage technology toward our requirement of 580 MW by 2020, deploying our first lithium-ion energy storage facility.



PG&E Overview

Pacific Gas and Electric Company, a subsidiary of PG&E Corporation, is one of the largest combined natural gas and electric energy companies in the United States. Based in San Francisco, Pacific Gas and Electric Company delivers some of the nation's cleanest energy to nearly 16 million people in Northern and Central California. PG&E Corporation had more than \$68 billion in assets as of December 31, 2017, and generated revenues of \$17.1 billion in 2017.

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

Based in San Francisco, PG&E delivers some of the nation's cleanest energy to nearly 16 million people in Northern and Central California.



Customer Accounts (as of December 31, 2017)

5.4 million electric distribution accounts

- 4.8 million residential
- 0.6 million commercial, industrial and other

4.5 million natural gas distribution accounts

- 4.3 million residential
- 0.2 million commercial and industrial

Employees (as of December 31, 2017)

Approximately 23,000 regular employees

Approximately 15,000 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/IFPTE), Local 20, AFL-CIO and CLC
- Service Employees International Union (SEIU), Local 24/7

System

- 7,687 MW of PG&E-owned hydroelectric, nuclear, natural gas, solar and fuel cell generation
- Approximately 107,200 circuit miles of electric distribution lines (about 20 percent underground and 80 percent overhead) and approximately 19,200 circuit miles of electric transmission lines
- Approximately 42,800 miles of gas distribution pipelines, 6,400 miles of backbone and local gas transmission pipelines and three gas storage facilities

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	3,892
Solar Photovoltaic Facilities	152
Total	7,687

1. As of December 31, 2017

2. Natural gas power plant

3. Nuclear power plant

General Utility Production Statistics

	2015	2016	2017
Total Electricity Generated (GWh net)¹	30,719	33,525	34,861
<i>Fossil Fuel-Fired Plants (GWh net)</i>	<i>7,307</i>	<i>5,718</i>	<i>5,712</i>
Colusa Generating Station (GWh net)	3,572	2,909	2,496
Gateway Generating Station (GWh net)	3,315	2,436	2,779
Humboldt Bay Generating Station (GWh net)	406	368	432
Fuel Cell Facilities (GWh net)	14	5	6
<i>Other Plants (GWh net)</i>			
Diablo Canyon Power Plant (GWh net)	18,525	18,931	17,951
Hydroelectric Facilities (GWh net)	4,568	8,554	10,900
Solar Photovoltaic Facilities (GWh net)	319	322	298
Electricity Purchased (GWh)	48,559	41,691	29,814
Retail Electricity Sales (GWh)²	72,113	68,441	61,397

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

	2015	2016	2017
Total Natural Gas Throughput (million cubic feet or MMcf)¹	904,522	822,655	800,923

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

System Investments

Approximately \$5.6 billion in capital investments in 2017 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

	2015	2016	2017
Franchise Fees	\$156,127,382	\$157,305,763	\$165,488,047
Property Tax Payments	\$385,860,200	\$411,210,604	\$461,832,527

Financial Performance

The financial information below is derived from PG&E Corporation's Consolidated Financial Statements at December 31, 2016 and December 31, 2017, 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)

	2016	2017
Operating Revenues	\$17,666	\$17,135
Income Available for Common Shareholders		
Earnings from operations ²	1,884	1,889
Items impacting comparability ^{3, 4}	(491)	(243)
Reported Consolidated Income Available for Common Shareholders	1,393	1,646
Income Per Common Share, Diluted		
Earnings from operations ²	3.76	3.68
Items impacting comparability ^{3, 4}	(0.98)	(0.47)
Reported Consolidated Net Earnings Per Common Share, Diluted	2.78	3.21
Dividends Declared Per Common Share⁵	1.93	1.55
Total Assets at December 31	\$68,598	\$68,012
Number of Common Shares Outstanding at December 31	506,891,874	514,755,845

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.

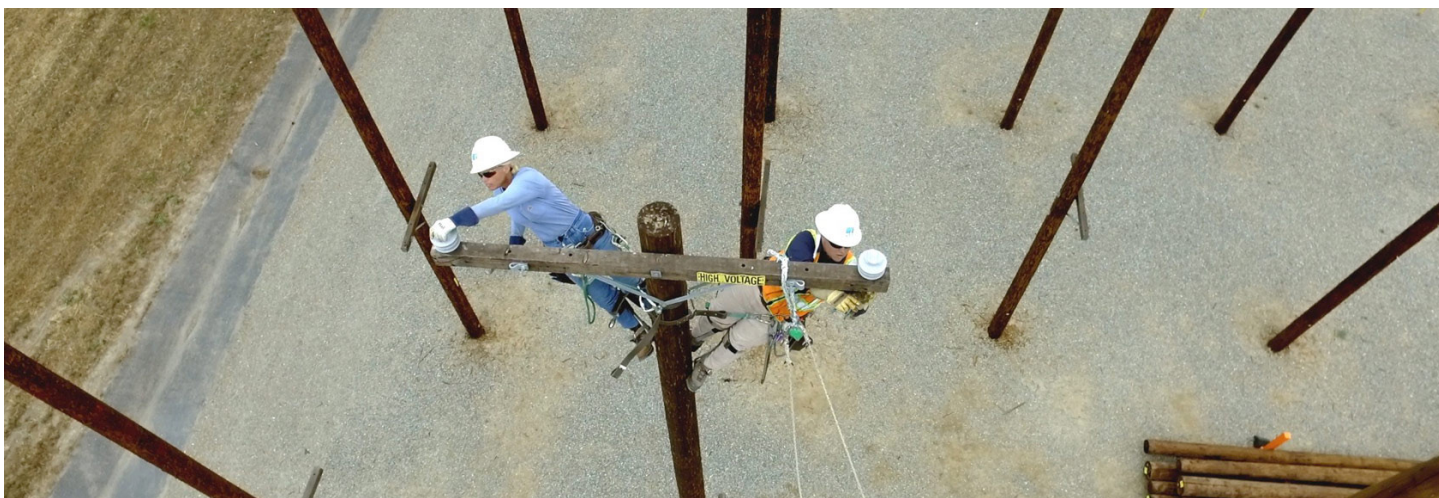
2. "Earnings from operations" is a non-GAAP financial measure and is calculated as consolidated income available for common shareholders less "Items impacting comparability" as described in Note (3) below. PG&E Corporation uses earnings from operations to understand and compare operating results across 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. For information about Items impacting comparability in 2017 and 2016, see PG&E Corporation's and the Utility's annual reports on Form 10-K for the years ended December 31, 2017 and December 31, 2016, respectively.

5. The quarterly cash dividend on PG&E Corporation's common stock was suspended beginning with the fourth quarter of 2017.

For more information, see PG&E Corporation's and Pacific Gas and Electric Company's 2017 Joint Annual Report to Shareholders or Annual Report on Form 10-K for year ended December 31, 2017, which have been filed with the U.S. Securities and Exchange Commission.



Ethics and Compliance

With our Mission, Vision and Culture as the foundation, our Code of Conduct helps to ensure that all employees understand the expectations and requirements for which we are accountable and how we go about meeting them. In that spirit, PG&E promotes a culture in which employees are encouraged to speak up and empowered to meet these standards at all times.

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 companies' 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,
- Identifying areas of compliance and ethics risk and developing action plans to prevent, detect and correct risks and issues, and
- Supporting the federal monitorship and probation arising out of Pacific Gas and Electric Company's San Bruno criminal conviction.

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 and determine the best way to address them, and then allocate resources to successfully manage our work. In 2017, we continued mapping regulatory compliance areas to operational risks in order to enable a more integrated approach to risk management.

In 2016, we developed and implemented a standardized framework called a Maturity Model, which includes eight elements derived from the U.S. Federal Sentencing Guidelines that define the parameters of an effective compliance and ethics program. To assess and monitor each line of business's compliance and ethics program, we completed an initial baseline assessment of each line-of-business program in 2016 and established targets for 2017 and 2018.

All lines of business must achieve an agreed-upon program maturity for each element by the end of 2018. Program maturity requires completion of more than 70 milestones, including implementing effective practices in areas such as risk assessments, program governance and compliance controls.

Management-level governance bodies help drive and coordinate our compliance and ethics activities:

- **Compliance and Ethics Committees:** Comprised of 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 PG&E requirements.
- **Compliance and Ethics Leadership Team:** This cross-functional team of non-officer compliance and ethics 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.
- **Risk and Compliance Committee in each Line of Business:** Comprised by the line-of-business officer and senior leaders, this committee provides leadership, strategic guidance and oversight of the line of business's compliance and ethics program and works to promote compliance with all laws and regulatory requirements as well as maintain focus on operational risk management and ethics.

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 an 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 five times throughout the year, including one meeting that is open to all employees.

In 2017, the CECO created a new function to lead and manage PG&E's full and timely compliance with requirements and requests under the terms of the federal monitorship and probation, including its community service obligations.

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, including 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">■ Oversee and monitor compliance with legal and regulatory requirements, in concert with other Board committees
Safety and Nuclear Oversight Committees 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. 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 2018 Joint Proxy Statement.

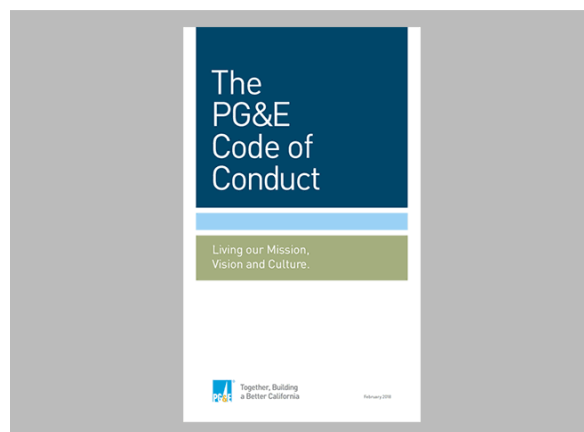
Lines of Business

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

2017 Milestones

In 2017, PG&E focused on enhancing our management of risk and compliance requirements, compliance with the federal monitorship and the terms of PG&E's probation and promoting a "speak-up, listen-up and follow-up" culture, which aims to create a work environment where everyone feels safe to speak up about safety, employee conduct and new ideas—and where everyone is confident that those concerns will be heard and taken seriously. Highlights included the following:

- **Advanced PG&E's annual risk and compliance session to enable a more integrated approach to risk management.** The session provided a platform for the lines of business to better understand PG&E's most important risks and compliance requirements.
- **Created a new corporate compliance function to support the federal monitorship and probation, including community service requirements, arising out of Pacific Gas and Electric Company's San Bruno criminal conviction.** PG&E held over 80 meetings and informational sessions with the monitor team as they began implementing their work plan focused on safety culture, compliance and ethics, and gas transmission integrity management requirements.



Revised Employee Code of Conduct

We updated our Employee Code of Conduct to include best practices; align with PG&E's new Mission, Vision and Culture; and reinforce a connection to safety. As part of this work, we benchmarked against 29 other companies' codes, consulted with third-party experts, hosted 12 focus groups with 110 employees, conducted employee surveys and formed a Code committee with 40 subject matter experts.

- **Promoted a speak-up culture.** Used employee survey data, other employee feedback and recommendations from external experts to identify high-impact improvement opportunities and develop a systematic approach to long-term culture change. This includes:
 - Establishing the Speak Up Award, which honors employees who had the courage to speak up about an issue or concern, resulting in a positive impact on PG&E, customers or culture. Five employees received recognition.
 - Holding PG&E's third annual Compliance and Ethics Week with a focus on speaking up. Among other things, more than 1,100 employees attended the annual all-employee Compliance and Ethics Council event that was held during this week.

Measuring Progress

In 2017, PG&E's annual compliance and ethics training, which we aim for all employees to complete annually, focused on speaking up. Specifically, the training reinforced the LEADR (Listen, Engage, Affirm, Decide, Respond) model, included information and tips for employees on how to raise concerns, and increased focus on PG&E's non-retaliation policy. Video vignettes were based on real-world issues that supervisors and their teams might face.

In addition to the annual compliance and ethics training, all 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. Beginning in 2017, all employees were required to complete the Code training annually.

We also implemented a training module for supervisors that teaches leaders skills related to how to receive and escalate concerns and allegations.

Compliance And Conduct Training¹

	2015	2016	2017
Compliance and Ethics Training	99.9%	99.4%	99.9%
Code of Conduct Training	99.8%	99.8%	99.9%

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

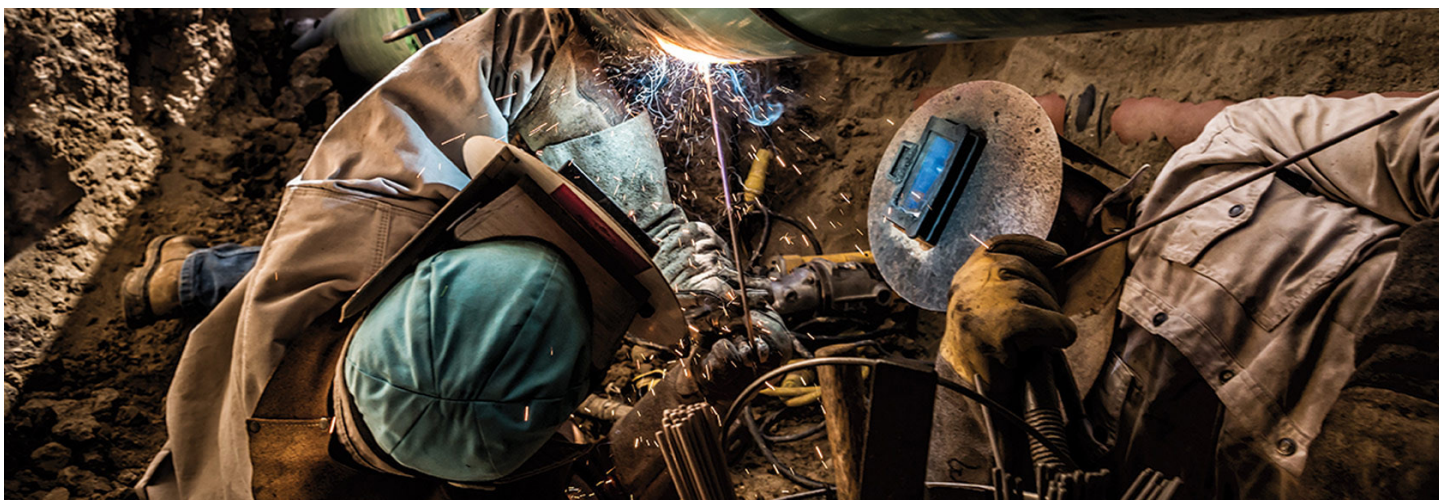
The volume of calls to our Compliance and Ethics Helpline in 2017 was roughly 2.7 calls per 100 employees, falling within the normal range of 0.3 to 10.0 calls per 100 employees, according to a benchmark report prepared by NAVEX Global. The total call volume increased 13 percent over 2016, with a slight decrease in calls requesting guidance.

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:

- Increasing compliance and ethics program maturity in each line of business,
- Promoting the behaviors needed to further "speak up, listen up and follow up" through annually updated training, communications campaigns, and setting expectations,
- Launching PG&E's revised Code of Conduct for PG&E suppliers,
- Integrating ethics and culture into the enterprise-wide strategic planning process,
- Expanding our shared compliance requirement framework and approach,
- Continuing to enhance our existing compliance metrics and controls and
- Improving enterprise-wide monitoring and analytics by further implementing PG&E's new enterprise compliance management software.

In addition, PG&E in 2018 launched our updated Employee Code of Conduct and revised the Code of Conduct for our Boards of Directors.



Risk Management

Nothing is more important to PG&E than the safety of our customers, employees and the public. In keeping with that focus, PG&E's long-term objective for managing risk is to conduct data-driven 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.

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) of 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 PG&E line of business develops and maintains a risk register—an inventory 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 Risk and Compliance Committee ensures that activities related to enterprise and operational risk and compliance management within their respective organizations are adequate and effective, and that resources are available as needed. Activities may include, but 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 or if the mitigation was re-scoped,
- Approving risk analyses and mitigation strategies that consider alternative solutions,
- 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 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 Board 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
Safety and Nuclear Oversight Committees ¹	<ul style="list-style-type: none">■ Advise and assist 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■ Oversee other enterprise risks, as assigned by the Audit Committees
Compensation Committee ¹	<ul style="list-style-type: none">■ Oversees potential risks arising from compensation policies and practices

1. 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 2018 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

2017 Milestones

We continued to review and refine our approach to risk management through expanded use of quantification and operational risk modeling.

In 2017, Pacific Gas and Electric Company filed its first Risk Assessment Mitigation Phase (RAMP) report, providing the California Public Utilities Commission (CPUC) with initial quantitative, probabilistic views of the Utility's top safety risks. The report identifies the costs associated with controlling these risks, describes future mitigation plans—including anticipated risk reduction—and includes a specific discussion on our safety culture and information on our asset replacement plans.

Looking Ahead

PG&E is committed to building on the progress made through the RAMP process by further expanding the use of operational risk models in decision-making to incorporate lessons learned, as well as additional regulatory comments and insights, with the goal of minimizing risk and maximizing the safety of the customers and communities PG&E serves.

PG&E will continue to employ risk-based decision-making in our integrated planning process and regulatory approach as we seek to achieve a best-in-class risk management program.

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 key objectives for the next five years. As a next step, senior management meets for a session 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 PG&E'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 2017 included:

- Partnered with the American Red Cross on a mission to transform disaster readiness in our communities. The Home Fire Preparedness Campaign aims to motivate people to take three simple steps: check or install smoke alarms, make a family escape plan and regularly practice the escape plan at home. The program's activities include door-to-door installation of smoke alarms and completion of a home-safety checklist and engagement of youth in classrooms and after school.
- Hosted representatives from the CPUC, the American Red Cross, the California Independent System Operator, the California Governor's Office of Emergency Services, the U.S. Department of Homeland Security, the U.S. Coast Guard and others at PG&E.
- Urged customers to stay safe during storms and other emergencies by taking a number of precautions, including creating an emergency preparedness kit and other steps.
- Implemented earthquake early warning technology, becoming one of the first energy companies in California and the United States to include this early warning technology as a part of its seismic response efforts.
- 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 becoming the safest, most reliable gas operator in the country. To accomplish this, we continue to test and upgrade our pipeline system and pioneer ground-breaking gas leak detection technology. In 2017, we opened two new facilities that directly support gas safety and innovation. 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. To verify our progress toward enhancing safety and reliability, we seek third-party certification.

Pacific Gas and Electric Company has achieved the following:

- Recertified for Publicly Available Specification (PAS) 55-1 and International Organization for Standardization (ISO) 55001 for best-in-class asset management in 2017.
- Became the first gas provider to meet the chemical industry's RC14001® management system standard in 2016.
- Became the first company in the United States to meet the rigor of a new industry standard for pipeline safety and safety culture: the American Petroleum Institute Recommended Practice (API RP) 1173 in 2015.



PG&E Gas Operations Compliance with API 117

PG&E was the first company in the United States to meet the rigor of an industry standard for pipeline safety and safety culture: the American Petroleum Institute Recommended Practice (API RP) 1173. Published in July 2015, API RP 1173 was developed to provide a best-in-class framework for organizations that operate hazardous liquids and gas pipelines in response to major industry incidents. API RP 1173 outlines specific best practices for safe and effective pipeline operations underpinned by a healthy safety culture.

In November 2015, Gas Operations successfully passed a comprehensive assessment by Lloyd's Register, a third-party auditor, and was awarded a certificate of compliance for API RP 1173. Since then, annual surveillance audits have been conducted by Lloyd's Register. In November 2018, Lloyd's Register will conduct another comprehensive assessment to recertify Gas Operations' compliance with API RP 1173.

PG&E strives for continuous improvement and validation from third-party experts demonstrates that we are making progress towards our company's safety goals.

2017 Milestones

Gas Transmission System

PG&E continues to invest in the safety and reliability of our gas transmission pipeline system. Since 2011, PG&E has achieved the following results through 2017:

- Validated safe operating pressure by strength-testing nearly 1,100 miles of gas pipeline.
- Replaced more than 200 miles of gas transmission pipeline.
- Automated more than 290 valves, enabling remote-control shutoff of gas in an emergency.
- Retrofitted more than 850 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, leak-detecting cars, boats and even all-terrain-vehicles to help identify leaks and make repairs when needed.

We use the Picarro Surveyor™ as a detection vehicle, 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 2017 include:

- Reducing the backlog of minor non-hazardous workable leaks by 99 percent—from about 12,200 in 2010 to 65 in 2017.
- Responding to gas odor reports in an average of just over 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 has incorporated numerous public safety measures into our operational goals and plans. Examples of our accomplishments include:

- **Installed 291 automatic and remote shutoff valves during the 2011-2017 timeframe.** Among the critical safety investments we've made to harden our gas infrastructure, automatic and remote shutoff valves on our transmission pipelines quickly turn off gas in case of emergencies or natural disasters like earthquakes or wildfires.
- **Made significant progress to enhance the safe operation of our gas infrastructure.** Starting in 2011, we have validated safe operating pressure by strength-testing nearly 1,100 miles of gas pipeline, replaced more than 200 miles of gas transmission pipeline and retrofitted more than 850 miles of gas transmission lines to accommodate in-line inspection tools.
- **Opened a state-of-the-art training facility.** PG&E opened a 30-acre Gas Safety Academy featuring the latest training technologies, including heavy equipment simulators, virtual learning resources, a model neighborhood for emergency response and leak detection, and educational programs on industry-leading safety protocols. The facility, in Winters (Yolo County), will also have a significant positive economic impact on the community and region through hotel, sales and property tax revenue.
- **Opened the Center for Gas Safety and Innovation.** PG&E opened the facility, which includes workspace and a lab that's home to three groups within PG&E's Gas Operations. At the site in Dublin (Alameda County), the teams will use some of the industry's most advanced tools, testing capabilities and lab resources to ensure the safe operation of its gas system.

Measuring Progress

PG&E has met 11 of the 12 safety recommendations from the National Transportation Safety Board (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	2017
Gas Odor Response Times		
Average response time in minutes	33.3	20.4
Percent response within 60 minutes	94.4%	99.6%
SCADA¹ Visibility and Control Points		
Transmission pressures and flows	1,300	2,841
Distribution pressures and flows	295	2,785
Leak Backlog		
Open Grade 2 and 2+ leak indications ²	12,203	65
Dig-In Reduction		
Excavation damage per 1,000 excavation tickets	3.5	1.89
	2010	2011–2017
Gas Transmission		
Miles of pipeline replaced	9	>200
Miles of pipeline hydrotested	0	>1,090
Miles of pipeline made piggable	130	>850
Automated valves installed	0	291
Percent of system with GPS centerline data ³	0%	100%
Gas Distribution		
Miles of main replaced ⁴	27	>585

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.

Looking Ahead

PG&E continues to make progress toward becoming the safest and most reliable gas provider in the country. PG&E’s 2018 Gas Safety Plan provides a high-level programmatic view of both the work we accomplished in 2017 and our plan moving forward. The plan also includes a new section describing how PG&E is applying best practices to address greenhouse gas emissions, including our plan with respect to 26 best practices related to natural gas leak abatement.



Electric Operations

Electricity powers modern life for our customers across Northern and Central California—from those who live and work in cities such as San Jose and Fresno to those who call places like Acampo, Hyampom and Mendota home. For PG&E, keeping the lights on for all of our customers is core to our mission of providing safe and reliable energy and is the reason we continue to enhance and strengthen our infrastructure, including making substantial investments to modernize the energy grid and improve our operations.

Our Approach

At PG&E, we recognize that the energy grid must adapt to meet the changing demands of our customers—with more customers adding private solar installations and choosing to adopt electric vehicles, as well as the emergence of battery storage systems. PG&E is continuing its work 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.

A smarter grid—or integrated grid platform—is designed to incorporate new energy technologies as they are introduced, to give our customers maximum flexibility, choice and value. This grid also gives PG&E greater visibility into our operations to improve reliability, which enables faster and often automated restoration of outages and effectively integrates renewable energy with conventional sources.



PG&E aerial patrols help spot wildfires and speed response

All summer long, PG&E flies aerial patrols over a wide swath of our service area to spot small fires before they have a chance to spread. From Redding in the North Valley to Solvang on the Central Coast, these flights and fire spotters relay details about signs of smoke to Cal Fire and other appropriate agencies.

Modernizing the grid is part of our multiyear strategic plan. It adopts best practices, builds on the progress we've made and identifies ways to improve in key areas, including public, customer and contractor safety, as well as 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 the electric system and restore power.

We also work with local and state agencies to help reduce the risk of wildfires. We've invested heavily in new technologies and increased inspections to mitigate the risk of downed electric wires, we've stepped up planning and training efforts, we have donated millions of dollars to combat wildfire risk, and we've participated in dozens of projects to teach wildfire prevention in local communities. We also work with first responders to help make sure they can safely react to gas and electric incidents.

2017 Milestones

Every year, PG&E aims to improve reliability and our ability to more quickly restore power after outages by upgrading infrastructure and installing a wide range of advanced communications and control technologies throughout the energy grid. Highlights from 2017 included:

- **Invested in our system.** In the last five years, PG&E has invested \$14.3 billion to enhance and harden its electric transmission and distribution system assets. In 2017, this included major projects as well as smaller local ones—ranging from relocating electric facilities to support Caltrain electrification in San Francisco and the Peninsula, to installing new equipment such as transformers and switches in downtown Chico. PG&E also replaced 53 miles of older overhead wire with new, stronger wires in 2017, bringing the total number of miles upgraded since 2012 to 341.
- **Completed a full year of Distribution Control Center operations.** Since 2014, PG&E has opened three state-of-the-art electric distribution control centers—in Fresno, Concord and Rocklin—that manage more than 107,000 miles of electric distribution power lines. In 2017, PG&E marked the first year of full operations for all three facilities, which 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 helping to incorporate clean, renewable energy into the grid.
- **Conducted demonstration projects through the Electric Program Investment Charge (EPIC) program.** These included a Distributed Energy Resource Management System project, a smart inverter project and a behind-the-meter storage project. In collaboration with Tesla, Green Charge Networks and GE Grid Solutions, PG&E is demonstrating how these technologies can enhance the stability and power quality of the grid and optimize power-flow management, especially as more customers adopt solar and storage.



PG&E leveraged its electric Distribution Control Centers and Grid Control Center to help ensure PG&E's readiness for the total solar eclipse that took place in August 2017.

- **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 27 percent of PG&E’s electrical distribution circuits and have helped avoid more than 271 million customer outage minutes and prevented more than 2.7 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

The average time a PG&E customer was without power (SAIDI) was 113.4 minutes, which represents a 37 percent improvement from 10 years ago. The average number of power interruptions per customer (SAIFI) was 0.958, or fewer than one per customer, the second-best year for this category in PG&E history.

Our 10-year electric reliability progress since 2008 is detailed in the table below.

Electric Reliability Progress

	2008	2017
Average duration of outages per customer in minutes (SAIDI)	181.5	113.4
Average number of outages per customer (SAIFI)	1.299	0.958

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	2017
Customers experiencing five or more sustained outages (CEMI-5)	1.87%	1.71%	1.35%	2.10%	1.81%
Electric Emergency Response (percentage within 60 minutes)	92.2%	94.1%	97.1%	98.3%	96.6%



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

- System Average Interruption Duration Index (SAIDI) is the amount of time the average customer experiences a sustained outage (being without power for more than five minutes) in a given year.
- System Average Interruption Frequency Index (SAIFI) is the number of times the average customer experiences a sustained outage in a given year.

Looking Ahead

Our overarching focus continues to be the safety of our communities, customers and employees; optimizing technology to achieve greater reliability and resilience; working to ensure that our electric service remains affordable; and supporting a flexible resource portfolio to deliver even more clean energy.

In 2018, we plan to:

- Implement the Community Wildfire Safety Program, which includes a number of subsequent and remedial measures to further reduce risk following last year's devastating wildfires, including opening a new 24/7 Wildfire Safety Operations Center to monitor potential fire threats in real time, enhancing our vegetation management program, and installing an expanded network of weather stations across our system.
- Continue energy grid reliability and resilience projects, replace a certain number of miles of overhead power lines and perform infrared inspections on 13,000 circuit miles of power lines,
- Launch a new portfolio of demonstration projects that will further sustainable practices through clean energy integration, enhanced resilience and grid modernization, customer enablement and other innovative technology areas under the third cycle of our EPIC program, upon CPUC approval,
- Leverage increased use of mobile technology to further improve how our field forces serve our customers' needs,
- Enhance our corporate emergency response plan and longer-term operations and planning through the prism of resilience and the impacts of climate change,
- Implement automated crew logistics to provide frontline managers with readily accessible operational information to effectively and efficiently manage outages,
- Improve our asset replacement strategy and planning using sophisticated analytical models to reduce risk of asset failure,
- 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 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 2017, PG&E continued work on multiple projects as part of the EPIC program, which enables PG&E, other California investor-owned energy companies and the California Energy Commission to develop smart grid technology demonstration and deployment projects.

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

EPIC projects include:

- Demonstrating a pre-commercial distributed energy resource management system to coordinate the control of various types of DERs, particularly third-party-aggregated photovoltaic solar generation and battery energy storage resources, to further California's goals to adopt higher amounts of DERs on the grid and to possibly integrate customer-sited distributed generation into grid operations to improve grid resilience and reliability.
- Demonstrating the ability of energy company-owned and controlled energy storage resources to deliver autonomous distribution peak shaving functionality, to ultimately lower peak demand power costs for customers.
- Demonstrating how an energy provider could integrate a broader range of customer-side technologies and DER approaches into the planning process. The new and more granular load shape profiles and enhanced load forecasting tools and overall analytical processes allow PG&E to more accurately and consistently integrate DER impact into the distribution system load profile and be more effective in assessing the impact of DER growth on the timing and need for future distribution and transmission system upgrades, which in turn will help lower costs for electric customers.

Final reports for PG&E's completed EPIC projects can be found at pge.com/epic.



Clean Energy

PG&E continues to deliver clean energy to our customers, and we stand ready to do our part to meet California's evolving clean energy policies and standards. We are committed to reducing greenhouse gas emissions, providing safe and reliable energy, and growing California's economy, all while keeping service affordable for customers.

Our Approach

Approved in 2003, California's Energy Action 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, which PG&E supported, increased California's Renewables Portfolio Standard (RPS) to 50 percent by 2030 and doubled state energy efficiency goals. In September 2018, SB 100 was signed into law and increases and accelerates the RPS targets and requires state energy agencies to include a 100 percent clean energy target in their planning goals. These targets guide our programs, tools and investments in our energy network.

Reflecting California's changing energy landscape, Pacific Gas and Electric Company 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. In January 2018, the California Public Utilities Commission (CPUC) approved several key elements of the joint proposal agreement, including approval to cease plant operations once the Nuclear Regulatory Commission operating licenses for PG&E's Diablo Canyon Power Plant expire and deferred consideration of replacement resources to the CPUC's Integrated Resource Planning proceeding.



PG&E proposes clean energy alternative in Oakland

PG&E's Oakland Clean Energy Initiative will provide a green and innovative option that uses local clean-energy resources, including energy storage, energy efficiency and electric-system upgrades, to ensure transmission grid reliability in Oakland in the event that a local third-party-owned power plant is retired.

As a major milestone, Pacific Gas and Electric Company won approval from the California Independent System Operator (CAISO) to provide this clean alternative. In collaboration with East Bay Community Energy, Pacific Gas and Electric Company has issued a Request for Offers seeking innovative clean energy project proposals.

PG&E continues to invest in energy storage technology as well. Building on the success of our Vaca-Dixon and Yerba Buena battery storage systems, PG&E deployed its third energy storage facility in Yuba County in 2017. Co-located with PG&E's Browns Valley substation roughly 50 miles north of Sacramento, the new 500 kW/2,000 kWh battery storage system is PG&E's first lithium-ion energy storage facility and features Tesla Powerpack technology.

Additionally, PG&E strengthened its commitment to a clean energy future by proposing six new energy storage projects totaling 165 MW to the CPUC in late 2017. This is in addition to the 16.5 MW PG&E already owns or has under contract. California requires investor-owned utilities to procure 1,325 MW of storage by 2020, and PG&E's share is 580 MW. In addition, PG&E has proposed programs and investments for another 167 MW of distribution-connected energy storage.



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

PG&E Corporation was named the greenest energy company in the nation and ranked as the No. 4 greenest company overall in the 2017 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's commitment to a sustainable energy future includes our gas operations. As part of that commitment, we avoided the release of more than 269,000 metric tons of CO₂-e emissions in our gas operations via upgrades to gas pipelines and other infrastructure and implementing both drafting and cross-compression, where we transfer natural gas from one pipeline to another during pipeline construction and repair projects rather than releasing it into the atmosphere.

Measuring Progress

By the end of 2017, 33 percent of the electricity that we delivered to customers came from Renewables Portfolio Standard-eligible resources. The chart below shows our overall electricity supply mix for 2017, 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 2017 Electric Power Mix Delivered to Retail Customers

Eligible Renewable (see accompanying breakdown)	33%
Natural Gas	20%
Nuclear	27%
Large Hydroelectric	18%
Coal ¹	0%
Other ²	0%
Unspecified Power ³	2%

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

2. Includes diesel oil and petroleum coke (a waste byproduct of oil refining).

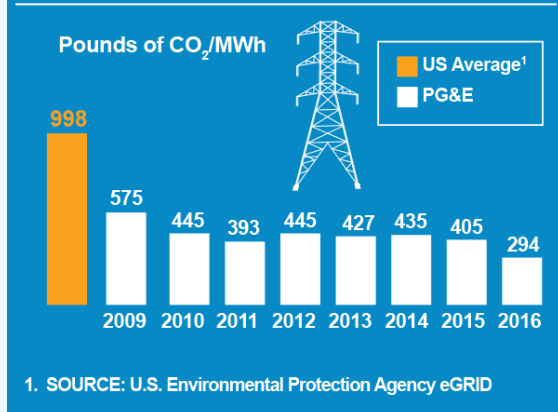
3. Refers to electricity from transactions that are not traceable to specific generation sources.

Breakdown: Composition of PG&E's 2017 Total Eligible Renewable Resources¹

Solar	13%
Wind	8%
Geothermal	5%
Biomass and Waste	4%
Eligible Hydroelectric	3%

1. As defined in Senate Bill 1078, which created California's Renewables Portfolio Standard, and Senate Bill 1038, which modified the definition of "in-state renewable electricity generation technology," an eligible renewable resource includes geothermal facilities, hydroelectric facilities with a capacity rating of 30 MW or less, biomass and biogas, selected municipal solid waste facilities, photovoltaic, solar thermal, and wind facilities, ocean thermal, tidal current, and wave energy generation technologies. These figures are preliminary and will not be finalized until verified by the California Energy Commission.

Benchmarking CO₂ Emissions for Delivered Electricity



PG&E delivers some of the nation's cleanest electricity to customers, with 33 percent coming from renewable sources. PG&E's carbon dioxide emissions rate is approximately two-thirds cleaner than the latest national average among energy providers.

Looking Ahead

PG&E has long been committed to clean energy and energy efficiency, dating back to energy conservation programs in the 1970s and our first clean energy power purchase contracts in the early 2000s. In 2017, PG&E reached California's 2020 renewable energy goal three years ahead of schedule and we are well positioned to meet the state's new 60 percent by 2030 renewable energy mandate set forth in SB 100.



Photo: Tyler Medel

Renewable Energy

PG&E delivers some of the nation's cleanest energy. Today, 33 percent of our delivered electricity comes from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy. PG&E reached California's 2020 renewable energy goal three years ahead of schedule, and we are well positioned to meet the state's new 60 percent by 2030 renewable energy mandate set forth in Senate Bill (SB) 100.

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. We collaborate with regulators, environmental organizations and other stakeholders to ensure that we continue to manage our portfolio responsibly and in a way that is affordable for customers.

California's Renewable Energy Targets

In 2015, PG&E supported (SB) 350, which increased the state's Renewables Portfolio Standard (RPS) to 50 percent by 2030. SB 100, which became law in September 2018, accelerates the 50 percent RPS target to December 31, 2026, increases the RPS target to 60 percent by December 31, 2030, and further amends the RPS statute to set a policy of meeting 100 percent of retail sales from eligible renewables and zero-carbon resources by December 31, 2045. We have made significant progress, with 33 percent of the energy delivered to customers coming from eligible renewable sources in 2017.

2017 Milestones

In 2017, five large California projects under contract to Pacific Gas and Electric Company were completed:

- **Sunray Solar:** a 20-MW solar photovoltaic project built by Renewables Holdco in San Bernardino County
- **Westside Solar:** a 20-MW solar photovoltaic project built by NextEra Energy Resources in Fresno County
- **Bayshore Solar A, B and C:** three separate 20-MW solar photovoltaic projects built by FTP Power in Los Angeles County

In addition to these projects, PG&E added 12 small projects under 20 MW in size. In total, through these 17 projects, PG&E added 162 MW of renewable energy, including 11 solar photovoltaic projects (156 MW total) and six small hydropower projects (6 MW). These projects also yield a positive economic effect on the surrounding communities.

Measuring Progress

We continued our progress toward meeting California's renewable energy mandate. In fact, PG&E reached California's 2020 renewable energy goal three years ahead of schedule. By the end of 2017, 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, Pacific Gas and Electric Company has contracted for more than 12,800 MW of RPS-eligible energy since the start of California's RPS program in 2002. PG&E's RPS-eligible portfolio includes more than 6,900 MW of active contracts as of January 2018; approximately 6,500 MW of these are currently delivering energy, with about 330 MW under development as of January 2018.

Renewables Portfolio Standard—Active Contracts as of January 2018¹

Type	Number	MW	% By Count	% By Capacity
Bioenergy	27	341	11%	5%
Geothermal	3	271	1%	4%
Small Hydroelectric	83	259	32%	4%
Solar Photovoltaic (PV)	114	3,398	45%	49%
Solar Thermal	4	741	1%	11%
Wind	25	1,912	10%	28%
Total	256	6,922	100%	100%²

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 utility-owned generation, terminated contracts and expired contracts.

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

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 hydroelectric facilities.

In addition, PG&E has connected to the grid more than 370,000 customers with private rooftop solar—representing about one-fifth of the nation's private rooftop solar and more than 3,570 MW of clean energy.

Looking Ahead

PG&E believes California's forward-looking RPS program is an important step toward achieving the state's bold climate change and clean energy goals. We stand ready to provide clean energy 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 markets across the United States.

Moving forward, PG&E remains focused on achieving the state's 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 rooftop 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 the nation's largest investor-owned hydroelectric system. We strive to manage these water resources in a responsible way: supplying our hydroelectric power generation facilities—an abundant source of clean energy—while managing water supplies for fisheries and downstream users.

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 or 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, environmental organizations, Native American tribes, fishing and recreation interests, and agricultural landholders, to assess the impacts of the projects. Together, we strive to 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.



PG&E supports state's commitment to dam safety

PG&E fully supports California's commitment to bolster dam safety and remains focused on meeting all state and federal requirements concerning dam safety and integrity. In addition to annual Federal Energy Regulatory Commission, California Division of Safety of Dams and PG&E inspections and regular patrols, PG&E also holds emergency planning exercises with local, state and federal agencies for those dams with emergency action plans. Each county Office of Emergency Services develops and maintains plans on how to alert the public and implement evacuations in case of a threat.

Investing in Safety and Reliability

Many of PG&E's powerhouses and nearly 170 dams 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.

2017 Milestones

While heavy rains in early 2017 helped replenish our reservoirs, 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. An example of our efforts includes:

- **PG&E donates swamp parcel in Shasta County.** PG&E donated a 4,491-acre tract of land in the McArthur Swamp under an agreement with conservation groups designed to ensure the parcel will be preserved in perpetuity. PG&E has maintained the parcel for decades, providing both a seasonal wetland habitat and land for cattle grazing in dry seasons. To complete the donation to the Fall River Resource Conservation District, PG&E worked with the Pacific Forest and Watershed Lands Stewardship Council, the organization established to oversee completion of PG&E's land conservation commitment. PG&E retained ownership of an additional 3,168 acres at McArthur Swamp for hydropower generation, which will also be protected through a conservation easement held by Ducks Unlimited. This includes a nearly 500-acre parcel that PG&E restored to a seasonal wetland in 2012.

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.

While we fell just short of our target for the reliability of our hydropower units in 2017, our facilities are consistently available more than 98 percent of the time when they are planned to operate. We have set a target of 98.8 percent for 2018.

Hydropower Reliability¹

	2015	2016	2017
Target	99.1%	98.9%	98.9%
Actual	99.4%	98.9%	98.0%

1. Measures the percentage of time facilities are available when they are planned to operate.

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 four years, we have exceeded our goal for the total area protected by fencing and gating, as measured in linear feet.



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.

Area Protected By Fencing And Gating (Linear Feet)

	2015	2016	2017
Target	16,000	16,000	16,000
Actual	23,755	44,399	37,120

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—2017

Miles of stream monitored for environmental condition ¹	349
Acres of bird nesting territories monitored ²	8,125
Acres monitored and/or treated for noxious weed control	1,179
Acres monitored for use by special-status species ³	1,125

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

PG&E will continue collaborating with policymakers, regulators, private industry and other stakeholders to manage the availability of water for hydroelectric power while minimizing wildfire danger and impacts to the environment and the communities we serve.



PG&E Seeks Offers to Purchase DeSabra-Centerville Hydroelectric Facility

Reflecting California's changing energy landscape and the rising operating costs of hydroelectricity, PG&E is beginning to change its hydroelectric facility portfolio. Pacific Gas and Electric Company submitted to the Federal Energy Regulatory Commission (FERC) a withdrawal of its application for a new license to continue operation of DeSabra-Centerville. Since the facility is no longer an economic source of electric generation for PG&E's customers, PG&E has begun soliciting proposals from parties interested in acquiring the facility.

In addition, PG&E has announced it plans to auction its 9.2MW Potter Valley Project. It will continue relicensing Potter Valley throughout the auction process. PG&E also advised FERC, and the public, that it plans to sell its 6.4MW Tule River Project and its 11.5MW Kern Canyon project.



Conventional Sources

PG&E's highly efficient natural gas-fired power plants provide a safe and reliable source of energy and contribute to PG&E's diverse portfolio of generation resources, providing the operational flexibility required to add additional 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 are essential in PG&E's efforts to successfully integrate more renewable resources into the energy grid. When wind or solar production varies during the day, these facilities can ramp up quickly to generate the energy that customers need.

2017 Milestones

In 2017, 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 , SO_2 and CO_2 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.



Colusa Generating Station



Gateway Generating Station



Humboldt Bay Generating Station

Measuring Progress

In 2017, 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 Factor¹

	2015	2016	2017
Gateway Generating Station ²	94.7%	81.6%	93.8%
Colusa Generating Station	92.7%	94.6%	93.8%
Humboldt Bay Generating Station	93.0%	92.4%	92.3%

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

As more renewable sources of energy come online, conventional power generation will continue to play an essential role in providing reliable energy to our customers. PG&E remains focused on maintaining, upgrading and safely operating these facilities, while further increasing their ability to reliably and 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) latest annual assessment of the facility places Diablo Canyon among the highest-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 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 PG&E's 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 safely 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.

2017 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 2017, Unit 1 at Diablo Canyon underwent a safe and successful refueling and maintenance outage.

PG&E also continued with the decommissioning of 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 efforts continue.



Visitors can learn about the Diablo Canyon 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.

Measuring Progress

Diablo Canyon continues demonstrating high operational performance as gauged by its plant capacity factor, a measure of generation reliability. During 2017, Diablo Canyon achieved a capacity factor of 91 percent, which was lower than in previous years due to large capital projects that extended a planned refueling outage.

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.

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

Bridging to California’s energy future

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 Power Plant (DCPP) past 2025.

Reflecting this change, PG&E partnered with labor and leading environmental organizations in 2016 on a joint proposal that would increase investment in energy efficiency and renewables while retiring DCPP at the end of its current NRC operating licenses, which expire in 2024 and 2025.

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

Key elements of the joint proposal

The parties jointly proposed that DCPP be replaced with a cost-effective, greenhouse gas-free portfolio of energy efficiency, renewables and other clean energy resources.

Recognizing that the procurement, construction and implementation of this greenhouse gas-free portfolio would take time, the joint parties agreed to support PG&E in obtaining the state approvals needed to operate DCPP to the expiration of its current NRC operating licenses.

This avoided an early shutdown of DCPP and associated negative economic and social impacts, including replacing the plant’s output required to meet customer demand with non-greenhouse gas-free resources.

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

PG&E does not believe long-term customer rates will increase as a result of the joint proposal.

Support for employees and the community

The joint proposal proposed support for a successful transition for DCPP employees and the greater San Luis Obispo County community.

Nuclear Power Plant Performance	
Average Capacity Factor ¹	
2015	94%
2016	96%
2017	91%

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.

The \$85 million community impact mitigation program would support the community with its transition and provide funding to support essential public services that the plant and the local community rely upon.

The DCPD employee program would provide incentives to retain employees during the remaining operating years of the plant, and a retraining and development program to facilitate redeployment of a portion of plant personnel to the decommissioning project or other positions within the company.

Current status

The CPUC authorized several elements of the joint proposal in January 2018, including approval to cease plant operations once the NRC operating licenses expire, and funding for employee retraining and redeployment. The CPUC also expressed its intention to avoid any increase in greenhouse gas emissions resulting from the closure of DCPD.

Full funding of the employee retention program was not approved as part of the CPUC's decision. It also expressed that legislative authorization would be needed to approve the community impact mitigation program.

Senate Bill (SB) 1090 was introduced in the California State Legislature to meet these key remaining goals of the joint proposal. It was approved by the State Senate and State Assembly in 2018 with bipartisan support, and was signed into law by Governor Brown in September 2018.



Corporate Governance

PG&E's corporate governance practices support and fortify our sustainability performance by providing the foundation for our commitment to operate and communicate 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

An underlying factor for strong corporate governance is the independence of the Boards and their fiduciary responsibilities to the companies and their respective shareholders. The companies' respective 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 Chair of the Board or independent lead director (if the Chair is not independent) is elected by the Board.
- Only independent directors are allowed to serve on PG&E Corporation's standing key Board committees. Further, members of each company's Audit Committee and PG&E Corporation's Compensation Committee also must 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 our policy considers diversity, among other factors, as part of the Boards' assessment of the skills and characteristics required of Board members. The Boards believe in developing a balanced and multidisciplinary Board, and 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 12 PG&E Corporation directors, 50 percent are diverse (three are female, one is African-American, two are Asian or Asian-American, and two are Hispanic). Of the 13 Pacific Gas and Electric Company directors, 46 percent are diverse (three are female, one is 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 Pacific Gas and Electric Company Board and the full Boards address other components of PG&E's sustainability commitment, such as public and employee safety, operational excellence and investments to increase our delivery of affordable clean energy to our customers, and enabling a low-carbon future.

The PG&E Corporation and Pacific Gas and Electric Company 2018 Joint Proxy Statement includes information on director qualifications and the oversight role of the Boards with respect to corporate responsibility and sustainability, compliance and ethics, risk management, political contributions and management succession, among other items.

In connection with the 2017 settlement of shareholder derivative suits relating to the San Bruno accident, PG&E Corporation and Pacific Gas and Electric Company committed to making several enhancements ("therapeutics") to its corporate governance and gas safety practices.

The corporate governance "therapeutics" include establishment and enhancement of Board committees responsible for safety oversight; regular public disclosure of API 1173 certification status; enhanced commitment to shareholder involvement through regular dialogue regarding corporate governance; updating the employee and supplier Codes of Conduct to incorporate various enhancements and updates, including updates to more fully promote and ensure safety culture and reporting; stating the respective responsibilities of the Chief Safety Officer (CSO) and the Chief Ethics and Compliance Officer (CECO), and the Boards and their committees, regarding instillation of safety culture, including responsibilities for communication and reporting; providing for regular attendance and reporting by the CSO and the CECO at Board and Board committee meetings, and providing those officers with access to senior management and employees; clarification regarding the incorporation of safety, compliance, and ethics into officer compensation; enhancement of a speak-up culture for employees and Board members; and enhancement of safety training for employees and Board members. To date, PG&E has implemented all of these corporate governance practices, with the exception of revisions to the Supplier Code of Conduct, which are in progress.

2017 Milestones

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

- Separated the Chair and CEO positions at PG&E Corporation.
 - Effective March 1, 2017, Geisha J. Williams became CEO and President of PG&E Corporation, and Anthony F. Earley, Jr. became Executive Chair of the Board.
 - Effective December 16, 2017, Richard C. Kelly became independent non-executive Chair of the Board, following Mr. Earley's retirement on December 15, 2017.
- Refreshed the composition of three of the standing Board committees by adding new committee members. The three committees were the PG&E Corporation Compensation Committee, the PG&E Corporation Compliance and Public Policy Committee, and the PG&E Corporation and Pacific Gas and Electric Company Safety and Nuclear Oversight Committees.
- Amended PG&E Corporation's Corporate Governance Guidelines to strengthen the Board's commitment to open communications with shareholders by providing opportunities for the Corporation's largest shareholders to have regular dialogue with the Corporation, including with the independent chair or lead director and senior management.
- Established the Safety and Nuclear Oversight Committees of both the PG&E Corporation and Pacific Gas and Electric Company Boards, replacing the Corporation's former Nuclear, Operations, and Safety Committee. This change clarifies the Boards' oversight responsibilities related to enterprise-wide safety matters.
- Explicitly added safety experience to the list of experience, skills and characteristics that the Boards consider, among other factors, in assessing potential candidates for the Boards.

- Amended each Board's director retirement policy to change the retirement age to 75, with a target average tenure for all directors of 10 years or less. The Boards believe in balancing regular board refreshment with established board experience.
- Amended the companies' clawback policy to add additional events under which recoupment applies, such as fraud or intentional misconduct, to reflect prevailing market practices.

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 2014 to 2018 is provided below.

Annual Meeting Vote Summary: PG&E Corporation

Proxy Item	Percent In Favor ¹				
	2014	2015	2016	2017	2018
Election of directors (average) ²	97.6	98.2	97.6	99.5	99.2
Ratification of independent auditors ²	99.2	98.5	97.9	97.9	97.1
Advisory vote on executive compensation ²	89.6	94.3	80.1	95.8	94.9
Approval of long-term incentive plan ^{2, 3}	89.6	—	—	—	—
Independent board chairman 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	1.0
Amendment of proxy access bylaw provisions ⁴	—	—	—	—	26.6

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

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				
	2014	2015	2016	2017	2018
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	99.8	99.9	99.8	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, unless otherwise specified.

2. Management proposal.

Corporate Governance Rankings

PG&E Corporation'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 QualityScore Summary¹

	Score ²
Overall Governance QualityScore	1
Board Structure	2
Shareholder Rights	1
Compensation	3
Audit	1

1. As of May 22, 2018.

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.

ISS Environmental and Social (E&S) QualityScore Summary¹

	Environment Score
Overall Environment Score	1

	Social Score
Overall Social Score	2

1. As of May 16, 2018. A score of 1 indicates higher disclosure; a score of 10 indicates lower disclosure.

Looking Ahead

The Boards will continue to review PG&E's corporate governance and disclosure 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, including engagement with elected officials and policy makers, 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 Clean Power Plan Initiative, 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 and other labor organizations on national energy policy, and with 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, Energy Supply and Policy of 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 and Pacific Gas and Electric Company Boards of Directors establish 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 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.

Highlights

Selected public policy issues at the state level include:

- **Clean energy and climate change.** The 2017 legislative year was defined by the extension of California's Cap and Trade program authorization until 2030 under Assembly Bill (AB) 398. PG&E strongly supported the extension and worked with the Governor's Office, the Legislature and all stakeholders to renew the authorization in a manner that continues California's leadership on climate change, protects PG&E customers from unnecessary costs and maintains the integrity of SB 32's aggressive greenhouse gas reduction targets.

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 Western United States. PG&E reached California's 2020 renewable energy goal three years ahead of schedule and we are well positioned to meet the state's new 60 percent by 2030 renewable energy mandate set forth in SB 100.

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; energy company operation and maintenance activity on federal lands; pursuing electric reliability reforms; nuclear spent fuel policy; and energy efficiency and natural gas pipeline permitting improvements.

For example, PG&E supported H.R. 1873, which provides a more transparent and efficient process to address hazardous trees and other vegetative overgrowth within or adjacent to electricity infrastructure on certain federal lands. Such policy was signed into law in March 2018.

- **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 law includes important provisions to improve the federal pipeline safety program and is an important step in further enhancing public safety. We continue to engage as this policy is implemented by the federal government.
- **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.

- **Tax Reform.** On December 20, 2017, Congress passed and the President signed the Tax Cuts and Jobs Act, completing the most comprehensive overhaul of the U.S. tax code in more than 30 years. PG&E engaged at the federal level throughout the process to educate officials and key policymakers about PG&E’s priorities. PG&E submitted a request to the CPUC to pass along approximately \$450 million in annual tax savings to its customers as a result of the tax reform.
 - **Infrastructure resilience.** 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 a smarter grid and advancing smart tax policies that stimulate continued critical investments for PG&E and the U.S. economy.
- For example, PG&E supported amendments to the SAFETY Act meant to increase cybersecurity protections within the supply chain by providing liability limits in the event of a physical or cyber “act of terrorism.” In 2017, the White House issued a Cybersecurity Executive Order on strengthening the cybersecurity of federal networks and critical infrastructure. One aspect of their new strategy includes leveraging government resources to better secure critical infrastructure. We will continue to monitor the Administration’s progress and provide input.
- **Community Support.** PG&E supported disaster relief funding for the California wildfires that was ultimately signed into law in February 2018. We continue to monitor the disaster relief funding distribution and look for other opportunities to engage with federal policymakers on these issues.



CENTER FOR
POLITICAL ACCOUNTABILITY

PG&E recognized for transparency

As a result of PG&E’s practices and its transparency of political activity reporting, PG&E Corporation was recognized in the 2017 Center for Political Accountability Zicklin Index of Corporate Political Disclosure and Accountability. PG&E Corporation tied with six other companies to receive the second-highest ranking among the S&P 500.

Measuring Progress

In 2017, PG&E Corporation-affiliated employee PACs (EnergyPAC and State and Local PAC) made contributions of \$638,500 at the federal level and \$39,400 at the state and local level. PG&E Corporation contributed \$2,127,319 to state and local political candidates, ballot measures, political parties and other committees. Our annual political contributions are publicly reported on PG&E Corporation's website.

Political Contributions, 2017

PG&E Employees Federal PAC Contributions	
U.S. House	\$371,999
U.S. Senate	\$127,501
Other Federal PACs and Committees	\$139,000
Total	\$638,500
PG&E Employees State and Local PAC Contributions	
Total	\$39,400
Corporate Campaign Contributions	
Total California Corporate Contributions to Candidates	\$515,960
Total Corporate Contributions to Other Committees	\$1,611,360
Total	\$2,127,319

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, 2017¹

Portion of Dues That Were Nondeductible	
Total	\$560,127

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.



Key Sustainability Indicators

20.4 minutes

Average response time to gas odor reports

96.6%

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

Safety is the common thread that runs through everything we do at PG&E. It is a core value embedded in our culture—and it drives the investments we make in our infrastructure, sets the standard for how we perform our duties in the office and in the field, and informs our strategies for the future.

Following the devastating wildfires in 2017, PG&E has implemented additional measures to further reduce wildfire risk, including opening a new 24/7 Wildfire Safety Operations Center to monitor potential fire threats in real time, enhancing our vegetation management program, and installing an expanded network of weather stations across our system. These efforts will be a major focus of next year's report.

Highlights

Continued to build a safety culture in which every member of our workforce is not only encouraged to speak up, but has confidence that their concerns will be heard and followed up on.

Developed an Occupational Health and Safety Plan, an action-oriented strategy that reflects our health and safety initiatives over the next five years.

Delivered industry-leading response times for both electric and gas emergencies.

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

Conducted more than 3,600 interactive electric and gas safety demonstrations for students, youth groups, contractors, emergency personnel and customers.

Hosted more than 400 training workshops to better prepare firefighters, police, public works officials and other authorities to respond to emergencies involving electricity and natural gas.

Implemented earthquake early warning technology, becoming one of the first energy companies in California and the United States to include this early warning technology as a part of our seismic response efforts.

Rolled out a Corrective Action Program to all lines of business, providing employees a way to report and track the follow-up on potential safety and other concerns.



Safety Culture

At PG&E, nothing is more important than safety. We strive to empower employees and contractors to speak up if they see a potential safety or compliance risk at any point during a task or job. Encouraging our employees to be an active part of managing all forms of risk helps us enhance our operations, which ensures the safety of the public and our employee and contractor workforce.

While we've made significant, measurable progress, we recognize that our work on safety is never done. Our commitment is to continually instill and embed a culture of transparency and integrity, where safety is never compromised.

Occupational Health and Safety Plan

PG&E is committed to strengthening our safety culture and improving safety performance consistent with our new Mission, Vision and Culture framework.

Our Occupational Health and Safety Plan is focused on employee safety and health, contractor safety and motor vehicle safety, within an integrated safety management system. This plan is a comprehensive blueprint for improving occupational safety and health over the next five years. The plan is an action-oriented strategy that features eight primary components, reflecting all of our safety and health initiatives:

- Serious injuries and fatalities prevention
- Safety leadership development
- Sprains and strains
- Health and wellness
- Injury management
- Motor vehicle safety
- Contractor safety
- Safety Management System

Safety Governance and Leadership

The PG&E Corporation and Pacific Gas and Electric Company Boards of Directors are responsible for oversight of safety. Specifically, the Safety and Nuclear Oversight (SNO) Committees of the PG&E Corporation and Pacific Gas and Electric Company Boards are responsible for overseeing and reviewing policies, practices, goals, issues, risks and compliance relating to safety, including public and employee safety. This responsibility includes, among other things, overseeing goals, programs, policies and practices with respect to promoting a strong safety culture, and monitoring the impact of changes in laws and regulations affecting safety. The SNO Committees also monitor and review the adequacy and direction of the corporate safety function.

In addition, the Compensation Committee of the PG&E Corporation Board of Directors, with advice from the SNO Committees, selects appropriate safety metrics for inclusion in PG&E's executive compensation program and plans, and may adjust individual award amounts to reflect, among other things, safety performance. The Compliance and Public Policy Committee of the PG&E Corporation Board of Directors reviews compliance with safety requirements as part of its general oversight of compliance. The Finance Committee of the PG&E Corporation Board of Directors, as part of its responsibility for reviewing proposed major capital projects, reviews capital projects and programs with safety implications, such as projects and programs to enhance public and employee safety.

Within management, all officers, including the PG&E Corporation CEO and President and the Pacific Gas and Electric Company President and Chief Operating Officer (COO), are responsible for safety and the instillation of safety culture. More specifically, Pacific Gas and Electric Company's Vice President, Safety and Health and Chief Safety Officer (CSO) is responsible for the occupational health and safety of employees and contractors, and leads workplace safety efforts for our business. The CSO reports directly to the Pacific Gas and Electric Company President and COO, and also provides regular reports to the SNO Committees, which in turn serve as a direct channel of communication between the CSO and the full Boards. The CSO also may be asked to provide reports to the full Boards regarding safety matters.

The Safety and Health organization partners with the lines of business to develop and monitor the enterprise-wide safety program at PG&E Corporation and Pacific Gas and Electric Company, by helping guide safety process improvements; developing and deploying new initiatives, training, technology, incident investigation protocols, compliance programs and metrics; and conducting industry benchmarking to identify best safety practices.

The following management-level committees and teams are working to ingrain a new level of safety into our business:

- **Enterprise Safety Committee:** Guides our safety strategy and assures continuous improvement in safety performance. The Committee meets regularly to review performance and address gaps and barriers to improvement. In addition to the PG&E Corporation CEO and President, members include Pacific Gas and Electric Company's President and COO, 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 Enterprise Safety Committee and provides a forum for learning across lines of business, continuous improvement associated with the approved strategies and overall enterprise safety execution.
- **Line of Business Safety Councils:** Responsible for executing plans to reduce and eliminate exposure to potential 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 strong and proactive safety culture.

At PG&E, the primary responsibility for day-to-day oversight of public, employee and contractor safety lies within each line of business. This approach is strategic, practical and founded upon the best practice of the industry, recognizing that the hazards within each line of business may be different. We also believe that the people closest to the work know the most about the inherent risk associated with performing it. Encouraging our employees to speak up helps us to better understand and address those risks.



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 is part of PG&E's broader "Speak up, Listen Up, Follow Up" culture, and 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.

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, safety culture and the role they play in reinforcing a strong safety culture.
- **Safety leadership development for operational leaders:** Superintendents through crew leaders attend a series of workshops that teach practical safety leadership skills related to high-hazard field operations.
- **Further integration within our hiring process:** PG&E uses pre-hire tests for roles ranging from operating clerks to line workers 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 Summits:** At the beginning of the calendar year, teams across our service area hold meetings to share a series of consistent key safety themes and the Occupational Health and Safety Plan. 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's efforts to keep the public safe range from comprehensive programs to train our workforce to investments in our gas and electric infrastructure to rigorous record-keeping systems. We also collaborate with federal, state and local emergency responders to improve coordination in the event of an emergency and promote emergency preparedness in the communities we serve.

Our Approach

Embedding Safety in Our Operations

We take a multifaceted approach to protect the safety of the public through our operations:

- **Gas Operations:** PG&E works every day to build a robust and resilient gas system. Reflecting this commitment, we opened the Center for Gas Safety and Innovation, where we will develop new methods and technologies that combine to enhance the safety of our gas system. We also opened the Gas Safety Academy, which will serve as the primary training center for employees learning to operate and maintain every aspect of PG&E's natural gas infrastructure.
- **Electric Operations:** PG&E continues to enhance and strengthen its infrastructure, including making substantial investments to modernize the energy grid and improve our operations, maintain and replace older equipment and incorporate new technologies that improve our ability to deliver power safely and reliably.
- **Energy Supply:** PG&E remains strongly committed to the highest levels of safety, performance and security at the Diablo Canyon Power Plant, as reflected by the Nuclear Regulatory Commission's most recent affirmation that Diablo Canyon operated safely. We also continue to inspect and maintain our hydroelectric system according to strict safety guidelines and to enhance public safety outreach in communities around our facilities.



Earthquake Early Warning Technology Demonstrations

PG&E is conducting **Earthquake Early Warning** pilot projects to test how the technology can potentially protect lives, lessen property damage and ensure rapid service restoration throughout its service area. Here are some features of the projects.



When a major earthquake strikes in PG&E's service area...



Ground sensor stations at select Bay Area facilities provide **audio alerts** to employees.



Elevators recall to the nearest floor so passengers can safely disembark.



Desktop alerts on PG&E's intranet warn employees to drop, cover and hold on.

PG&E among first energy companies to implement earthquake early warning technology

As California acts to implement an effective and sustainable statewide earthquake early warning system, PG&E is taking steps to integrate the technology into its emergency management and preparedness efforts.

PG&E is working with both private and publicly funded technology developers and integrators, including Early Warning Labs, Seismic Warning Systems, and the ShakeAlert project, which is a coalition that includes the U.S. Geological Survey, the State of California and a number of universities. These research collaborations allow PG&E to actively pilot multiple earthquake early warning systems to test which ones will allow both automated and human actions in the seconds before an earthquake to protect lives, lessen property damage and ensure rapid service restoration.

Emergency Preparedness and Response

To prepare for major weather events and natural disasters—earthquakes, wildfires, floods, heavy winds and blizzards—PG&E relies upon 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 get back to normal,
- 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.



Edison Electric Institute recognizes PG&E for its storm restoration efforts

In recognition of PG&E's restoration efforts in response to a series of early year winter storms, the Edison Electric Institute awarded PG&E with the 2017 Emergency Recovery Award. Despite significant hazard conditions from snow, rain, wind and mudslides, thousands of team members safely worked around the clock and successfully restored more than 2.3 million customers—the vast majority within 24 hours. The total of 18 major event days was record-setting, and the storms had the highest recorded impact to customers in the past nine years.

Pictured from left to right: Tom Dalzell, Business Manager, IBEW Local 1245; Geisha Williams, CEO and President, PG&E Corporation; and Tom Kuhn, President, Edison Electric Institute.

2017 Milestones

Storm and Earthquake 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 2017 include:

- **Urging customers** to stay safe during storms and other emergencies by taking a number of precautions, including creating an emergency preparedness kit and other steps.
- **Implementing earthquake early warning technology**, becoming one of the first energy companies in California and the United States to include this early warning technology as a part of its seismic response.
- **Hosting the 12th annual California Day of Preparedness event**, sponsored by the California Governor's Office of Emergency Services, where attendees learned practical steps for emergency preparedness and experienced a variety of disaster readiness demonstrations.
- **Using advanced meteorology technology** to predict outage activity in advance of a storm and assess the required resources for restoration.

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

Highlights from last year included:

- **Hosted more than 400 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 380 local fire entities to address contingency planning for gas-related events.
- **Hosted representatives from** the California Public Utilities Commission, the American Red Cross, the California Independent System Operator, the California Governor's Office of Emergency Services, the U.S. Department of Homeland Security, the U.S. Coast Guard and others as PG&E held a two-day exercise to test our emergency readiness in the event of a large earthquake.



PG&E Receives EEI Emergency Assistance Award for Hurricane Irma Response

The Edison Electric Institute (EEI) presented PG&E with the association's Emergency Assistance Award for its work helping restore power in Florida in the aftermath of Hurricane Irma. PG&E sent a team of about 125 employees—IBEW Local 1245 line workers, equipment operators, supervisors and support personnel—to Florida ahead of the hurricane. About 30 customer service representatives in our Sacramento Call Center answered service calls for FPL to help the company effectively manage extraordinarily high call volumes. This was the first time PG&E partnered with another energy company to provide call center support during a natural disaster.

Community Outreach and Partnerships

We regularly work with community partners to better prepare for emergencies. Examples of activities conducted by PG&E and The PG&E Corporation Foundation include:

- **Awarded \$2 million in wildfire prevention grants to local Fire Safe Councils.** The grants marked the fourth consecutive year PG&E partnered with local California Fire Safe Councils to fund shovel-ready projects, with funds going to 43 local Fire Safe Council and other 501(c)(3) projects in 21 counties. Projects include fuel reduction, shaded fuel breaks, emergency access and chipping programs.
- **Contributed \$1 million of shareholder funds to launch the California Resilience Challenge,** a new corporate-giving initiative organized by the Bay Area Council and dedicated to helping communities prepare for, withstand and recover from extreme events caused by climate change.

- **Expanded the Better Together Resilient Communities grant program**, by naming two additional grant winners in 2017—doubling our investment from \$1 million to \$2 million, or four \$100,000 grants every year for five years. The shareholder-funded initiative supports local planning efforts to build resilience to extreme events and other risks related to climate change, such as sea level rise, flooding, land subsidence, heat waves, drought and wildfires.

Public Safety Awareness

Educating the public about working safely around our systems and facilities, and on how to stay safe during emergencies, remains a key element of our public safety strategy. Last year, PG&E:

- **Held exercises with** local, state and federal agencies for dams with emergency action plans and urged customers and contractors to call 811 before digging.
- **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.
- **Increased awareness of potential scams.** Through regular and timely social media posts, monthly meetings with ethnic media and larger efforts during times such as Consumer Awareness Week, PG&E worked to warn customers regarding signs of potential scam activity, ranging from threats to disconnect service, requests for personal information or imposters posing as energy company representatives. PG&E also acted as a founding member of Utilities United Against Scams, a consortium of more than 100 U.S. and Canadian energy companies dedicated to educating consumers on the danger of potential online or in-person scams.
- **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.



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 3,600 demonstrations in communities throughout our service area.

In 2017, PG&E also introduced our 811 Digital Sandbox, an interactive display utilized throughout the service area to further demonstrate our commitment to ensuring safe digging around our facilities.

Cyber and Physical Security

Pacific Gas and Electric Company operates infrastructure that has been deemed critical to our national and economic security. As such, 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 security strategies and best practices.

In 2016, the Security Organization at PG&E was created, combining the cyber and physical security teams into one organization under Pacific Gas and Electric Company's Vice President and Chief Security Officer. The integration of both security functions shows PG&E's commitment to address evolving threats and management of emerging complex risks, as illustrated by recent security threats to Fortune 500 companies.

PG&E's priority is to protect our customers, employees, information and assets. We seek to continually improve our services through strategic deployment of our resources, standardizing security practices and policies, and reinforcing and promoting security awareness across the enterprise.

As PG&E's technological footprint expands, the need to protect our personnel, assets and information from attacks becomes even more essential. To provide the security team with the tools they need to manage threats to our critical infrastructure, we have made investments in key areas to modernize the security infrastructure and building service capability.

The team of security and operations experts continuously identifies and evaluates internal and external security risks across the enterprise. Once risks are identified and prioritized, we develop mitigation plans to protect the enterprise and reduce risk. PG&E has around-the-clock centralized security monitoring operations for threat detection, situational awareness and incident management to proactively defend PG&E from both cyber and physical threats.

Measuring Progress

PG&E tracks our public safety performance via a set of public safety metrics with the aim of continuous improvement.

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

PG&E remains steadfast in our commitment to public safety. We demonstrate this commitment by leveraging emerging technologies, pursuing strategies that improve the efficiency of 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 increase emergency readiness.



Workplace Safety

At PG&E, safety is at the center of everything we do. Our philosophy is that safety is everyone's priority, and we require that the men and women of PG&E work in a way that protects the public, their fellow employees, our contractors and themselves. In the spirit of continuous improvement, PG&E offers training to increase 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, aligned under our Occupational Health and Safety Plan, with several key aspects:

- **Improving employee safety and health** by addressing possible musculoskeletal disorders, sprains, strains and other causes of cumulative and acute injury. This includes 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 24/7 Nurse Care Line, which provides immediate access to a trained medical professional if employees experience discomfort or pain, or are injured on the job.
- **Enhancing contractor safety programs**, including standardized training, field observations and reviews of safety performance, and a standardized safety plan.
- **Continuing to improve our Motor Vehicle Safety Program** by adopting a phone-free driving standard, continuing to expand vehicle safety technology throughout PG&E vehicles, informing employees of changes to motor vehicle laws and customizing our training based on the type of vehicle being driven and the driving conditions typically encountered.
- **Establishing a Safety Management System**, which when complete will include controls and governance for a comprehensive set of safety and health-related processes for the workplace and will focus on public, employee and contractor safety.
- **Implementing a Corrective Action Program** across all 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.

We also provide appropriate recurrent safety training to employees, officers, and Board members, covering topics that are tailored to their organizational roles. Among other things, PG&E has on a regular basis provided enhanced safety training for the Chief Safety Officer. The training requirements for the Chief Safety Officer have been incorporated into the onboarding plan for the position to ensure that all holders of the position have the necessary background to perform the job. Training enhancements for each organization's Field Safety Specialists have been incorporated into a five-year training cycle to support skills and knowledge maintenance, and to ensure they are up to date on current methods and procedures and have a working knowledge of key regulatory requirements. PG&E is also focused on improving the timeliness of training completion within the Power Generation organization, and we have established a state-of-the art gas operations and safety training center in Winters, California.

PG&E has also developed a curriculum of tailored safety education for members of the PG&E Corporation and Pacific Gas and Electric Company Boards of Directors, appropriate for the Boards' oversight role over safety. Topics include safety culture, safety leadership, methods for open communication and review that support PG&E's efforts to foster and reinforce safety improvements through a learning culture; the Board's role in safety leadership and governance; a review of the PG&E five-year Occupational Health and Safety Plan; and a general overview of safety considerations in high-risk operations. Training is provided both by in-house resources and nationally recognized safety experts from outside PG&E. PG&E also has been streamlining and standardizing its methods for identifying and tracking required training. Completion of required training is tracked for individual employees, and training status is reported to supervisors and to other leaders.

2017 Milestones

Employee Safety

PG&E made substantial progress 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 videos, posters, employee communications, 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 during 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 and, in turn, reduce the potential for serious incidents, when they perform field observations. PG&E also has highly skilled investigators who examine incidents that result in serious injuries or fatalities. Each of these activities aligns with PG&E in establishing a learning culture, focusing on how these potentially serious incidents occur so that we can develop controls that provide workers with the capacity to fail safely.
- **Extended the Corrective Action Program (CAP) to all lines of business.** Following the successful implementation of the CAP program in our Gas Operations organization and at our Diablo Canyon Power Plant, PG&E expanded the program to all organizations, providing employees a way to report and track follow-up on potential safety concerns.

- **Enhanced our Motor Vehicle Safety Program.** We continue to deploy in-cab monitoring equipment, which alerts drivers to at-risk behaviors and improves safety behind the wheel. We also introduced a coaching program and system which allows PG&E to obtain and track insights into the driving behavior of our employees on the road and provides opportunities to address any patterns and trends.
- **Continued technical training for field employees.** We delivered nearly 14,500 days of training on courses specifically focused on safety and compliance. We also opened a Gas Safety Academy to provide state-of-the-art training to employees who are learning to operate and maintain our natural gas infrastructure, and we broke ground at a Substation Training Center that will focus on electric substation operations and maintenance.



State-of-the-art substation training center in Livermore

PG&E began construction of a new 145,000 square-foot facility at our Livermore Training Center that will focus on electric substation operations and maintenance. PG&E maintains more than 750 substations, which are a critical element of the electrical system that connect and switch high-voltage transmission lines with the distribution lines that provide power to homes and businesses. The Livermore Substation Training Center is scheduled to open in 2019.

Contractor Safety

We expect our contract workers to share our commitment to safety excellence. 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, roughly 2,200 individual contractor companies, have been assessed using a thorough pre-qualification safety review process.

We have also implemented procedures for oversight that PG&E performs for contractors performing medium- and high-risk work along with conducting oversight at job sites in the field and post-project evaluations as part of the contractor safety program. Additionally, we have partnered with peer California-based energy companies to form a benchmarking committee that routinely meets to discuss Contractor Safety Program management best practices. Recently, this committee has focused on addressing the challenges posed by vegetation management hazard tree work.

As a result of these efforts and other internal work method best practice discussions, PG&E has developed additional mitigations and controls to address hazards.

Measuring Progress

PG&E uses three key metrics to track our performance on workplace safety: the Lost Workday Case Rate, the Serious Preventable Motor Vehicle Incident Rate and the Timely Reporting of Injuries Rate (defined below). In 2017, we fell short of our Lost Workday Case Rate target, recording an 18 percent increase in the total number of cases and a similar increase in lost workdays overall.

Though our Timely Reporting of Injuries Rate improved in 2017, we fell short of our target. The table below provides complete PG&E employee safety statistics for 2015 through 2017:

Employee Safety Results

	2015	2016	2017
Total Lost Workdays¹	4,438	5,144	6,306
Total Lost Workday Cases²	87	97	114
Total Lost Workday Case Rate³	0.372	0.402	0.487
Total OSHA Recordables⁴	597	653	729
OSHA Recordable Rate⁵	2.550	2.706	3.111
Timely Reporting of Injuries Rate⁶	61.3%	67.3%	69.3%

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). Data published prior to 2017 provided the number of days away, restricted or transferred, leading to a one-time update for 2015 and 2016.

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 OSHA recordable 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 our 24/7 Nurse Care Line within one day of the incident.

The following table provides motor vehicle safety statistics for 2015 through 2017:

Motor Vehicle Safety Statistics

	2015	2016	2017
Total Serious Preventable Motor Vehicle Incidents¹	40	42	42
Serious Preventable Motor Vehicle Incident Rate²	0.266	0.280	0.287

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 via three behaviors: hard braking, hard acceleration and speeding deemed to be excessive. In 2017, hard braking and hard acceleration decreased, while excessive speeding remained consistent.

PG&E also actively tracks a number of leading—or predictive—indicators to help us more deeply embed safety in our operations and to 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
- Percent of anonymous Corrective Action Program submissions, which continues to decrease as our speak-up safety culture empowers employees to report issues

Looking Ahead

As PG&E continues to strengthen its safety programs and culture, we have identified several multiyear efforts that will support our focus areas. Our plans are designed to:

- Provide continued focus and progress in making risk-informed asset investments to enhance public safety,
- Enhance our overall safety governance and systems,
- Enhance programs that have helped reduce serious injuries and fatalities to employees and contractors while reducing less serious injuries and motor vehicle incidents, and
- Continue strengthening our safety culture through expanded safety leadership development initiatives and a continued safety partnership with our unions.

In addition, we will continue to benchmark with other organizations to inform our five-year Occupational Health and Safety Plan, identify best practices and build a new level of safety into our business.



“Reach Every Employee” safety campaign

PG&E is spearheading a “Reach Every Employee” campaign in 2018, where all supervisors and their employees will engage in a meaningful conversation about safety. Doing so will support our ongoing effort to strengthen our culture and better identify safety concerns and control safety hazards.



Customers & Communities

Key Sustainability Indicators

1,487 GWh

Electricity saved through customer energy efficiency, exceeding our target

42.3%

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

We are privileged to serve 16 million Californians across a diverse array of cities, towns and neighborhoods. Our commitment begins with our responsibility to deliver gas and electricity that is safe, reliable, affordable and clean. Every day, we are also working to better understand the energy needs of our customers, support cleaner energy options and increase customer choice. Our commitment also includes working locally to support the vitality of the communities where our employees live and work.

Highlights

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

Helped customers save approximately \$300 million on their energy bills and avoided the emission of more than 800,000 metric tons of CO₂ through our energy efficiency programs.

Broke ground on the first site as part of our three-year EV Charge Network program, which calls for installing up to 7,500 Level 2 charging ports for customers.

Brought the total number of interconnected private solar customers to more than 370,000—about 20 percent of the nation's private rooftop solar.

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.

Continued to offer our Solar Choice and Regional Renewable Choice programs, which 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 rooftop solar panels.

Achieved industry-leading supplier diversity results, spending \$2.58 billion—or 42.25 percent of our total spend—with businesses owned by women, minorities, service-disabled veterans and LGBTQ individuals.



Engaging Customers

At PG&E, we consider it a privilege to serve the diversity of customers and communities that make California the Golden State. We work with customers on a local level, to help them better understand their energy needs and manage their energy costs, and to improve the overall customer experience.

Our Approach

Pacific Gas and Electric Company's Customer Care organization, led by the Chief Customer Officer, is responsible for our efforts to deliver the best experience for each and every customer. This includes using data to improve the customer experience, localizing our presence and strategies in the communities we serve, empowering customers with greater choice and control over how they manage their energy use, and continuously integrating customer feedback to improve our products and services.

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.

Saving Customers Energy and Money

PG&E offers a full portfolio of savings options for customers, with a 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 choice and control through rate options, financial assistance programs and other resources. We've also begun building a network of EV charging stations, as approved by the California Public Utilities Commission (CPUC).



PG&E partners connect underserved communities with electric vehicles

PG&E announced a new pilot program in partnership with Valley Clean Air Now and the International Brotherhood of Electrical Workers (IBEW) Local 684 and 100 to provide free electrical panel upgrades to encourage electric vehicle ownership in low-income, underserved communities.

The PG&E Corporation Foundation provided \$75,000 in shareholder funds to cover the cost of upgrading home service panels—a commonly cited obstacle to electric vehicle adoption. IBEW Local 684 and 100 members will perform the site surveys, planning and panel installation for customers who qualify for the program.

Making It Easy

A growing number of our residential customers prefer to manage their own energy use. To meet their needs, PG&E offers options via mobile phones, the web, email, social media and local offices, giving customers many choices for how to interact with us. We also provide customers with a paperless billing option to increase convenience and reduce clutter.

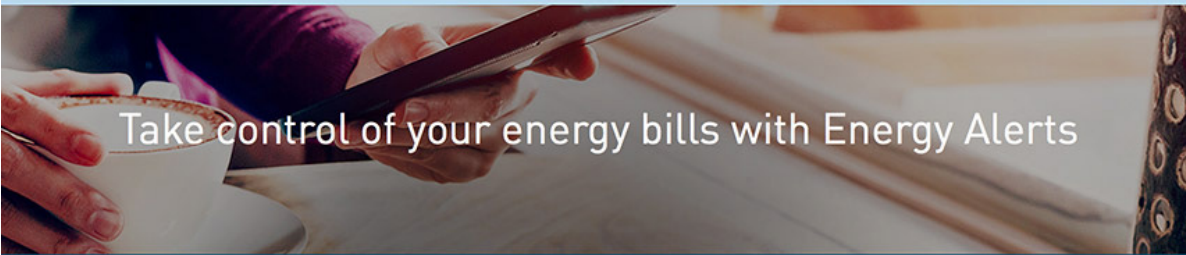
The vast majority of our customers can access hourly data on their energy use and compare their use to that of similar homes in their neighborhood. The redesigned Home Energy Checkup online tool analyzes a customer's energy use on an annual basis—including appliances, heating and cooling—and provides 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, as well as programs such as energy efficiency financing to address upfront cost barriers. We also offer support to businesses considering Time-Varying Pricing so they can choose the option that fits their needs.

Our energy statements provide clear and easy-to-understand information, and we offer numerous options for customers to pay their bills. Through our website, customers can get real-time outage information; start, stop

[YOUR ACCOUNT](#) [CUSTOMER SERVICE](#) [OUTAGES](#) [RATE PLANS](#) [SAVE ENERGY & MONEY](#) [SOLAR & VEHICLES](#) [IN YOUR COMMUNITY](#)

ENERGY ALERTS



Take control of your energy bills with Energy Alerts

Set alerts to avoid the surprise of a high bill.

[SIGN UP NOW](#)

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.

or transfer service; and pay their bill from their mobile devices. They may also choose to receive messages by text, email or phone—and 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.



PG&E's Solar Choice Program Brings Clean Energy to Customers

PG&E's Solar Choice program, allows customers who are unable to install private rooftop solar to buy up to 100 percent solar power. In 2017, the cost to participate in the program dropped by 30 percent for residential customers and by nearly 50 percent for some business customers. This significant cost reduction in PG&E's Solar Choice program is thanks in part to PG&E's continued investment in clean energy infrastructure throughout its service area, including eight new solar sites being built for the program by renewable developers in Northern and Central California.

2017 Milestones

We remained focused on responding to the unique needs of our customers in 2017, with a number of highlights:

- **Improved the customer experience for digital-first customers.** We improved the experience for customers using mobile devices by upgrading pages with a responsive and accessible design and encouraging customers to sign up for paperless billing. In 2017, Pacific Gas and Electric Company's website took top honors in the E Source Review of North American Electric and Gas Company Residential Websites.
- **Expanded customer data platforms.** We maintained a service called Share My Data, which allows the approximately 127,000 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 rooftop 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 2017, PG&E's social media platforms were essential, real-time communication tools during large storms and events, 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.



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 2017, estimated electric savings totaled nearly 121 GWh, enough to power about 10,300 typical homes for a year. Total estimated gas savings came to over four million therms, enough to serve about 2,400 typical homes for a year.

- **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 89 percent participation by eligible customers.

Measuring Progress

We are committed to improving satisfaction for both residential and business customers. In 2017, our customer satisfaction score decreased to 75.6, which fell short both of our target of 76.4 and the prior year's result. For 2018, our target is 75.2. The decline in 2017 was mainly driven by customer perceptions of energy costs and events such as the North Bay wildfires.

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

	2015	2016	2017
Customer Satisfaction Score	75.5	76.1	75.6

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 providers, 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 draw upon sophisticated data and analytics, provide more self-service options for customers to enhance convenience, 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

For four decades, PG&E has partnered with our customers to help reduce their energy use. Through our leading portfolio of programs, we help keep customer energy bills affordable, maintain energy grid stability and meet California's clean energy goals. 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.

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 among 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 interest

PG&E's energy efficiency programs have helped avoid the release of more than 429 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 endeavors 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 reduce financial barriers 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 promote internet-connected appliances.
- **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 the 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 continued to be an active member of a statewide team that has provided technical support for developing more than 120 energy-efficient building codes and 60 appliance standards in the state, as well as more than 120 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.

2017 Milestones

Our customer energy efficiency programs continue to increase affordability and promote economic growth. Highlights from 2017 include:

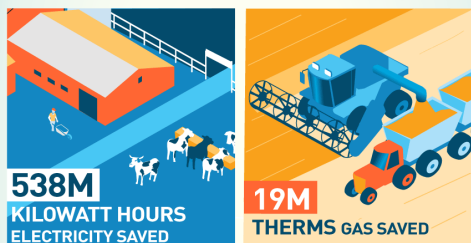
- **Expanded our energy efficiency financing program**, which provides commercial customers and government agencies with loans for energy efficiency upgrades with no out-of-pocket costs and zero interest. By the end of 2017, the program had funded more than 2,200 loans worth approximately \$100 million. The majority of loans went to small- and medium-sized businesses, as well as local governments.
- **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 more than 350 classes, providing about 350 technical consultations and organizing 295 outreach events.
- **Adopted a Water-Energy Calculator** to measure energy savings from water conservation measures. Customers who participated in PG&E's energy efficiency programs reduced water usage by about 210 million gallons in 2017.
- **Achieved energy savings through energy management technologies and connected homes.** We expanded the PG&E Marketplace tool to include smart thermostats, connected home products and connected applications, which help customers manage their energy use through data provided by PG&E's Share My Data platform. We also added a \$50 smart thermostat rebate for customers.
- **Set the stage for Strategic Energy Management (SEM)**, which is a holistic, long-term, whole-facility approach to determine energy savings from activities at a facility, including capital projects, maintenance and operational improvements, as well as retro-commissioning. In 2017, PG&E completed a rigorous competitive bidding process to select third-party vendors with innovative SEM outreach approaches.

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.

PG&E also engaged in foundational work to meet the CPUC's new third-party energy efficiency program requirements for our energy efficiency portfolio in 2018 and beyond. In addition, PG&E partnered with the other investor-owned gas and electric providers to prepare for upcoming statewide solicitations and implementation of a new structure for statewide energy efficiency programs.

AGRICULTURE ENERGY SAVINGS

PG&E'S PARTNERSHIP WITH THE AG INDUSTRY IS YIELDING BIG SAVINGS. HERE ARE RESULTS SINCE 2011.



THAT'S ENOUGH ENERGY SAVED TO REMOVE 100K CARS FROM THE ROAD FOR ONE YEAR.

\$81 MILLION DOLLARS IN REBATES HAVE BEEN GIVEN TO AG CUSTOMERS SINCE 2011.

Helping customers achieve big savings

Customers saved approximately \$300 million on their energy bills through PG&E's energy efficiency programs in 2017.



Reducing water consumption through energy efficiency

Customers who participated in PG&E's energy efficiency programs reduced water usage by about 210 million gallons in 2017.

Measuring Progress

PG&E exceeded the CPUC's energy savings goals for 2017, achieving savings of 1,487 GWh, 320 MW of peak load, and 33 million therms. These results helped save customers approximately \$300 million on their energy bills and avoided the emission of more than 800,000 metric tons of CO₂.

Annual Energy Savings¹ From Customer Energy Efficiency Programs

	2015	2016	2017
Megawatts (peak)	295	292	320
Gigawatt Hours (total)	1,392	1,406	1,487
Million Therms	23	24	33

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 Emissions¹ From Customer Energy Efficiency Programs

	2015	2016	2017
CO₂ Avoided (metric tons)	1,198,636	1,429,543	802,034
NO_x Avoided (tons)	229	296	230

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.

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 reduce energy use during periods of peak demand, adding stability to the electric system. By giving customers incentives to curtail usage, demand response programs provide valuable services to the grid, lower costs for customers and help reduce greenhouse gas emissions.

Our Approach

PG&E's demand response options are supported by 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 240,000 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 2017, 124,000 customers participated in SmartRate and provided an average load reduction of nearly 28 megawatts (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. In 2017, its 123,000 participants provided about 68 MW of potential load reduction that was available if 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 29,000 customers were enrolled in both SmartRate and SmartAC in 2017.
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” (9 to 15 per year) and times, to discourage energy usage on those days. In 2017, more than 205,000 customers participated in Peak Day Pricing.
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.

2017 Milestones

In 2017, we leveraged our programs on numerous occasions to reduce demand and ensure reliable electric service for customers.

As one highlight, we conducted a third round of the Demand Response Auction Mechanism pilot, in which PG&E and the other California investor-owned gas and electric companies used a competitive auction to procure commitments to deliver demand response capacity from third parties. These third parties offer their own demand response programs to customers of all types and manage the customer relationships, including when to ask customers to reduce energy consumption. PG&E procured roughly 80 MW of demand response commitments in this manner for 2018 and 2019.

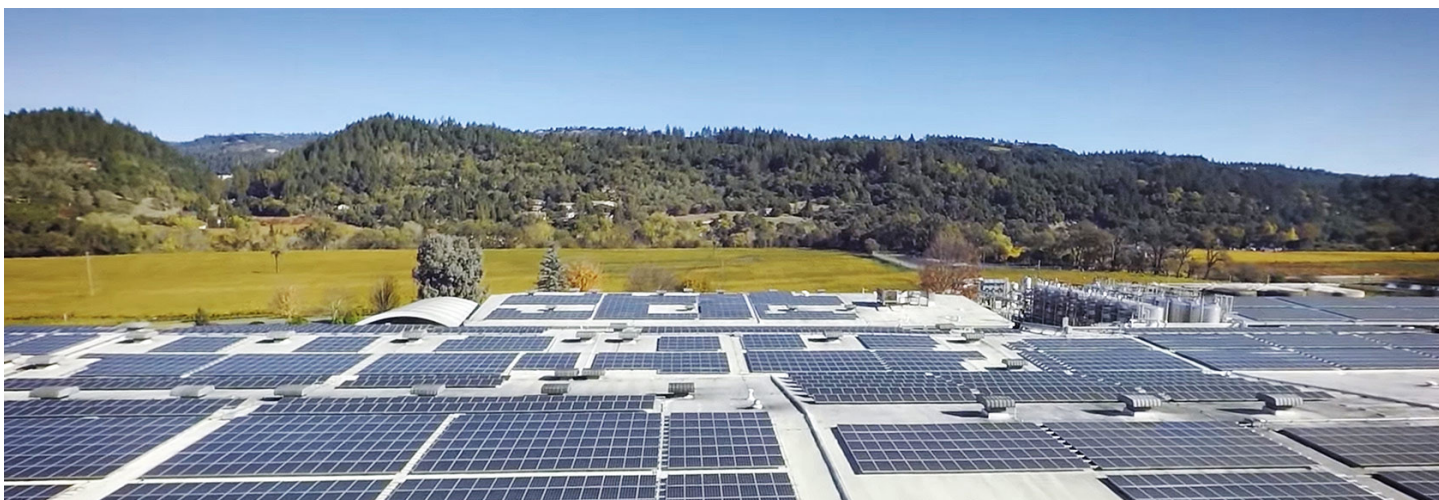
PG&E also continued to provide online tools, programs and services to help businesses thrive with critical peak pricing, and we launched new pilots to test ways for customers to participate in demand response. For example, customers can see a custom rate comparison and learn more about available pricing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

Measuring Progress

Through our demand response programs, PG&E and our customers had the ability to provide up to 500 MW of load reduction in 2017—about the capacity of a large conventional power plant.

Looking Ahead

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



Solar and Distributed Generation

With more than 370,000 solar customers now connected to the energy grid, we are proud to partner with businesses and households who want to use solar energy. In fact, PG&E connects nearly 5,000 private rooftop solar systems to the electric grid each month.

Private rooftop solar will play a key role in our state's clean energy future, one in which innovative energy technologies and distributed energy resources like solar power, battery storage and electric vehicles allow customers to have more choice and control over what type of energy they use and their overall energy usage.

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.

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/gosolar, 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 compare their usage month-over-month and year-over-year.



PG&E calls for proposals for clean energy program

PG&E announced a call for proposals for renewable energy developers to build new projects for a clean energy program available to PG&E customers. The sites are for PG&E's Regional Renewable Choice program, which will expand renewable energy access by enabling customers to work directly with developers of new renewable projects.

Through the program, customers will have the option to work with developers and subscribe to the output from a new renewable project equaling between 25 and 100 percent of their electricity use. Participating customers will pay the developers for the new energy directly, and receive a bill credit from PG&E on their monthly energy statement.



PG&E opens funding for Self-Generation Incentive Program (SGIP)

SGIP offers rebates to customers who install advanced storage systems and generation technologies such as wind, fuel cells, combined heat and power, and other self-generation technologies across Northern and Central California. The program aims to reduce peak demand on the grid, reduce greenhouse gases and transform the market by supporting new behind-the-meter technologies with incentives. In 2018, the program will introduce incentives for low-income and other customers living in disadvantaged communities.

2017 Milestones

In 2017, PG&E reached a milestone of 3,200 megawatts of installed private rooftop solar capacity on the energy grid.

Beyond this milestone, PG&E continued to support solar and other clean energy technologies:

- **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 rooftop solar panels.
- **Continued to improve the customer experience.** On average, PG&E connects a new private solar system to the energy grid in fewer than four days. 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 2018, PG&E had paid for over 730 projects since 2001, representing \$370 million in incentives and over 234 MW capacity for energy storage, fuel cells, wind turbines, internal combustion engines and other distributed generation through the Self-Generation Incentive Program. There are currently over 1,600 projects in the queue, representing over 100 MW of capacity and \$67 million in incentives.
- **Supported customer solar water heating.** We provided average incentives of about \$2,850 each to single-family residential solar water heating projects, and more than an average of \$36,000 for multi-family residential and commercial solar water heating installations. These incentives have helped support 1,426 gas-offsetting projects of all types since the program's inception, which, in total, are expected to avoid almost 1.5 million therms annually. The solar water heating program is scheduled to run through December 31, 2019 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 24 solar classes in 2017 with nearly 623 attendees in total.



Self-generation technology education and workshops

PG&E workshops help educate contractors and the public about self-generation technology and details of the SGIP program. Quarterly workshops are held at PG&E's Pacific Energy Center and in Southern California. Workshop announcements are posted at www.selfgenca.com, and through the CPUC's service list.

Measuring Progress

In 2018, we surpassed 370,000 interconnected solar systems, representing about 20 percent of all private rooftop solar in America—a significant milestone for PG&E, the solar industry and our customers. Additionally, as of January 2018, there were nearly 6,500 Solar Choice accounts.

PG&E Interconnected Customer Solar Systems

Total Solar Interconnections = 370,000+			
1993 – 2000	156	2010	10,340
2001	560	2011	13,583
2002	1,222	2012	17,416
2003	1,844	2013	28,657
2004	3,071	2014	44,988
2005	2,776	2015	65,616
2006	4,310	2016	67,951
2007	6,517	2017	56,338
2008	6,488	2018	34,114 ¹
2009	9,236		

1. Total through July 31, 2018.

Looking Ahead

PG&E is committed to supporting customers who are interested in going solar. We look forward to working with our stakeholders to make it easier to adopt solar and other distributed technologies in a sustainable way as well as to improve customers' satisfaction with these programs.

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 providing clean transportation options that are easy and affordable. With California's goal to have five million zero emission vehicles (ZEV) on the road by 2030, supported by 250,000 charging stations, including 10,000 fast chargers, and 200 hydrogen fueling stations statewide by 2025, PG&E is taking action to develop programs and provide incentives to help California achieve these goals. Accelerating the transition to clean transportation is an essential component of PG&E's strategy to help California meet its clean air and greenhouse gas emission reduction goals.

Our Approach

One in five electric vehicles (EV) in the United States plugs into PG&E's grid, charging with electricity that comes from 33 percent renewable resources. With more than 150,000 EVs in PG&E's service area at the end of 2017—a 25 percent increase in new registrations over 2016—PG&E has been working proactively to expand charging infrastructure and simplify EV ownership.

This includes collaborating with automakers, charging equipment providers and state programs to support the large-scale electric infrastructure needed to incorporate EV charging systems into the energy grid. We also offer electric rate plans tailored for customers who drive EVs and we support test-drive events to help customers understand the benefits of EVs.

Examples of our work include:

- **Breaking ground on EV charger installations** as part of PG&E's three-year EV Charge Network program, which calls for installing up to 7,500 Level 2 charging ports throughout PG&E's service area.
- **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.
- **Promoting employee electric vehicle adoption through workplace charging and incentives.** PG&E installed nearly 130 chargers at our facilities in 2017 and offered a shareholder-funded \$2,000 incentive to employees to promote the adoption of electric vehicles. Nearly 1,000 employees have made the switch to electric.

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

On our EV rate plans, customers pay the equivalent of about \$1.30 per gallon to charge their vehicle overnight. That's less than half the average California price for gasoline in 2017.

SEPTEMBER 9-17, 2017

NATIONAL DRIVE ELECTRIC WEEK

FIND AN EVENT NEAR YOU!

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National Drive Electric Week



Nissan LEAF® Exclusive Automotive Sponsor.

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Association



PG&E supports National Drive Electric Week

Organized by grassroots EV enthusiasts around the country, PG&E sponsored events from Bakersfield to Santa Rosa and cities in between as part of the sixth annual National Drive Electric Week. According to Plug-In America, these events are making a difference in driving the sales of electric vehicles, with sales increasing by more than 20 percent in the month after past events.

We also participate 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. We then sell the credits to LCFS-regulated parties and pass on the revenue to our customers through the Clean Fuel Rebate program. PG&E's Clean Fuel Rebate Program provides a \$500 Rebate for electric vehicle owners and on-bill credits for CNG-vehicle drivers.

2017 Milestones

Highlights of our work to transition customers to clean fuels include:

- **Worked with charging providers and other stakeholders to launch the EV Charge Network.** Under this program, we plan to install up to 7,500 Level 2 EV charging stations at multi-family dwellings and workplaces over the next three years. The program is now taking online applications, and customers can learn more about program participation, eligibility requirements and submit an application.
- **Supported public fast charging and fleet electrification.** We filed proposals with the California Public Utilities Commission in 2017, seeking to expand our support for EV infrastructure for public fast-charging stations and medium and heavy-duty fleets. In the first half of 2018, PG&E received approval for more than \$275 million in programs and pilots that aim to reduce upfront installation costs to customers, enabling them to accelerate adoption of clean vehicles.
- **Promoted EV awareness.** Together with state agencies, automakers, technology companies, foundations and other California energy companies, PG&E supported the development of Veloz, a non-profit, public-private partnership focused on public outreach to inspire consumers to go electric.
- **Simulated future-looking vehicle-to-home technologies.** While cars today can only charge from the energy grid, automakers are researching the potential to use EV batteries to supply energy back to buildings or the grid. PG&E demonstrated the ability to use these technologies for home back-up power in the case of an unexpected outage.
- **Provided CNG to PG&E's fleet and our customers.** Our continuing work to support our customers with natural gas vehicles includes maintaining a network of CNG vehicle refueling facilities that are open to customers. PG&E also uses its expertise to help commercial customers take advantage of this relatively low-emitting, domestic alternative fuel in their own fleets.



PG&E installs EV chargers at Merced College

In December 2017, PG&E broke ground on its first site as part of the new EV Charge Network program at the Merced College campus based in Los Banos. The six dual port chargers (a total of 12 charging ports) at the campus will allow employees, faculty, students and guests driving EVs to charge their cars while at work or in class.

Located in a disadvantaged community, Merced College's efforts will support the university's sustainability goals and help to reduce greenhouse-gas emissions in the Central Valley.

Measuring Progress

The number of EVs in PG&E's service area reached 150,000 in 2017. PG&E is aiming to support more than 2 million clean-fueled vehicles by 2030.

PG&E maintains a network of 24 CNG vehicle refueling facilities that are open to customers—refueling approximately 3,000 vehicles and fleets with about 1.9 million gallon equivalents each year.

Plug-In Electric Vehicles in PG&E's Service Area¹

Approximate Number of EVs	
2012	11,565
2013	30,348
2014	57,772
2015	78,490
2016	111,232
2017	150,659

1. Electric Power Research Institute, based on external registration data, 2017.

PG&E-Supplied Natural Gas Consumed by the Transportation Sector¹

Bcf of natural gas consumption	
2012	2.50
2013	2.80
2014	3.09
2015	3.27
2016	3.55
2017	3.66

1. Based on PG&E billing data.

Looking Ahead

PG&E continues to focus on supporting the transition to clean transportation by expanding fueling infrastructure for vehicles of all kinds.

In 2018, PG&E's EV Charge Network program will continue to grow and scale installations. Targeting workplaces and multi-unit dwellings, the program will improve access to EV charging across PG&E's service area. Interested customers can learn more about the program and apply at www.pge.com/evcharge.

PG&E will launch three customer fleet demonstration projects, working with school bus, transit bus and truck idle-reduction customers to test innovative energy storage and charging-management strategies to lower upfront and operational costs of EVs in truck and bus fleets. The results of these pilots should help PG&E in the rollout of the broader fleet infrastructure programs approved in 2018 by the CPUC. The new programs will increase fast charging options for consumers as well as electric charging infrastructure for non-light-duty fleet vehicles. PG&E will pay for and aid installation of the infrastructure from the electric grid to the charger.

Additionally, PG&E plans to begin work on two new innovative demonstration projects through PG&E's Electric Program Investment Charge (EPIC) program, pending approval of EPIC 3 by the CPUC. In the first, PG&E will partner with a ridesharing network to evaluate how EV drivers who use the network charge their cars, and how to manage that load based on grid conditions. In the second demonstration, PG&E will leverage blockchain technology to account for renewable energy being conducted into EVs, helping verify the low carbon-intensity of the fuel used to power the car.

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.



Energy Affordability

At PG&E, we're focused on keeping our energy service affordable while we work to meet the needs of our customers. 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

Helping Customers Save through Energy Efficiency

PG&E's suite of energy efficiency programs plays an essential role in energy affordability. Pacific Gas and Electric Company's 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 is also transitioning toward a new program model that will result in an updated portfolio of energy efficiency programs by 2020 that are proposed, designed and delivered by third parties. The goal of the initiative is to scale energy efficiency cost-effectively and make energy efficiency offerings easier to access for our customers.

PG&E helped customers save approximately \$300 million on their energy bills through energy efficiency programs in 2017.

In addition, PG&E is looking for new, more effective ways to motivate customers to make energy retrofits. For example, the Pay for Performance program, which launched in 2017, uses SmartMeter data to measure energy use before and after retrofits, without compromising customer privacy.

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


- **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 rates are higher because demand for electricity is high.



Ways to take control of energy use

PG&E Marketplace is an easy way to help customers find energy-saving appliances. The site allows customers to find energy-efficient products and appliances from many of their favorite retailers, with information updated daily.

ACCOUNT MANAGEMENT > ALERTS AND NOTIFICATIONS



PG&E alerts and notifications

Sign up under Profile & Alerts in your online account.

SIGN UP

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.

Helping Customers in Need

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

- 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 income-qualified customers experiencing a crisis that prevents them from paying their gas or electric bill. This assistance program, funded in part with charitable dollars from PG&E Corporation 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.



Homeless shelter saves money and energy thanks to PG&E

The Good Samaritan Shelter in Santa Maria undertook the task of upgrading its more than 400 light fixtures across four buildings with energy-efficient LED lighting. The work was made possible through the Santa Barbara County Energy Watch Partnership, a program funded by Pacific Gas and Electric Company and Southern California Gas, which both serve the area, and administered by the Santa Maria Valley Chamber of Commerce. The energy efficiency upgrades at the shelter are expected to save about 127,230 kilowatt hours annually, or enough to power 11 average homes, with anticipated financial savings to the shelter of \$20,000 annually.

Providing Assistance to Businesses

PG&E's economic development team also provides one-on-one assistance to current and future commercial and industrial 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 higher 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. Companies located 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.

2017 Milestones

In 2017, we continued to aid customers in need through our financial assistance programs:

- **CARE:** Over 1.4 million customers, or 89 percent of those who were eligible, received discounts through the CARE program in 2017. Since the program's inception in 1989, PG&E CARE customers have saved \$8.8 billion on their energy bills.
- **Budget Billing:** Approximately 214,000 customers participated in the Budget Billing program in 2017. This program helps customers with high seasonal bills even out their energy payment so that they are more manageable.

We also continue to contribute to local economic and community vitality through our economic development rate. With PG&E's support, more than 40 companies have signed up for the rate since 2014, creating almost 5,000 local jobs and enhancing economic vitality in communities across PG&E's service area.

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.



Saving money for airplane seat manufacturer

Zodiac Aerospace, one of the largest non-agriculture employers on the Central Coast, was considering moving operations to its facility in Chihuahua, Mexico, to stay competitive. That move would have left the 1,200 employees in Santa Maria without jobs. The company found support in PG&E, which was able to significantly reduce their monthly electric bill, a key factor in keeping the Santa Maria facility open.

Measuring Progress

PG&E's Energy Savings Assistance Program helps income-qualified 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	87,052
2012	115,229	2018	94,500 ²

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

Average PG&E residential bills for gas and electric service remain below the national averages, according to figures compiled by leading trade associations.

The average PG&E residential electric customer paid \$94.69 per month, which was about 3 percent less than the national average of \$97.41. Data is from 2016, the most recent year for which comparative data is available.

The average PG&E residential gas customer paid \$38.86 per month, which was 23 percent less than the national average of \$50.33.

Average Monthly Electric Bills¹ (2016)

U.S. Average	\$97.41
PG&E	\$94.69
Pacific	\$93.55
East North Central	\$86.18
Middle Atlantic	\$89.53
Mountain	\$94.39
West North Central	\$102.84
New England	\$97.73
West South Central	\$72.23
South Atlantic	\$123.24
East South Central	\$130.97

1. Source: Edison Electric Institute, 2016 Statistical Yearbook

2. Source: FERC Form 1

Average Monthly Gas Bills¹ (2016)

U.S. Average	\$50.33
PG&E	\$38.86
Pacific	\$40.58
Mountain	\$42.58
West South Central	\$38.83
East South Central	\$42.83
South Atlantic	\$50.17
West North Central	\$50.67
East North Central	\$57.08
Middle Atlantic	\$81.08
New England	\$81.08

1. Source: American Gas Association, 2016 Gas Facts

2. Source: FERC Form 2 for Pacific Gas and Electric Company, for 2016

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.

As part of a multi-year, statewide effort to create a smarter energy future and healthier environment while balancing the need to keep customer rates affordable, we simplified the structure for PG&E's tiered rate plans by reducing the number of pricing tiers from three to two in 2017.

In addition, in 2018, PG&E introduced a new electric Time-of-Use rate plan to promote more efficient energy usage and provide customers with additional rate plan options. Approximately 150,000 residential electric customers transitioned onto the new rate plan, unless they chose another rate plan. Time-of-Use rate plans support a cleaner and more reliable energy grid by encouraging customers to shift electricity usage to the times of day when demand is lower and renewable resources, like solar power, are more plentiful.

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.



Community Investments

We approach everything we do from the standpoint that we are better together. PG&E is committed to partnering with and investing in communities across our service area to 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 2017, the program provided more than 1,700 grants in these areas, with a special focus on supporting underserved communities. The contributions also prioritize partnerships that provide volunteer opportunities for PG&E employees and often make in-kind contributions to organizations, such as donations of vehicles 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.
- We give each of PG&E's 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. In 2017, the program matched approximately \$3.5 million in gifts.

2017 Charitable Contribution Focus Areas

Category	Percentage
Education	30%
Economic and Community Vitality	32%
Environment	18%
Emergency Preparedness	20%

For the sixth 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.



2017 Milestones

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



Investing in California's youth

Oakland Promise is an organization committed to ensuring that every child in Oakland graduates high school with resources and skills to complete college and be successful in their career of choice. PG&E was proud to be the first corporate sponsor of Oakland Promise with a commitment of \$1 million over five years to support college scholarships. To date, this contribution has funded 31 scholars from the high school graduating classes of 2016 and 2017. In 2018, PG&E's investment is expected to fund an additional 24 scholarships.

Education

Today's students are our future engineers and scientists. To help them succeed, PG&E and The PG&E Corporation Foundation continue to support California students with scholarships and grants in science, technology, engineering and math (STEM). Highlights from 2017 include:

- **Better Together STEM Scholarships.** Twenty students received awards of \$5,000 each (renewable for up to four years), focused on majors in engineering, computer science and information systems, cybersecurity, and environmental sciences. Since 2012, the Better Together STEM Scholarship Program has awarded more than \$4 million to accomplished students based on a combined demonstration of community leadership, personal triumph, financial need and academic achievement.
- **Developing the workforce of tomorrow.** One-hundred and fifty high school students were given the opportunity to intern with PG&E through the Better Together STEM High School Internship Program. During their four-week internship, participants were certified in safety, learned about energy efficiency, and received hands-on business experience in many areas, including "soft skills" such as resume development and job interviewing. Classes were held at various PG&E, community college and high school locations.
- **Solar Suitcase Program.** For the 2017-2018 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 Ecuador.

- **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.



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 2017 California Economic Summit gathered more than 500 leaders from across various business sectors to address the current workforce skills gap.

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. PG&E's summer employment programs are focused on investing in opportunities for youth in California and continue to evolve with greater emphasis on closing the opportunity gap for diverse and underrepresented minorities in the STEM fields. Our efforts include career awareness programming, mentorship, scholarships and internships, which ultimately bridge into job training. Highlights from our efforts in 2017 include:

- **Summer Internships Program.** We committed more than \$1 million to programs supporting jobs for youth, including partnerships with local Boys & Girls Club chapters in Fresno, Sacramento and Bakersfield, Genesys Works and others. Through these programs, PG&E provided more than 300 youth with paid summer internships, and more than 1,000 youth with workforce readiness training. The program, now in its sixth year, has a major impact on youth and is made possible through partnerships with cities and local businesses.
- **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 The PG&E Corporation Foundation, but PG&E 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. Our efforts included:

- **Community preparedness support.** PG&E has awarded local grants to California Fire Safe Councils, providing nearly \$2 million in project funding to reduce the threat of wildfires, 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.
- **Emergency preparedness kits.** PG&E led an assembly of emergency preparedness and safety tips for 4th and 5th graders from Ophir Elementary School in an event for National Preparedness Month, an effort by FEMA and other government agencies to encourage residents to plan for disasters. Each child received an emergency backpack with enough supplies for three days for one person. The bags were filled with a first aid kit, water packets, food rations and a glow stick, among other items.
- **Home Fire Safety Campaign.** PG&E has partnered with the American Red Cross on a mission to transform disaster readiness in our communities. The Home Fire Preparedness Campaign aims to motivate people to take three simple steps: check or install smoke alarms, make a family escape plan and regularly practice the escape plan at home. The program's activities include door-to-door installation of smoke alarms and completion of a home-safety checklist and engagement of youth in classrooms and after school.



Defending communities against climate change

PG&E provided the California Fire Foundation with \$1 million for a grant program that will help firefighters throughout the state prepare for and prevent climate change-driven disasters. The grant will provide funding for programs such as fire-retardant roof incentives, land-use planning, community education and grass clearing.

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.

- **Better Together Resilient Communities grant program.** Through the program, PG&E will invest \$2 million over five years—or \$400,000 per year—in shareholder-funded grants to support local initiatives to build greater climate resilience throughout Northern and Central California. The grant results will be made publicly available to help communities better understand, plan for and respond to climate change risks and encourage partnerships.

PG&E awarded \$100,000 each to the University of California, Merced, the Karuk Tribe of California, Ag Innovations, and the Sierra Institute for projects designed to help communities prevent and prepare for increasing wildfire risk through building healthy and resilient forests and watersheds.

Measuring Progress

In 2017, PG&E supported \$28 million in contributions to charitable organizations. Those amounts are equivalent to 1.21 percent of PG&E's pretax earnings from operations from the prior year.

These 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 2017, nonprofit organizations self-identified that approximately 84 percent of PG&E's community investments were directed toward communities of color and approximately 12 percent were directed to 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
2017	\$28.0

Looking Ahead

In 2018, PG&E will continue its charitable giving commitments in support of underserved communities, with a particular focus on supporting today's students in California—the future engineers and scientists that will comprise our energy workforce. This will include developing and sustaining partnerships with local community colleges and non-profit organizations with programs dedicated to science, technology, engineering and math.

We will also continue to work on building 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. In addition, we will continue to invest in job creation and career training opportunities and offer energy assistance to low-income families to improve the quality of life in the communities we serve.

Finally, we will continue to partner with first responders and community leaders to promote community readiness in the event of emergencies such as earthquakes, wildfires, storms or other climate change-related natural events.



Supplier Diversity

For nearly 40 years, PG&E has embraced working with diverse suppliers and small businesses as a core part of our work to provide safe, reliable, affordable and clean energy to our customers. Building a diverse supply base is an essential aspect of our commitment 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 dozens of volunteer outreach ambassadors who share information about how to do business with PG&E.

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.

In 2017, our Prime Supplier Academy celebrated its third year of success in delivering supply chain responsibility training to PG&E suppliers. The Academy provides resources, tools and training to assist prime suppliers with increasing engagement in and ownership of their own supplier diversity initiatives, as well as environmental sustainability and ethical code of conduct initiatives. This includes supplier code of conduct webinars to educate suppliers on PG&E's conduct and conflict of interest standards.

Strengthening Suppliers and Relationships

PG&E offers a wide variety of technical assistance programs to our suppliers, many in collaboration with community organizations. Among other things, 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, Tuck Minority Business Programs at Dartmouth and U.C. Berkeley.

PG&E also sponsors educational scholarships that help diverse 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, with four trainings in 2017.
- **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, with three workshops in 2017.
- **Diverse Suppliers Go Green** instructs participants on how to establish a sustainability program, reduce their environmental footprint and identify green business opportunities, with three workshops in 2017. A third-party expert helped suppliers assess their maturity in sustainability, identify sustainability projects relevant to their operations, create plans to implement those projects and report the results.
- **Diverse Suppliers Go Global** workshops offer information and share resources on how to evaluate and participate in the global marketplace.
- **Business Tune Ups for Diverse Business** is a new initiative created to help DBEs become more competitive and explore strategies for operational efficiency, increase productivity and reduce costs.
- **Future-Proofing Your Business** addresses some of the disruptive forces driving rapid change in business. Participants in this pilot reviewed impacts such as e-commerce, big data, globalization, smart grid, advanced technology, artificial intelligence and robotics.

2017 Milestones

Highlights from 2017 include:

- **Graduated five businesses from the Supplier Development Program.** For the last seven years, we've provided participating suppliers with mentorship, capacity-building resources, opportunity identification and value chain analysis. In 2017, 10 DBEs participated in the program.
- **Strengthened training for prime suppliers.** Through our Prime Supplier Academy, we offered 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. In 2017, more than 200 prime suppliers attended three in-person workshops on supplier diversity.
- **Offered innovative supplier development initiatives.** As a part of our Technical Assistance Program, PG&E offered workshops to raise awareness in the diverse business community about important business considerations such as cybersecurity, safety, environmental sustainability and global supply chains.

Measuring Progress

In 2017, PG&E spent \$2.58 billion with diverse suppliers, representing 42.25 percent of our total procurement expenditures. This was the sixth consecutive year that PG&E exceeded \$2 billion and the 12th 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 PG&E's prime suppliers reporting more than \$697 million in spending with DBEs, representing a 2.7 percent increase over 2016.

Highlights of PG&E's spending with diverse suppliers included:

- Minority-owned business enterprises: \$1.55 billion
- Woman-owned business enterprises: \$712 million
- Service-disabled veteran-owned business enterprises: \$311 million
- LGBTQ-owned business enterprises: \$1.45 million

5-Year Supplier Diversity Trend

Category	2013	2014	2015	2016	2017
Total DBE \$ (millions)	\$2,317	\$2,112	\$2,468	\$2,851	\$2,579
Total DBE % (based on total spend)	42.1%	40.9%	44.0%	44.4%	42.3%

PG&E recognized for supplier diversity



Pacific Gas and Electric Company was named to the Billion Dollar Roundtable, joining an exclusive group of United States-based corporations that have attained \$1 billion or more in certified direct diverse supplier spend. We were the first California energy provider to join the Roundtable, which promotes and shares best practices in supply chain diversity excellence.

Pacific Gas and Electric Company was also recognized as one of the Best of the Best Corporations for Inclusion by the National Business Inclusion Consortium, and by Women's Enterprise USA as one of the Top 100 Corporations of the Year.

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 recognized Pacific Gas and Electric Company for its supplier diversity success and for being the top spender in 2016 among the four energy companies graded.

Supplier Diversity And Small Business Results (Percent Of Total Spend)

Category	2015 (%)	2016 (%)	2017 (%)
Minority Men	20.2	20.2	16.9
Minority Women	8.1	8.3	8.6
Minority Business Enterprise	28.4	28.5	25.5
Women Business Enterprise (WBE)	12.9	12.4	11.7
Lesbian, Gay, Bisexual, Transgender Business Enterprise (LGBTBE)	N/A	0.02	0.02
Service-Disabled-Veteran Business Enterprise (DVBE)	2.8	3.5	5.1
Total DBE	44.0	44.4	42.3
PG&E Target (%)	41.0	42.0	42.0
Non-Diverse Small Business ¹	6.2	5.5	5.4
Grand Total¹	50.2	49.9	47.7

Spend	2015 (\$ millions)	2016 (\$ millions)	2017 (millions)
Supplier Diversity Spend	2,468	2,851	2,579
Non-Diverse Small Business Enterprise Spend	349	257	330
Total Diverse and Small Business Spend	2,818	3,207	2,909

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 2016 data versus what was previously reported.

Looking Ahead

PG&E will continue to expand our supplier diversity program, outreach and support. Our focus in 2018 includes:

- Continuing to educate the community of small and diverse businesses about the importance of having rigorous safety programs,
- Promoting increased prime supplier engagement in supplier diversity initiatives through our 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 and scalable growth, and
- Focusing on LGBTQ business growth through targeted outreach and workshops on how to do business with PG&E.



Employees

Key Sustainability Indicators

79%

Percentage of PowerPathway graduates hired into industry jobs

95,009 hours

Number of employee volunteer hours

Our employees bring our plans to life—strengthened by a culture where every employee is empowered to speak up on safety or any other workplace issue. Whether working on our gas and electric infrastructure or interacting with a customer, our employees are committed to delivering safe, reliable, affordable and clean energy, while meeting the changing demands of the energy industry.

Highlights

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

Updated our Employee Code of Conduct to include best practices and align with PG&E's new Mission, Vision and Culture framework.

Provided health screenings to 88 percent of eligible employees—a top decile participation rate—as part of a comprehensive suite of employee health and wellness offerings.

Exceeded our goal for employee volunteerism with employees at every level contributing more than 95,000 hours of community service.

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

Delivered nearly 690,000 hours of technical, leadership and employee training.

Continued to provide career opportunities for veterans and women through our pioneering PowerPathway™ workforce development program.

Earned recognition from *Training Magazine* for having one of the top 10 training programs in the world.

Achieved \$7.9 million in pledges from employees and retirees in our annual Campaign for the Community.

Hired more than 500 veterans through 2017 as part of our 1,000 Careers Project, a PG&E program to hire 1,000 veterans by 2023.



Building the Workforce of the Future

To build the workforce of the future, 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 live and offer ideas about how to make PG&E a better place to work. In doing so, we aim to engage employees so that they are excited about their work, are confident in our future, and understand and apply PG&E's Mission, Vision and Culture to help us better serve our customers.

Our Approach

Employee engagement continues to be a top priority for PG&E, as demonstrated by its inclusion in our executive guidance, the framework that guides PG&E's planning for the next five years. To build employee engagement, we have both executive-level and grassroots-based initiatives and programs.

Engagement and Employee Feedback

Our executive-level People Committee drives PG&E-wide efforts to improve engagement and promote continuous improvement by reviewing and approving long-term recruitment and retention strategies and assessing the impact of people plans and programs. These programs help us attract, develop and retain talent. As the energy industry undergoes a transformation, our people strategies are critically important to help ensure PG&E has the right people for the right jobs at the right time and in the right organizational structure.

One of the committee's areas of focus is quarterly pulse employee surveys that build on the biennial survey of employee engagement. The People Committee provides guidance on senior leadership's role in addressing the survey results to drive continuous improvement and achieve our executive guidance of having first-quartile employee engagement results.

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 the 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 strengthen our safety culture.

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 their boards. 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.

2017 Milestones

Highlights from 2017 included the following:

- **Rolled out the Corrective Action Program (CAP) across PG&E**, enabling all employees and contractors to submit any item that improves the safe, efficient, reliable and compliant operation of our business. CAP is at the heart of PG&E's speak-up culture and part of our ongoing focus around continuous improvement.
- **Established the Speak Up Award**, which recognizes employees who have the courage to speak up about an issue or concern, resulting in a positive impact on PG&E's culture. By highlighting these employees, we send a strong message that when you speak up, your courage is recognized and valued.
- **Showed our commitment to employee volunteerism** with employees at every level contributing over 95,000 hours, significantly outperforming our goal of 91,000 hours. When multiplied by the California industry-standard value of \$28.46 for a volunteer hour, this represents more than \$2.7 million in equivalent labor.
- **Conducted quarterly pulse surveys of employee engagement**, which provide leaders a timely measure of employee sentiment.
- **Launched updated, modern workspace designs** that better enable the collaborative nature of work today. These new office spaces include open landscapes with ergonomic workstations, improved WiFi and other technology, and more flexible meeting spaces.

- **Implemented the second phase of our time-off benefits redesign** for management, administrative and technical employees. Employees approved an employer-funded Voluntary Short-Term Disability plan and Paid Family Leave benefits that offer more convenient and affordable health and wellness offerings.
- **Created a new Executive Labor Relations Governance Committee** to prioritize and approve all labor-related initiatives. By centralizing oversight of all labor initiatives, the committee provides leaders with better insights into our labor relations and helps PG&E interact more consistently and strategically with our union partners.

Measuring Progress

To help us measure our progress in building the workplace of the future, we use regular employee engagement surveys and a Compliance and Ethics helpline.

PG&E conducts a biennial survey of employee engagement, with the most recent survey conducted in 2016. 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. Our next survey will be conducted in 2018.

CAP is at the heart of our speak-up culture, where employees use their expertise to promptly report near hits, equipment and safety issues, ineffective and inefficient work processes and procedures, and to provide suggestions for improvement. In 2017, employees submitted more than 37,000 suggestions, 96.5 percent of which were closed out on time. This exceeded our target of 96 percent.

In 2017, the total number of employee volunteer hours more than doubled from five years ago. For 2018, we set a goal of 91,000 hours from employee volunteers.

Employee Survey Results

Year	Score ¹
2011	67%
2012	71%
2013	No survey
2014	76%
2015	No Survey
2016	77%
2017	No survey

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	95,009

Looking Ahead

Led by our executive-level People Committee, PG&E will continue developing and implementing an enterprise-wide engagement strategy, in addition to strategic, comprehensive workforce planning initiatives.

PG&E will also 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.

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 2017, employees and retirees pledged \$7.9 million. Pledges were made by 44 percent of our workforce, which equates to over 10,000 donors. Since 2000, PG&E employees and retirees have raised \$80 million through the Campaign for the Community, benefitting schools and nonprofit organizations primarily in communities where PG&E employees live and work.



Career Pathways

To build a thriving workforce that can keep pace with the unprecedented transformation of the energy industry, PG&E's focus is on attracting and 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 is 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 in the military.

PowerPathway involves close collaboration with our local communities—including community colleges, community-based 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 dating back to World War I 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.

Improved Hiring Process

Having the right people in the right jobs at the right time requires a constant focus on both internal and external recruiting. In 2017, we significantly reduced PG&E's cost per hire by focusing on local talent, strengthening governance around hiring needs and increasing consistency within the recruiting process. PG&E also deployed a new system to make the recruiting process easier and more efficient for applicants, hiring leaders and recruiters.

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 two virtual learning studios and mobile training centers that allow for on-site instruction.

Our Gas Safety Academy serves as the primary training center for employees learning to operate and maintain every aspect of PG&E's natural gas infrastructure. At our Center for Gas Safety and Innovation, we will develop new methods and technologies that combine to enhance the safety of our gas system.

We also broke ground on a new 145,100-square-foot substation training facility at PG&E's Livermore Training Center. The facility, which will focus on electric substation operations and maintenance, is scheduled to open in 2019.

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 Mission, Vision and Culture. To support employees' growth throughout their careers, PG&E offers a variety of career development courses, tuition reimbursement for qualifying education expenses, temporary rotational assignments and other tools to help them grow in their current roles and advance.

PG&E 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 in their second or third year with PG&E. 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 the business 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 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.

2017 Milestones

In 2017, notable accomplishments included:

- **Launched recruiting process and technology improvements.** Process improvements and new technologies are helping us more quickly identify and bring on the right talent to meet the evolving needs of our business.
- **Graduated the seventh PowerPathway class.** Conducted in partnership with Oakland's Cypress Mandela Training Center, PowerPathway has prepared students for positions in PG&E's electric and gas organizations. Nearly 96 percent of the 148 graduates have been hired by PG&E and other employers such as East Bay Municipal Utility District, AT&T, BART and Caltrans.
- **Kicked off the first phase of a redesigned performance management process.** The new process will be simpler for both employees and leaders to use and will emphasize regular feedback and ongoing career development conversations.



PG&E's opens new Gas Safety Academy

The new facility will serve as the primary training center for employees learning to operate and maintain every aspect of PG&E's natural gas infrastructure. The academy will host about 150 gas employees each week and will provide nearly 36,000 hours of training every year.

We also continued to make strides toward our leadership and employee development goals through our apprentice line worker program, a comprehensive five-year initiative designed to develop the safest and most proficient line workers in the industry through a combination of field and classroom work.



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 2017, PG&E had hired over 500 veterans as part of the project.

Measuring Progress

The wide variety of PowerPathway programs—ranging from customer service representatives to gas pipeline inspectors—are adding new, diverse candidates to the energy industry's qualified talent pool. By the end of 2017, more than 800 people—including nearly 500 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 21 program graduates in 2017 and 457 graduates hired into PG&E since 2008.

Additionally, as part of our continuing commitment to our employees, we delivered more than 689,360 hours of technical, leadership and employee training in 2017. To measure success, 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 2017, training effectiveness reached our goal of 4.52.

Looking Ahead

PG&E will remain focused on training, developing and retaining top talent from across our service area. Through strategically enhancing our performance management process—making it more responsive and interactive—we plan to further the development of our employees and strengthen alignment with our business goals.

We also remain committed to delivering high-quality training and development across a broad spectrum of categories to build and maintain a qualified, motivated and skilled workforce. This includes a new safety program called Reach Every Employee that will give everyone at PG&E the opportunity to speak with their leader about their safety ideas and concerns.

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

Pacific Gas and Electric Company was recognized for having one of the top 10 training programs in the world by *Training Magazine*, an industry-leading publication that promotes corporate best practices for training and workforce development. In addition, a Gas Operations training program was acknowledged as one of the magazine's five Outstanding Training Initiatives.



Diversity and Inclusion

At PG&E, we recognize the importance of creating a culture where diversity and inclusion are valued principles of how we do business. That includes ensuring employees' voices, ideas, backgrounds and perspectives are respected and heard and that they feel safe on the job so that they can excel. Doing so means that employees can bring creative thinking and problem-solving to our operations, which enables PG&E to better serve our customers and positions us 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, diversity champions from each line of business, 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. This oversight helps ensure that diversity and inclusion principles are embedded throughout the life cycle 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 onboarding program. Materials on applying inclusive best practices are also available to all employees on PG&E's intranet. PG&E regularly recognizes employees who embody our diversity and inclusion principles, culminating each year with the President's Diversity Champion Awards, which honor employees for their outstanding achievements in the areas of diversity and inclusion.

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

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 tirelessly 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 and have internal engineering network groups affiliated with the Society of Hispanic Professional Engineers, the Society of Women Engineers and the National Society of Black Engineers.

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.

2017 Milestones

In 2017, we continued to make progress implementing our diversity and inclusion strategy and furthering our workforce development programs. Highlights included:

- **Increased engagement in our ERGs.** Our ERGs continued to grow, with approximately 5,500 members participating across 27 chapters throughout the service area. Almost one-third of all ERG members are also members of more than one ERG. 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 \$464,500 in scholarships to 182 students, ranging from \$1,000 to \$10,000 per scholarship. Since 1989, more than \$5 million in scholarships have been awarded to thousands of recipients.
- **Expanded the diversity and inclusion conversation.** PG&E brought attention to the growing voice of the transgender community at its annual "Out at Work" seminar, with a focus on what employers can do to recruit and retain transgender employees.
- **Received recognition from leading diversity advocates.** For the 10th 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 15th consecutive year. PG&E Corporation was also named one of the 50 best companies for Latinas to work by *LATINA Style Magazine*. Additionally, Pacific Gas and Electric Company joined the Best for Vets list for 2017, ranking no. 23 in our second year taking part in the *Military Times* survey.



PG&E Scores 100 on Disability Equality Index

For the third straight year, Pacific Gas and Electric Company earned a 100—the highest score possible—on the 2017 Disability Equality Index and was named one of the "2017 Best Places to Work for Disability Inclusion." PG&E was only one of four American energy companies that scored 100 on the survey, which was compiled by the United States Business Leadership Network and the American Association of People with Disabilities.

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 2015 to 2017 are below.

PG&E Workforce Demographics, 2015 – 2017

EEOC Category	2015	2016	2017
Women	28.1%	28.4%	27.6%
Officials and Managers	32.0%	33.6%	33.1%
Professionals	35.2%	34.5%	34.8%
Technicians	18.6%	18.6%	19.1%
Administrative Support Workers	71.8%	72.0%	70.7%
Craft Workers	2.6%	2.4%	2.5%
Operatives	4.8%	4.0%	3.4%
Laborers and Helpers	11.2%	12.0%	10.8%
Service Workers	10.3%	8.0%	8.4%
Ethnic Minorities	41.7%	42.7%	43.3%
Officials and Managers	32.0%	32.6%	33.2%
Professionals	43.8%	44.9%	44.8%
Technicians	39.4%	39.6%	43.9%
Administrative Support Workers	60.7%	62.4%	63.4%
Craft Workers	32.6%	33.0%	33.9%
Operatives	41.8%	39.3%	39.2%
Laborers and Helpers	48.1%	48.2%	53.0%
Service Workers	33.2%	34.7%	34.6%
Minority Groups			
American Indian or Alaskan Native	1.3%	1.2%	1.2%
Asian	14.7%	14.7%	14.3%
Black/African American	6.3%	6.4%	6.4%
Hispanic/Latino	17.0%	17.6%	18.1%
Native Hawaiian or Pacific Islander	0.5%	0.5%	0.6%
Two or more races	1.9%	2.3%	2.8%

PG&E Corporation EEO-1 Report, as of December 1, 2017 (for 2015-2016 as of July 1)

Benchmarking Workforce Demographics

Category	PG&E	U.S. Energy Company Average ¹
Women	27.6%	25.5%
Ethnic Minorities	43.3%	24.9%

1. Source: 2015 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

PG&E remains focused on building a culture where all employees feel safe being themselves at work. To do so, we plan to further embed diversity and inclusion principles and tools within our business. We will continue to update our training materials to increase awareness of unconscious bias and how it can influence processes and practices. And we will work to exemplify the culture outlined in our new Mission, Vision and Culture framework.

We will also continue our focus on several key areas:

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



Health and Wellness

Our employees' health and safety is an integral part of providing our customers with safe, reliable, affordable and clean energy. In an effort to help our employees stay healthy and fit, we provide 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 health and wellness plans provide comprehensive care and service options designed to promote the overall health of our workforce, including several preventive services. Employees have access to a wide range of options, such as on-site health clinics at several locations, 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 eight on-site telemedicine kiosks. Our on-site medical clinic offers comprehensive occupational and 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 both in the field and in the office.

Our 24/7 Nurse Care 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.



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 2017, 88 percent of eligible employees received a health screening—a top decile participation rate.

Emotional Health

PG&E's Employee Assistance Program (EAP) 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, web conference, or face-to-face with counselors at their job site or in the communities where they live.

In 2017, we added the telemedicine counseling option through our EAP program, so employees could have convenient access via the web to support. We also offer applied behavioral analysis benefits for autism at no charge, with no deductible. We nearly tripled the number of families we support from 2016 to 2017 due to increased communications throughout the year, including an autism awareness campaign in April.

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 on-site medical clinics,
- Cancer support program and centers of excellence for rare and complex cancers,
- More than 60 mothers' rooms throughout our service area, to ease the transition for nursing mothers when they return to work,
- Individual and family support for those with complex medical conditions through education to help make healthcare decisions,
- Wellness rooms offering instructor-led group fitness classes and
- Employee Assistance Program that provides a variety of services, including six free counseling sessions for employees and six sessions for their dependents and/or household members.

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. In 2017, we worked with the Los Angeles Department of Water and Power to help them implement their own Peer Volunteer Program.

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.

2017 Milestones

Highlights included the following:

- **Expanded our on-site health clinic presence.** We opened the PG&E Health Center at our headquarters, offering comprehensive occupational and primary care health services. We also launched two smaller clinics and nine telemedicine kiosks specifically for work-related injury care. We also have an on-site occupational health clinic at our Diablo Canyon Power Plant.
- **Expanded our Wellness Ambassador Network**, growing to more than 230 employees in 2017, an 11 percent increase compared to the previous year. Whether it was leading team-based healthy lifestyle competitions, coordinating health screening events for colleagues or promoting healthier eating options at work, these employees helped build and maintain a culture of health throughout PG&E and drive increased engagement across all of PG&E’s health and wellness programs.
- **Increased personal care Telemedicine utilization**, ending 2017 with a 400 percent increase in mobile and web option visits, as well as a 26 percent increase in visits from our eight on-site kiosks. We also launched a Telemedicine Counseling Program with web-based sessions available through our EAP program.
- **Enhanced our Industrial Athlete and Ergonomics programs** by establishing requirements with vendors related to musculoskeletal disorders, sprains and strains, and consulting with specialists for office ergonomic discomfort evaluations. Additionally, PG&E evaluated software solutions to track and report on health data, and trained staff on new software to measure strain and stress on the body.
- **Improved vehicle and office ergonomics** through stronger processes and procedures that better serve employees. For example, we improved our response time to office ergonomics evaluations and improved tracking and reporting on individual and aggregate cases
- **Began offering a retirement preparation workshop** focused on addressing the oft-neglected emotional and psychological aspects of retirement.



Pacific Gas and Electric Company was recognized by the Healthy Mothers Workplace Coalition with a Silver Award for its efforts to promote the health of parents and their babies among San Francisco employers.

Measuring Progress

In recent years, PG&E's programs have reduced the number of employees unable to work due to health-related issues. However, when we began administering our paid leave programs, we also gained additional insight into the number of employees using accrued sick time when, in fact, they should have been on short-term or long-term disability leave. This insight led to a one-time increase in our workforce unavailable due to health.

Workforce Unavailable Due to Health¹

	2015	2016	2017
Workforce Unavailable Due to Health ²	8.2%	7.8%	8.1%

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.

2 PG&E acquired additional data available to us that resulted from our implementation of a short-term disability plan for management and administrative and technical employees, resulting in a one-time increase in reported figures.

Looking Ahead

PG&E continues to expand and enhance our services and offerings to help build a healthy and safe workforce. These include:

- **Expanding our health clinic strategy.** We are evaluating our vendor capabilities for expanding accessible and convenient occupational and non-occupational health care services, including medical surveillance programs. This may be achieved via select mini-clinics, near-site clinics or mobile van options.
- **Launching a new and improved Health and Wellness portal and mobile app** for employees and their enrolled family members, providing 24/7 access to wellness tools and resources.
- **Expanding availability of our on-site health coaching program** to help employees achieve their health goals.
- **Expanding services for employees with highest health risk to include covered dependents.** The voluntary and free service provides individualized or family support for health-related decisions by helping employees to better understand medical care, treatments and medications for complex health situations.
- **Offering holistic health education from a panel of experts** on a variety of topics through a partnership between our EAP and clinic staff.
- **Sharing mindfulness tools and resources** with our employees to help them improve their health and safety.



Office, vehicle and industrial ergonomics

To improve employee health and well-being, we are expanding ergonomics 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.



Environment

Key Sustainability Indicators

33%

Percentage of power from eligible renewable resources

2,151 poles

Number of poles retrofitted to be bird-safe

PG&E's environmental commitment begins with our aim to fully meet all environmental requirements, but it extends much further. We continue to support and help advance the state's climate and clean energy goals. We also remain committed to supporting climate resilience efforts at the state and local levels to better prepare for, withstand and recover from extreme events and other risks related to climate change.

Highlights

Supported the successful extension of California's cap-and-trade program through 2030, along with companion legislation focused on local air quality.

Received regulatory approval for the Bay Area Operations and Maintenance Habitat Conservation Plan, a 30-year permit that will protect 18 wildlife species and 13 plant species in the nine Bay Area counties.

Awarded the first series of grants for the Better Together Resilient Communities Grant Program, a shareholder-funded initiative that will invest \$2 million over five years to support local climate resilience planning efforts.

Protected more than 8,300 acres of land as part of the Land Conservation Commitment, which ultimately will protect 140,000 acres of PG&E-owned watershed lands.

Joined the We Are Still In coalition, an alliance representing the broadest cross-section of the U.S. economy ever assembled in pursuit of climate action.

Provided \$2 million in funding to local Fire Safe Councils to protect communities from wildfires in high fire-risk counties.

Announced the California Resilience Challenge, a statewide effort, led by businesses and a diverse range of partners, to build local climate resilience and support a shared vision for a resilient California in the face of increasing climate threats.

Continued to rate our suppliers' performance relative to our Supplier Environmental Performance Standards.

Named the greenest energy company in the nation and ranked as the fourth greenest company overall in the 2017 Newsweek Green Rankings.

Piloted employee behavior-driven engagement campaigns at three service yards, successfully meeting our energy reduction and other targets.



Compliance

PG&E's commitment to environmental leadership is reflected in our environmental policy, which requires strict adherence to all applicable environmental laws and regulations. But we also seek to go beyond compliance—setting ambitious objectives and high standards that exceed the legal and regulatory baselines.

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 emissions of air pollutants (such as nitrogen oxides and particulates) and greenhouse gases (GHG) which include carbon dioxide, methane and sulfur hexafluoride.

To ensure we meet these requirements, PG&E follows an Environmental Management System (EMS) standard modeled after the ISO 14001 environmental management standard and consistent with the ISO standard's "Plan, Do, Check, Act" model for continuous improvement. The EMS uses a series of compliance work processes that help enable PG&E to manage regulatory compliance and our environmental impacts by each line of business.

The Vice President, Land and Environmental Management of Pacific Gas and Electric Company, oversees our commitment to meeting 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.

Compliance Program Milestones

Planning

In 2016, PG&E conducted an independent third-party gap analysis of our EMS based on the ISO 14001:2015 standard. This gap analysis yielded detailed recommendations that included updating the existing EMS manual to reflect many of the robust programs that PG&E has in place to protect the environment. This includes re-establishing and communicating the roles and responsibilities within the EMS; promoting general awareness of PG&E's EMS and Environmental Policy to employees and contractors; and reinstituting a management review policy and internal audit program for regular review and improvement of the EMS. PG&E expects its EMS to be in a certifiable status to the ISO 14001:2015 standard by the end of 2018.

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 2017, 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.
- Deploying a cloud-based solution to track and trend data from environmental incidents and compliance activities.
- Enhancing and expanding the use of an automated tool to assess construction, operations and maintenance activities for potential environmental impacts using geographic information system spatial data.
- Leveraging enterprise-wide initiatives—such as records and information management and the integrated planning process—to standardize compliance.

In addition, in 2017, PG&E enhanced and continued to standardize the environmental release-to-construction process across all operating lines of business. This process catalogs and provides guidance for operational crews to implement requirements for all activity-specific permits, agreements, authorizations and other environmental requirements.

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.



In 2018, every employee will be expected to complete training on our environmental policy to reinforce their 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 Testing and Risk Reviews:** These reviews, designed to assess adequacy of controls and risk mitigation, as well as compliance work processes, are conducted by the General Counsel Risk and Compliance Department. This department reports directly to the Vice President, Land and Environmental Management of Pacific Gas and Electric Company, with matrixed reporting to both the PG&E Corporation General Counsel and the PG&E Corporation and Pacific Gas and Electric Company Chief Ethics and Compliance Officer and Deputy General Counsel.
- **Internal Audits:** The Internal Auditing department—which reports directly to PG&E Corporation and Pacific Gas and Electric Company Vice President, Internal Audit and Chief Risk 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 2017, we performed 2,609 self-assessments, 50 comprehensive reviews and 3 internal audits for environmental matters.

In pursuit of 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 2017.

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 164 releases, defined as an unintentional discharge of a regulated substance that exceeds a reporting threshold or thresholds allowed in applicable permits.

Agency Inspections

In 2017, a total of 539 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 2017. Our rate of inspections without a written sanction was 93 percent, about 3 points above our target of 89.75 percent.

In 2017, PG&E paid a total of \$28,350 in environmental penalties.

Compliance Data

	2015	2016	2017
Level 1 Enforcement Actions	3	3	3
Percentage of Inspections Without a Written Enforcement Action	91%	95%	93%
Releases/Exceedances	170	225	164
Penalties Paid	\$188,445	\$135,650	\$28,350
Agency Inspections	641	790	539
Audits Performed¹	67	62	53
Self-Assessments Performed	5,540	4,752	2,609

1. Includes system audits, internal audits, comprehensive reviews and compliance and risk management reviews performed by PG&E.

Looking Ahead

PG&E remains committed to continuous improvement of its EMS and expects to be in a certifiable status to the global ISO 14001 standard by the end of 2018. Some of the efforts that will be undertaken to achieve this include:

- Implementing a process to identify our environmental aspects and leveraging our integrated planning and risk management processes to manage those environmental impacts comprehensively across our lines of business, including adopting shared goals and measuring our progress,
- Targeting employee training efforts to raise awareness of environmental stewardship and improve proficiency around environmental compliance procedures,
- Formalizing senior management review of environmental risks and impacts and
- Instituting continuous improvement and corrective action programs.

These initiatives will help enable PG&E to minimize our environmental impacts, enhance compliance, and further our commitment to sustainable environmental practices.



Climate Change

Meeting the climate challenge is central to PG&E's vision for a sustainable energy future. PG&E remains focused on delivering clean and renewable energy to customers, hardening our infrastructure in response to changing climate conditions and reducing our operational carbon footprint. We also continue to support efforts at the local level to make the communities we serve more resilient to climate threats.

Our Approach

Our commitment begins locally but extends to state and international levels. PG&E leaders joined California's delegation at the 2017 COP23 international climate talks in Bonn, Germany, as part of our ongoing commitment to combatting climate change. We voiced our support as part of the We Are Still In coalition, an alliance representing a broad cross-section of the U.S. economy in pursuit of climate action, following the Trump administration's decision to withdraw from the Paris climate accord.

At the state level, PG&E stood with California Governor Jerry Brown as he signed into law Assembly Bill (AB) 398, which extends California's cap-and-trade program for reducing greenhouse gas emissions and provides cost protections for energy consumers. The current program grants distribution utilities emissions allowances that are sold into the market, generating proceeds that are returned to customers. PG&E also supported AB 617 which addresses local air quality concerns in affected communities.

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

In addition, PG&E supported Senate Bill (SB) 350, which increased the state's Renewables Portfolio Standard (RPS) to 50 percent by 2030 and doubled state energy efficiency goals. In September 2018, SB 100 was signed into law and increases and accelerates the RPS targets and requires state energy agencies to include a 100 percent clean energy target in their planning goals.

PG&E also remains actively engaged with policymakers and various stakeholders on the implementation of SB 32, which requires that the California Air Resources Board (CARB) ensure a 40 percent reduction in 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 cap-and-trade program covers emissions from PG&E's fossil-fuel power plants, natural gas compressor stations and electricity imported into California. In 2015, the cap-and-trade program was expanded to cover emissions from the combustion of natural gas delivered to PG&E customers.

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 the 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 and Communities

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.

PG&E is also actively supporting efforts at the local level to make the communities we serve more climate-resilient.



California Resilience Challenge

The California Resilience Challenge is a statewide effort, led by businesses and a diverse range of partners, to build local climate resilience and support a shared vision for a resilient California in the face of increasing climate threats. The Challenge will support diverse and replicable climate change resilience projects, reflecting California's diverse geography. The effort was jumpstarted with a \$1 million shareholder-funded contribution from PG&E Corporation.



Supporting Resilient Communities

To further our support at the community level, PG&E announced four winners of our Better Together Resilient Communities grant program, providing \$100,000 each to the University of California, Merced; the Karuk Tribe of California; Ag Innovations and the Sierra Institute in support of their projects that examine new ways of managing forest and watershed land to prevent wildfires. The grants were made as a part of a five-year, \$2 million program. Results will be made publicly available to help communities better understand, plan for and respond to climate change risks and encourage partnerships.

Addressing Our Own Carbon Footprint

As part of PG&E's broader commitment to address climate change, we launched the Million Ton Challenge, a new voluntary five-year carbon reduction goal for PG&E's operations. The goal is to avoid one million tons of cumulative greenhouse gas emissions from our operations from 2018 through 2022, compared to a 2016 baseline.

To accomplish that, PG&E has developed a long-range plan to reduce emissions across several business areas:

- Save energy through energy-efficient and more sustainable facilities
- Reduce methane emissions from natural gas operations
- Continue to deploy a smarter, cleaner fleet of PG&E vehicles
- Adopt environmentally responsible products and services, with an early focus on electric substation equipment

Additionally, in step with California's evolving energy policy, in June 2016 Pacific Gas and Electric Company 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.

Clean Energy Policy

PG&E supports the decarbonization of California's economy through timely, durable, effective and affordable policy and energy solutions. We remain committed to 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, CARB adopted its 2030 Scoping Plan Update, which established the state's plan for achieving the 2030 GHG target. We are actively engaged in state regulatory and legislative climate change activities, including those around implementing California's cap-and-trade program, 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. The administration of President Donald Trump has led to significant uncertainty with regard to what further actions may occur regarding climate change. Upon taking office, President Trump issued an executive order to freeze all regulations issued in the 60 days preceding his inauguration and directed the EPA and the White House to remove climate change-related materials and webpages. In October 2017, the EPA issued a notice of proposed rulemaking to formally repeal the Clean Power Plan regulations that were approved during the Obama administration and targeted toward combatting climate change. The Trump administration is expected to take further action to substantially limit climate-related regulatory and funding activities. In light of the policy reversal at the federal level, the State of California has indicated that it intends to continue its leadership on climate change, nationally and globally.

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, Electric Drive Transportation Association, and California Electric Transportation Coalition.

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 advocate for policies that:

- Employ a broad, multi-sector approach to GHG emissions reduction
- Support the continuation of the AB 32 cap-and-trade program to 2030 and beyond, and ultimately, create a linked North American multi-sector cap-and-trade program or other carbon pricing mechanism 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 primarily 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, thereby 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
- Support the implementation of Senate Bills 1371 and 1383 to reduce methane emissions, which address leak abatement and short-lived climate pollutants, respectively
- Help our customers become more climate-resilient and reduce their own GHG footprint affordably through solutions that include energy efficiency, demand response, renewable energy, storage, and low-carbon transportation fuels and fueling infrastructure
- Support PG&E's ability to invest in and adaptively manage a more modern and resilient natural gas and electric system that can better withstand climate-related impacts and enable PG&E to continue providing safe, reliable, affordable and clean energy in the face of a changing climate

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 and wildfires, drought, subsidence 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 caused by changing climate conditions and weather events.

PG&E has established an internal Climate Resilience Officer Committee, as well as a staff-level Climate Resilience Working Group, 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 and action 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** through robust emergency response plans and procedures to address near-term risks, including more extreme storms, heat and wildfires.
- **Risk assessment and operational planning** through a multi-year, comprehensive risk assessment process to prioritize infrastructure investments for longer term risks, such as sea level rise. Among other things, PG&E completed a quantitative risk assessment that was submitted to the California Public Utilities Commission (CPUC) in 2017 and associated foundational work to help PG&E plan for and mitigate adverse impacts from climate change. These include developing tools for climate resilience screening and data visualization, performing research and metrics development, completing staff training on climate resilience, and working across our lines of business to develop plans for asset prioritization.

For PG&E, climate resilience is defined as the actions to be taken related to PG&E's assets, infrastructure, operations, employees and customers to mitigate against potential consequences and adapt to a changing climate and associated weather patterns.

- **External engagement** at the federal, state and local levels on climate change adaptation and resilience. This includes PG&E's participation in the U.S. Department of Energy's Partnership for Energy Sector Climate Resilience as well as the Technical Advisory Committee to the Governor's Office of Planning and Research Integrated Climate Adaptation and Resiliency Program.

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 Pacific Gas and Electric Company's Climate Change Vulnerability Assessment and Resilience Strategies report and its 2017 Risk Assessment Mitigation Phase (RAMP) filing with the CPUC.

While last year's winter rains helped to begin replenishing water supplies, 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 and initiatives on climate adaptation, including numerous cities and counties, the Bay Area Council, the Resilient by Design Bay Area Challenge and a variety of other forums at the state and local levels.



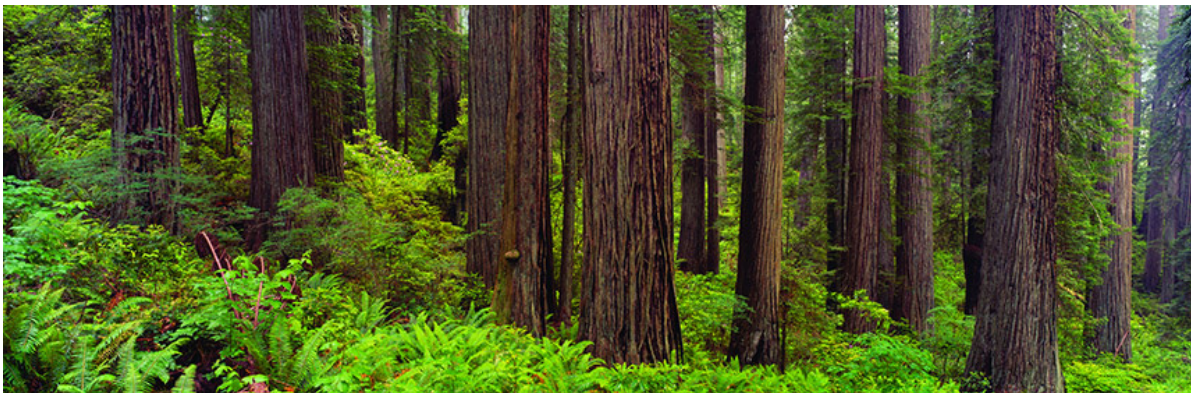
Advancing climate change resilience

Pacific Gas and Electric Company 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 wildfires. The report shares Pacific Gas and Electric Company's progress examining the physical risks associated with climate change and describes the steps Pacific Gas and Electric Company is taking to address these climate risks on behalf of our customers and communities.

2017 Milestones

In 2017, we continued to minimize our carbon footprint and prepare for the consequences of a changing climate:

- **Delivered clean energy to customers.** With 33 percent of the electricity delivered to customers in 2017 coming from renewable sources of energy, we reached California's 2020 renewable energy goal three years ahead of schedule.
- **Reduced methane emissions.** We avoided the release of more than 269,000 metric tons of CO₂-e emissions. These savings were achieved primarily through upgrades to gas pipelines and other infrastructure and by implementing both drafting and cross-compression, where we transfer natural gas from one pipeline to another during pipeline construction and repair projects rather than releasing it into the atmosphere.
- **Reduced our sulfur hexafluoride (SF₆) emissions.** We reduced our SF₆ emissions by more than 25,000 metric tons of CO₂-e and achieved an SF₆ emission rate of 0.5 percent, exceeding 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.
- **Quantified climate risks.** As part of Pacific Gas and Electric Company's first Risk Assessment Mitigation Phase filing with the CPUC, we included a quantitative analysis of how a changing climate may be increasing risk to PG&E and the customers we serve, and we proposed foundational work to help PG&E anticipate and plan for weather- and climate-change-related events.



PG&E's Million Ton Challenge

We announced a new, voluntary five-year carbon reduction goal for PG&E's operations. The goal is to avoid one million tons of cumulative greenhouse gas emissions from our operations from 2018 through 2022, compared to a 2016 baseline.



PG&E installs innovative methane detection technology

PG&E became the first energy provider 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.

Measuring Progress

Mandatory Emissions Reporting

Under AB 32's annual reporting requirements, PG&E reports greenhouse gas emissions to CARB. 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 CARB under AB 32.

PG&E Emissions Reported to the California Air Resources Board: CO₂-e Emissions from Owned Power Generation¹ and Operations

	2015	2016	2017
Total CO₂-e Emissions (metric tons)	2,875,094	2,261,032	2,292,218
Humboldt Bay Generating Station	186,330	171,892	199,338
Gateway Generating Station	1,305,914	963,413	1,111,268
Colusa Generating Station	1,382,850	1,125,772	981,613
CO₂ Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	1,010	1,029	1,017
Gateway Generating Station	868	871	881
Colusa Generating Station	853	852	866
Fossil Plants	868	872	940
All Plants ²	208	153	146
Other CO₂-e Emissions (metric tons)			
Natural Gas Compressor Stations ³	362,417	295,851	262,060
Distribution Fugitive Natural Gas Emissions	676,458	605,690	630,249
Customer Natural Gas Use ⁴	43,022,557	38,697,656	38,202,174

1. PG&E's owned generation comprised more than 50 percent of our delivered electricity in 2017.

2. Includes all PG&E-owned generation sources, including nuclear, hydroelectric and renewable energy.

3. Includes, but is 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 emissions from fuel that is delivered to covered entities, as calculated by CARB.

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 our lowest level on record in 2016, the most recent year for which verified data are available. PG&E's emissions rate of 294 pounds of CO₂ per megawatt-hour of delivered electricity represented a more than 25 percent drop from the prior year's figure of 405. The emissions rate 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 4.6 million metric tons in 2016.

From year to year, several factors affect PG&E's power mix and emissions, including the availability of clean hydro power and renewable energy in our energy mix, customer electricity demand, as well as 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	998
Pacific Gas and Electric Company²	
2016	294
2015	405
2014	435
2013	427
2012	445
2011	393
2010	445
2009	575

1. U.S. Environmental Protection Agency eGRID 2016.

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

	2014	2015	2016
Delivered Electricity ²	15.91	14.81	10.23
Electricity Transmission and Distribution Line Losses	1.24	0.95	0.68
Customer Natural Gas Use	36.89	36.57	37.59
Process and Fugitive Emissions from Natural Gas Systems	1.10	1.50 ³	1.54
Gas Compressor Stations	0.35	0.34	0.26
Transportation	0.10	0.11	0.11
Facility Gas and Electricity Use	0.01	0.05	0.04
Sulfur Hexafluoride (SF6) from Electrical Equipment	0.02	0.05	0.05
Other Emissions	0.01	0.01	0.01
Total	55.69	54.39	50.52

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 can be attributed to changes in emissions factors used for deriving emissions and new, more granular data requirements.

PG&E's Scope 1, 2 and 3 Greenhouse Gas Emissions (Million Metric Tons CO₂-e)¹

	2014	2015	2016
Scope 1	4.00	4.90	4.24
Scope 2	1.29	1.00	0.71
Scope 3 ^{2, 3}	50.40	48.50	45.57
Subtotal	55.69	54.39	50.52

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)

	2014	2015	2016
SF ₆ from Electrical Equipment	0.02	0.05	0.05
Facility Natural Gas Use	0.06	0.01	0.01
Gas Compressor Stations	0.35	0.34	0.26
Owned Fossil Generation	2.42	2.88	2.26
Process and Fugitive Emissions from Natural Gas System	1.10	1.50 ¹	1.54
Transportation	0.10	0.11	0.11
Total Scope 1 Greenhouse Gas Emissions	4.00	4.90	4.24

1. The increase in PG&E's overall emissions reported 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)

	2014	2015	2016
Electricity Transmission and Distribution Line Losses	1.24	0.95	0.68
Facility Electricity Use	0.05	0.05	0.03
Total Scope 2 Greenhouse Gas Emissions	1.29	1.00	0.71

PG&E'S Scope 3 Greenhouse Gas Emissions
(Million Metric Tons CO₂)

	2014	2015	2016
Purchased Electricity (Net)	13.49	11.93	7.97
Customer Natural Gas Use ¹	36.89	36.57	37.59
Other Scope 3 emissions ²	0.01	0.01	0.01
Total Scope 3 Greenhouse Gas Emissions	50.40	48.50	45.57

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 has already reached California's 2020 renewable energy goal three years ahead of schedule, and we will continue to do our part to further reduce greenhouse gas emission levels through energy efficiency and infrastructure investment, support for distributed private resources, alternative-fueled vehicles and battery storage, and active engagement on state and local policy.

We will also continue to support climate resilience efforts at the state and local level to better prepare for, withstand, and recover from extreme events and other risks related to climate change.



PG&E Funds Climate Resilience Grants

In an effort to protect and enhance California's state parks system, PG&E is funding resilience grants to prepare state parks for natural disasters. The grants—totaling \$50,000—are part of a \$250,000 PG&E grant to the California State Parks Foundation. The funding was used to restore and clean up 40 state parks across California as part of the group's 20th Earth Day Restoration and Cleanup in April 2018.

Among the 40 parks benefitting from the funding and volunteer work in commemoration of Earth Day are Sugarloaf Ridge State Park and Trione-Annadel State Park in Sonoma County. Both parks sustained major damage in the devastating October 2017 wildfires. Volunteers repaired trails, access roads and structures in the parks.



Natural Resource Stewardship

As one of the largest land owners in California, environmental stewardship is an essential component of our business. That includes working responsibly to protect threatened and endangered species and their habitat, safeguard watershed lands that we have committed to preserve in perpetuity, and manage forested lands to minimize the threat of wildfire.

Our Approach

Minimizing the Impact 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.



PG&E Donates Shasta County Parcel

Pacific Gas and Electric Company donated a large tract of land in the McArthur Swamp under an agreement with conservation groups designed to ensure the parcel will be preserved in perpetuity. For decades, PG&E has maintained the land in eastern Shasta County to provide both a seasonal wetland habitat and land for cattle grazing in dry seasons.

Left largely in its natural state, the 4,491-acre parcel is part of an important feeding and resting spot for ducks and geese along the Pacific Flyway. The land also supports the local farming economy and provides for waterfowl hunting and other recreational uses, including boating in adjacent rivers. In October 2017, ownership of the land transferred from Pacific Gas and Electric Company to the Fall River Resource Conservation District.

Examples of our efforts to protect local environments include:

- **Providing safe harbor for endangered species:** Pacific Gas and Electric Company continues to implement Safe Harbor Agreements with the U.S. Fish and Wildlife Service for PG&E-owned land at three facility locations: Antioch Dunes in Contra Costa County, Tulare Hill in Santa Clara County and PG&E's hydro lands in Shasta County. These agreements help enable our crews to safely maintain and operate infrastructure while enhancing habitat for endangered species such as Lange's metalmark butterfly at Antioch Dunes, the bay checkerspot butterfly at Tulare Hill and the Shasta crayfish—sensitive invertebrate species that are all vulnerable to changes in habitat, invasive species and climate change.
- **Habitat Conservation Plans (HCP):** 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 Pacific Gas and Electric Company's 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. In addition, our San Francisco Bay Area HCP protects 18 wildlife species and 13 plant species in the nine Bay Area counties.

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 included in Pacific Gas and Electric Company'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.
- 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 Pacific Gas and Electric Company's 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 public, sustainable forestry, agricultural uses and historic and cultural values.



PG&E partners to protect resources along Stanislaus River

On the Stanislaus River, PG&E works closely with regional partners such as the U.S. Forest Service to manage the natural and cultural resources found along the Stanislaus River, a critical resource for PG&E's hydroelectric system. They work together to support recreation and provide safe operation of the hydroelectric system while conserving the region's unique history. PG&E also works with the Tuolumne Band of Me-Wuk Indians for the stewardship of traditional places and artifacts that reflect the tribe's long occupation of the watershed. PG&E works closely with the tribe to document, manage and interpret these resources that reflect the deep history of the central Sierra.

Vegetation Management

As part of our Community Wildfire Safety Program, implemented in 2017 following the wildfires throughout the state, PG&E is working with our communities to put in place new and enhanced precautionary measures intended to help reduce wildfire risks and keep customers safe. This includes enhanced vegetation management to meet new vegetation and fire safety standards that require keeping trees and limbs farther away from power lines.

In December 2017, the CPUC adopted new regulations that require four feet minimum clearance year-round in high fire-threat areas. In some communities, that is an increase from the previous minimum requirement of 1.5 feet. Meeting the CPUC minimum clearance requirement at all times will require creating clearances of 12 feet or more at many locations to ensure compliance until the next inspection.

Beyond the new clearance requirements, PG&E will also work with communities and customers in high fire-threat areas to reduce vegetation and brush that can act as fuel in case of a wildfire from 15 feet or more on either side of power lines. This work will increase defensible space in our communities and improve access for firefighters responding to wildfires.

2017 Milestones

In 2017, our efforts included:

- **Signing a new permit with the U.S. Fish and Wildlife Service** that covers Pacific Gas and Electric Company's compliance with the Endangered Species Act in the San Francisco Bay Area. The Bay Area Operations and Maintenance HCP—our second regional plan—covers 31 plant and animal species in the nine Bay Area counties. Under the plan, PG&E is mitigating the impact of operations and maintenance work on these species by acquiring up to 4,800 acres of important habitat in the Bay Area to be set aside in permanent conservation.
- **Permanently protecting 8,309 acres of land by completing 12 Land Conservation Commitment transactions.** Four fee donations were completed, including 4,491 acres of land donated to the Fall River Resource Conservation District in the McArthur Swamp watershed. Conservation easements were recorded on eight separate PG&E properties.
- **Continuing to protect birds in our operations.** After the healthy rainfall in early 2017, the Kern Water Bank had an abundance of water and, with that, a lot of birds swooping in for a drink. PG&E added about 150 bird diverters along the distribution lines that hover above to keep the birds safe.

Measuring Progress

PG&E restores and protects environmental habitats to fulfill state and federal regulatory requirements and to support voluntary environmental initiatives. In 2017, our efforts protected or restored more than 9,500 acres of habitat and 8.6 miles of stream and river riparian vegetation.

Protected And Restored Habitat¹

	2015	2016	2017
Acres set aside and protected	3,336.8 acres	3,656 acres	8,309 acres
Acres of restored habitat	731.3 acres	748.1 acres	1,269 acres
Miles of stream and river riparian vegetation protected	8.6 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 more than 33,000 existing power poles and towers bird-safe. In that time, we have also retrofitted more than 35,000 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)

	2015	2016	2017
Poles Planned	2,000	2,000	2,000
Poles Completed	2,161	2,068	2,151
% Poles Completed	108%	103%	107%

Looking Ahead

As part of our environmental commitment, we will continue to look for ways to protect ecosystems 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.

Years of drought, extreme heat and 129 million dead trees have created challenging conditions in California. In the interest of public safety, and following the wildfires in 2017, PG&E is implementing additional precautionary measures intended to reduce the risk of wildfires as part of our Community Wildfire Safety Program. More information is available at www.pgecommitment.com.

Additionally, Pacific Gas and Electric Company will be developing its third HCP, a 34-county multiple-region HCP that will cover the remainder of its service area. Once this HCP is approved and permitted, PG&E will be the only energy provider in the United States to have its entire electric and natural gas operations covered with regional plans and in full compliance with the federal Endangered Species Act.



Water

Though drought conditions have improved in California, 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 Central Valley.

Our approach

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.



PG&E Hosts 14th Annual Water Conservation Showcase

PG&E hosted the 14th annual Water Conversation Showcase in San Francisco, where leading experts presented on the most pressing water issues and challenges related to buildings. The event was organized through collaboration with local chapters of the U.S. Green Building Council and the American Institute of Architects as well as the San Francisco Public Utilities Commission and the East Bay Municipal Utility District. Sessions included talks on landscape irrigation, leak detection techniques and water reduction at University of California campuses.

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.

The California Water Board adopted a policy on once-through cooling in 2010 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 this policy by December 31, 2024, or request approval of alternative compliance requirements allowed for nuclear facilities. Given Pacific Gas and Electric Company's announcement of a joint proposal to not seek to relicense Diablo Canyon at the end of our existing nuclear licenses and the CPUC's subsequent decision approving the plant's retirement, we will pay an annual interim mitigation fee until Diablo Canyon ceases operation, in accordance with the state's policy.

In addition, PG&E uses an on-site reverse osmosis 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. Nestled 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 supporting markets for high-efficiency clothes washers and direct installation of low-flow shower heads and faucet aerators. 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 210 million gallons in 2017, based on an analysis of our most common energy-efficiency measures that deliver water savings.

2017 Milestones

PG&E's efforts to conserve water and protect the watersheds where we operate in 2017 included:

- **Strategically managing 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.
- **Taking 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 21 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 3,350 hours of flight time from mid-June through October.
- **Offering new water management technology.** Working with Wexus Technologies, PG&E offered a new cloud-based tool that remotely connects pumps, buildings, SmartMeter™ devices and water flow meters, giving agricultural customers another option to track, interpret and manage their water and energy use effectively. PG&E continues to offer agricultural energy efficiency programs and incentives.

Measuring Progress

Water Use Statistics

	2015	2016	2017
Water Withdrawal (Saltwater and Freshwater) (thousand gallons)			
Process and Facilities Water (Saltwater)			
Diablo Canyon Power Plant ¹	861,064,313	867,817,856	834,495,352
Once-Through Cooling	860,732,000	867,498,000	834,166,000
Seawater Withdrawal for Reverse Osmosis	332,313	319,856	329,352
Domestic and Process Water (Freshwater)			
Diablo Canyon Power Plant ²	8,150	13,030	5,627
Humboldt Bay Generating Station ¹	208	141	197
Gateway Generating Station ¹	21,320	20,725	18,621
Colusa Generating Station ¹	25,473	24,938	21,774
Facilities (Freshwater)			
Offices and Service Yards ³	113,874	121,451	123,419
Permitted Water Systems ⁴	110,784	87,474	85,016
Hydrostatic Testing (Freshwater)⁵			
Water for Testing	5,537	3,175	41,420
Water Discharged (Saltwater and Freshwater) (thousand gallons)			
Water Discharge (Saltwater)⁶			
Diablo Canyon Power Plant	860,928,367	867,687,006	834,360,617
Domestic and Process Water (Freshwater)			
Diablo Canyon Power Plant (Permitted Discharge)	140,405	131,217	128,274
Humboldt Bay Generating Station (Sanitary Sewer)	114	104	134
Gateway Generating Station (Sanitary Sewer)	10,153	10,501	11,609
Colusa Generating Station ⁷	0	0	341
Hydrostatic Testing (Freshwater)			
Water from Testing ⁸	2,789	2,885	14,664

1. Net operating capacity on December 31, 2017: 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 all sites where water was consumed and data was available 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. An increase in diameter and mileage of the pipelines tested last year led to the increase in water used and available to be recycled or reused for irrigation or dust control.

6. These figures include once-through cooling discharge (equivalent to withdrawal amounts) plus estimated reverse osmosis system brine/backwash discharge.

7. Colusa Generating Station uses a zero-liquid discharge system. A septic system is used to manage sanitary waste.

8. Of these totals, a portion of water was reused for other hydrostatic testing prior to being discharged, 35 percent of which was recycled or reused for irrigation or dust control. An increase in diameter and mileage of the pipelines tested last year led to the increase in water used and available to be recycled or reused for irrigation or dust control.

Looking Ahead

Even though last year's winter rainfall helped to begin replenishing water supplies, the drought's impacts on groundwater supplies and tree mortality are still evident. Moreover, last 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 while implementing our Community Wildfire Safety Program to reduce wildfire threats and improve safety. We will also continue to strategically manage our hydroelectric operations and coordinate with business, government and community partners to manage the climate-driven challenge of extreme weather events.



Greening Our Fleet

PG&E operates one of the cleanest transportation fleets in the energy industry, with nearly 2,900 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.

Federal regulations require that 90 percent of all light-duty vehicles purchased for our fleet are capable of using an alternative fuel—such as electricity or compressed natural gas—provided that the technology is commercially available. 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 2018, five years ahead of the 2023 California Air Resource Board regulation due date.

2017 Milestones

Last year, PG&E invested in a number of new vehicles and technologies to further green our fleet. Among other efforts, we:

- **Deployed additional electric power take-off equipped (ePTO) bucket trucks.** Pacific Gas and Electric Company, in partnership with Altec Industries, pioneered the development of these advanced vehicles that use a series of on-board batteries to allow crews to operate the bucket and other onboard equipment without having to idle the engine. We first deployed them in 2011. By the end of 2017, we deployed nearly 950 ePTO bucket trucks in our service area.

- **Integrated driver feedback technology in multiple ways.** We installed telematics in nearly 7,000 vehicles and pieces of equipment by the end of 2017. In-cab alerts enabled on most of these vehicles can indicate hard braking, hard acceleration, 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 2,100 additional units in 2018.
- **Promoted employee electric vehicle adoption through workplace charging.** PG&E installed nearly 130 chargers at our facilities via our Workplace Charging Program in 2017. PG&E has more than 100 chargers at our Bishop Ranch location in San Ramon—one of the largest single-building EV charging installation in California.

Measuring Progress

PG&E managed approximately 13,000 on-road vehicles and related equipment in its fleet at the end of 2017. Of those, about 1,560 were electric-based, 115 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 670 charge points at about 105 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.

Fuel Use Statistics

PG&E uses petroleum and biodiesel to power many of the vehicles in our fleet. The following chart shows PG&E's fuel usage over the past three years.

Transportation Fuel Consumed By Pacific Gas And Electric Company

	2015	2016	2017
Petroleum Consumed by PG&E Fleet (gallons)	11,173,337	10,861,933	10,649,458
Biodiesel Consumed by PG&E Fleet (gallons)	160,973	187,152	192,320 ¹

1. In 2017, PG&E began deploying a renewable diesel blend at a limited number of our fueling stations.

Looking Ahead

PG&E's goals are to build a smarter, cleaner fleet of vehicles to reduce PG&E's carbon footprint, while exceeding state and federal emissions regulations.

As part of PG&E's Million Ton Challenge, a carbon reduction goal for our operations, we'll be actively working over the next five years to prioritize:

- Electric vehicles
- CNG vehicles fueled with renewable natural gas (RNG)
- Hydrogen vehicles

PG&E Electric Vehicle Charge Points Installed

2013	22
2014	75
2015	156
2016	347
2017	670
2018	699 ¹

1. Total through March 20, 2018.

In addition, as part of our sustainability commitment, we began replacing diesel fuel with approximately 2 million gallons of cleaner emitting renewable diesel in 2018. We continue to use real-time telematics data to optimize equipment utilization, reduce miles traveled and increase fuel economy and asset performance.

We 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 the Edison Electric Institute to help speed the incorporation of plug-in electric technologies into vehicle fleets. We also continue to promote CNG, liquefied natural gas (LNG) and hydrogen for heavy-duty truck and marine transportation.



Buildings and Facilities

PG&E actively seeks to reduce the environmental footprint of our buildings and facilities through sustainable designs, improving the efficiency of our energy and water usage, and reducing waste. Our efforts rely on the engagement and participation of our employees, who collectively can make a large impact and help us reach our goals.

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 2017, we worked to use energy and water more efficiently and divert landfill waste from our office facilities and service yards. We also 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.



Step Up and Power Down

We piloted employee behavior-driven engagement campaigns at three service yards last year. The Step Up and Power Down campaigns successfully met their energy reduction targets and educated employees on how to be better environmental stewards both at work and at home.

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.

2017 Milestones

In 2017, we continued to operate and maintain our facilities using sustainable practices, but saw an increase in our footprint due to evolving business needs. Compared to 2016, aggregated portfolio energy use intensity increased by 3.8 percent, driven by increases in natural gas usage at several key sites. Portfolio water usage grew by 1.6 percent, and waste diversion from landfills was 76.3 percent, down from 80 percent. We launched a number of strategic initiatives to improve facility sustainability performance:

- **Incorporated leading sustainability design criteria into new workplace standards** that will guide the design and performance of the next generation of PG&E facilities. The standards incorporate leading strategies such as zero-net energy, health and wellness criteria from the WELL certification, and Leadership in Energy and Environmental Design (LEED) environmental performance measures such as indoor air quality and environmentally friendly furniture. We targeted a minimum of LEED Silver certification for major projects started in 2017.
- **Targeted our top energy-consuming sites and kicked off a program of energy efficiency upgrades** by installing interior and exterior LED lighting with advanced lighting control systems. We also piloted an internal PG&E Step Up and Power Down initiative at three sites, which was a campaign to engage employees around energy efficiency and energy-saving actions, which also contributed to our facility sustainability performance.
- **Baselined our greenhouse gas footprint and developed a roadmap for reductions.** In support of PG&E's enterprise sustainability goals, we developed a comprehensive baseline of the greenhouse gas footprint of our facility portfolio. This enabled us to identify the best opportunities for savings in both existing and new facilities over the next five years. We are embedding sustainable facility practices into our plans to achieve cumulative reductions in our carbon footprint.



In 2017, we began construction on a new substation training center in Livermore that will be PG&E's first zero-net energy facility when it opens.

Measuring Progress

Energy Consumption Statistics

These figures represent electricity and natural gas usage at 189 facilities managed by our Corporate Real Estate Strategy and Services department.

Energy Consumed at Facilities¹

	2015	2016	2017
Electricity Consumed (Gigawatt hours)	90	94	93
Natural Gas Consumed (Million cubic feet)	98	113	136
Energy Intensity (million BTUs per square foot)²	58	59	61

1. The data reflects the 12-month period from December to November. Between 188 and 189 sites reported electricity data for 2015 to 2017, and between 134 to 136 sites reported natural gas data between 2015 and 2017.

2. Figures are reported in the industry standard of BTU per square foot, which incorporates all the energy used in a facility into one comparative figure.

Water Use Statistics

In 2017, we tracked water use throughout the year. Please see the Water section for additional statistics on PG&E's water usage.

Water Consumed at Facilities¹

	2015	2016	2017
Water Consumed (gallons)	113,873,993	121,451,138	123,419,216
Water Intensity (gallons per square foot)	16.2	16.3	16.6

1. The data represents all sites managed by our Corporate Real Estate Strategy and Services department where water was consumed and data was available for the 12-month period from October to September.

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 111 sites managed by our Corporate Real Estate Strategy and Services department.

Waste Diversion At Facilities¹

	2017
Total Waste Generated (tons)	27,255
Total Waste Diverted (tons)	21,411
Waste Diversion Rate²	76.3%

1. The tonnage data reflects all of the non-hazardous municipal waste at 111 sites managed by PG&E's Corporate Real Estate Strategy and Services department for the 12 months from October 2016 to September 2017.

2. The percentage reflects the diversion rate measured in the final quarter of the calendar year.

Other waste reduction efforts in 2017 included:

- Recycling more than 27 million pounds of scrap iron, aluminum and copper from conductors, meters and miscellaneous material. We also recycled nearly 1.3 million pounds of recovered meters; 15.4 million pounds of transformers; more than 197,000 pounds of plastic, including pipes and hard hats; 760,000 pounds of street light fixtures; 2 million pounds of transformer oil; and 2 million pounds of miscellaneous materials such as glass and cardboard.
- Recycling more than 340 tons of e-waste, including consumer electronic devices, CPUs, monitors, servers, printers and other equipment.
- Recycling approximately 536,000 pounds of steel and lead from Humboldt Bay Power Plant.

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

	2015	2016	2017
Total Hazardous Waste (tons)	78,750	67,645	31,051
RCRA ¹ Hazardous Waste	1,747	1,329	1,820
TSCA ² Hazardous Waste	1,082	557	513
California Regulated Hazardous Waste	75,921 ³	65,759	28,718
Federal Regulated Hazardous Waste (TSCA)—PCB Waste ≥ 50 ppm PCB (tons)			
Total	1,082	557	513
Incineration	205	58	127
Landfill	804	348	360
Recycled	73	152	26
% Recycled	6.7%	27.3%	5.1%
California Regulated Hazardous Waste (Non-RCRA)⁴ (tons)			
Total	75,921	65,759	28,718
Disposed	64,254	58,157	22,317
Recycled	11,667	7,602	6,401
% Recycled	15.4%	11.6%	22.3%
Other Waste			
Universal Waste (tons)			
Total	488	86	179
Recycled	488	86	179
% Recycled	100%	100%	100%
Low-Level Radioactive Waste Disposed (cubic feet)			
Diablo Canyon Power Plant	947	631	647
Humboldt Bay Power Plant ⁴	60,814	241,213	714,836
Radioactively Cleared Waste Disposed (pounds)			
Diablo Canyon Power Plant	169,577	138,169	185,014
Humboldt Bay Power Plant	27,846,637	23,228,666	13,148,362
Recycled Materials from Power Plants (pounds)			
Diablo Canyon Power Plant			
Steel	0	1,700	0
Copper	12,404	6,125	0
Lead	0	0	0
Humboldt Bay Power Plant			
Steel	160,820	301,430	514,940
Copper	0	0	0
Lead	35,100	0	21,500

1. Refers to the Resource Conservation and Recovery Act (RCRA).

2. Refers to the Toxic Substances Control Act (TSCA).

3. These figures include polychlorinated biphenyl (PCB) waste < 50 ppm PCB.

4. 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 and 2017.

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 Emissions¹

	2015	2016	2017
Total NO_x Emissions (tons)	160	141	155
Humboldt Bay Generating Station	30	31	31
Gateway Generating Station	79	68	78
Colusa Generating Station	50	42	45
NO_x Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	0.15	0.17	0.15
Gateway Generating Station	0.05	0.06	0.06
Colusa Generating Station	0.03	0.03	0.04
Fossil Plants ²	0.04	0.05	0.05
All Plants ³	0.01	0.01	0.01
Total SO₂ Emissions (tons)	17	13	14
Humboldt Bay Generating Station	1	1	1
Gateway Generating Station	8	6	7
Colusa Generating Station	8	6	6
SO₂ Emissions Rates (lbs/MWh)			
Humboldt Bay Generating Station	0.005	0.005	0.004
Gateway Generating Station	0.005	0.005	0.005
Colusa Generating Station	0.004	0.004	0.005
Fossil Plants	0.005	0.005	0.005
All Plants	0.001	0.001	0.001
Total Particulate Matter Emissions (tons)	108	90	94
Humboldt Bay Generating Station	49	44	50
Gateway Generating Station	23	17	20
Colusa Generating Station	35	29	25
Total CO Emissions (tons)	48	59	58
Humboldt Bay Generating Station	29	32	24
Gateway Generating Station	7	11	14
Colusa Generating Station	12	16	20
Total VOC Emissions (tons)	61	53	61
Humboldt Bay Generating Station	46	42	49
Gateway Generating Station	8	6	7
Colusa Generating Station	6	5	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 2015 to 2017.

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

As part of PG&E's Million Ton Challenge, a five-year carbon reduction goal for our operations, we are pursuing a more holistic strategy to improve the sustainability performance of our facilities. We are incorporating sustainability into our strategic planning for PG&E real estate and using data-driven analysis to identify opportunities for improvement. With this approach, we are targeting our highest energy-consuming sites with upgrades and maximizing the avoided greenhouse gas emissions of new facilities coming online in the next five years with leading sustainability design criteria.

For 2018, our goal is to reduce the carbon footprint of our facility portfolio by reducing or avoiding 1.5 million kilowatt-hours of electricity consumption through a mix of energy efficiency upgrades and on-site solar power.



Supplier Sustainability

Environmental sustainability is an integral factor in how we evaluate and manage our supply chain priorities and processes. It guides how we select, engage with and manage these vital supplier business partners, and it influences our product and service choices and strategies.

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 firms that represented 56 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 in the form of a scorecard review of select top-tier suppliers on key performance indicators, including environmental performance, safety, product quality and operations, and diversity. In 2017, over 40 suppliers participated in a scorecard review. We also work with suppliers to drive continuous improvement, and we provide training to all suppliers on PG&E's expectations and systems for improving environmental sustainability management. Additionally, we provide one-on-one coaching and mentoring to suppliers that need additional support.

Advancing Supplier Environmental Sustainability Performance

Since 2007, PG&E has been working to advance environmental sustainability within our supplier network.

2007–2008	2009–2010	2011–2012	2013–2014	2015–2016	2017
<ul style="list-style-type: none"> • Piloted energy efficiency projects with select suppliers • Co-founded Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA)¹ 	<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 Sustainability¹ • Served as Chair of EUISSCA and Sustainable Purchasing Leadership Council¹ 	<ul style="list-style-type: none"> • Rolled out capacity building tool to help suppliers advance in environmental best practices • Ranked as most mature program among electric providers for third consecutive year¹ • Earned SPLC Leadership Award for Purchasing Innovation¹

1. Pacific Gas and Electric Company

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.



Reducing the environmental impact of our electric equipment

PG&E has converted to procuring thermal diffusion, instead of hot dip, galvanized hardware for all available applications in our distribution grid. This technology has a significantly lower manufacturing footprint compared to hot dip galvanized hardware:

- Near zero manufacturing waste
- Zero heavy metals
- Zero volatile organic compounds
- About 50 percent less energy used in galvanizing per unit

Business benefits include significantly improved corrosion, abrasion and heat resistance, which leads to greater hardware longevity and reduced maintenance and replacement costs.

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 electric energy providers that Pacific Gas and Electric Company 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.

PG&E continues to achieve the top ranking for program maturity among Alliance members.

2017 Milestones

In 2017, 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.** We benchmarked as a leader for the third year in a row in EUISSCA's supply chain environmental sustainability maturity model for electric providers.
- **Expanded internal capacity building and collaboration.** We continued an initiative to embed subject matter expertise in, and drive deeper collaboration with, operational teams within PG&E to promote clean and affordable opportunities and outcomes. We also developed a system to communicate environmentally preferable practices to internal partners responsible for purchasing equipment, products and services. It serves as a tool to identify opportunities with the highest combined business and environmental value.
- **Continued to reduce our footprint through product strategies.** We initiated or continued 16 environmental initiatives in 2017 aimed at reducing PG&E's environmental footprint across five purchasing categories.

- **Rolled out supplier capacity building.** We rolled out an online resource to deliver environmental best practices to suppliers, measure supplier maturity relative to best practices and industry peers, and help suppliers plan improvements.
- **Improved request for proposal process.** To make performance measurement more meaningful, we began using sector-specific, best practice-related peer benchmarking and performance scoring.

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 2017, PG&E achieved a 100 percent response rate from surveyed suppliers for the sixth consecutive year.

PG&E's 2017 target was for at least 75 percent of top-tier suppliers to achieve a score of three or higher on a five-point scale. PG&E exceeded that goal, with 78 percent of suppliers meeting the standard. We maintained a target of 75 percent for 2018.

The following chart shows the progress in reported performance among top-tier suppliers between 2013 and 2017 against our Supplier Environmental Performance Standards.

Performance Against PG&E's Supplier Environmental Performance Standard

Percentage of PG&E Top-Tier Suppliers Tracking Impacts

	2013	2017
Greenhouse gases	79%	86%
Energy	89%	90%
Water	78%	87%
Waste	84%	90%
Compliance	87%	89%

Reduction Goals Adopted by PG&E's Top-Tier Suppliers

	2013	2017
Greenhouse gases	64%	67%
Energy	67%	75%
Water	57%	71%
Waste	61%	73%

Additionally, PG&E's suppliers have demonstrated leadership in tracking environmental impacts and setting voluntary reduction goals.

PG&E Supplier Engagement in Environmental Management Compared to Aggregated Alliance Suppliers

Percentage of Suppliers Tracking Impacts

	Alliance Suppliers	PG&E Suppliers
Greenhouse gases	63%	86%
Energy	77%	90%
Water	59%	87%
Waste	64%	90%
Compliance	79%	89%

Percentage of Suppliers with Improvement Plans

	Alliance Suppliers	PG&E Suppliers
Greenhouse gases	45%	67%
Energy	50%	75%
Water	35%	71%
Waste	46%	73%

As part of our engagement in EUISSCA, we benchmarked our efforts against other member energy providers on the scope of our supply chain environmental sustainability efforts across 12 attributes. These included, among others, policy; supplier requirements; supplier, product and service selection; performance management; and performance reporting and recognition.

PG&E Supply Chain Sustainability Benchmarked Performance

	2016	2017
Percentage of attributes outperforming EUISSCA peers	58%	75%
Percentage of attributes at or better than EUISSCA peers	83%	100%

Looking Ahead

We continue to expand our focus on capacity building and accelerating the adoption of environmental best practices among internal partners and suppliers. This will include expanding internal stewardship of supply chain environmental sustainability initiatives, onboarding suppliers with an online tool for environmental capacity building, and using an environmental knowledge management system we developed in collaboration with the Alliance. Another major focus area is establishing broader supplier performance reviews relative to our Supplier Code of Conduct.



Historic Impacts

PG&E's environmental remediation program 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. Our 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 remains committed to safely incorporating sustainable remediation practices and technologies into site cleanups. Since 2010, we have partnered with the California Department of Toxic Substances Control (DTSC) to implement our guidance for sustainable remediation.

Involving the community early and often is a vital component of our remediation efforts. Locally, we communicate with city leaders, local businesses, community groups and residents to promote awareness, solicit feedback and identify core issues of interest in our remediation projects. We partner on initiatives to address these issues, including hiring local unemployed residents, developing property disposition strategies that align with remediation efforts and sourcing local goods and services.

We also share best practices and benchmark our efforts against other energy companies and industries, such as the Manufactured Gas Plant Consortium, a peer group of remediation experts from gas providers across the nation.

2017 Milestones

Natural Gas Compressor Stations

PG&E's natural gas system includes eight compressor stations that receive and move natural gas throughout our service area. During the 1950s and 1960s, long before recognition of 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 to work diligently under the oversight of state and federal agencies and in coordination with local Native American tribal governments to address these legacy impacts.

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 data collected is being used in a risk assessment which will help 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 in 2015. DTSC conducted a Final Subsequent Environmental Impact Report (FSEIR) in 2017, which is anticipated to be certified in 2018. The final remedy is expected to be approved by DTSC and the U.S. Department of the Interior thereafter.

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 800 million gallons of groundwater and removing more than 8,000 pounds of chromium.

In addition, PG&E continues to deliver economic, social and environmental benefits through its environmental remediation work. This includes \$192 million spent on improving the environment through soil and groundwater cleanups, field testing cutting-edge cleanup technologies to lower greenhouse gas emissions, and contributing over \$12 million to the local economies near our project sites. We remain committed to developing innovative and sustainable cleanup solutions that address our historical impacts in accordance with today's regulatory standards while working toward a more sustainable future.

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 2017, 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.



Community Cleanup Day

In partnership with the Hinkley Community Center, Hinkley 4H and San Bernardino County, PG&E helped coordinate the fourth Hinkley Community Cleanup Day as the community worked together to beautify its desert surroundings.

Manufactured Gas Plant Sites

We continue to make progress as we voluntarily address 41 manufactured gas plant (MGP) sites previously owned or operated by Pacific Gas and Electric Company or its predecessor companies. MGPs were located across the country and used coal and oil to produce gas for lighting, heating and cooking in the late 1800s and early 1900s, until natural gas arrived in the 1930s. In 2017, cleanup was completed at sites in Eureka, San Luis Obispo, Red Bluff and Fresno, and we are working on documenting our cleanup activities and developing any necessary site maintenance plans.

- **Sustainable remediation in Eureka.** At an MGP site in Eureka, we used an innovative remediation technology referred to as in situ stabilization (ISS) to meet environmental protection standards for the community and Humboldt Bay ecosystem. We used this approach to treat soil impacted by historic MGP operations, eliminating the traditional need for off-site trucking and disposal of the soil in landfills.

Using ISS avoided the disposal of 20,910 tons of soil, 505,325 trucking miles, \$3 million in disposal costs and more than 670 tons of carbon dioxide emissions. Eliminating trucking and off-site disposal also lowered project risks related to trucking over long distances.

- **Prepared properties for future uses.** Cleanup work in San Luis Obispo, Red Bluff and Fresno positioned properties for productive reuse. In San Luis Obispo and Red Bluff, we are partnering with city and community leaders to prepare property redevelopment strategies, while in Fresno, we are upgrading our service yard.
- **Hired local workers.** As part of the Eureka and Red Bluff projects, PG&E hired four local unemployed individuals to work as traffic control flaggers, including two former veterans. Since 2012, PG&E has adopted a local-hiring strategy that has benefitted unemployed and homeless residents, often leading to future full-time jobs.



Minimizing impacts

PG&E uses new technology to reduce impacts and increase safety. This negative-pressure tent structure was used for a remediation project in Eureka—resulting in the project being completed on time and without odors or dust.

Additional Environmental Remediation Projects

Our commitment to environmental responsibility, sustainable remediation practices and community partnerships was evident at other remediation projects in 2017:

- **Opened Hunters Point Power Plant shoreline.** PG&E completed a final critical phase of work at the former Hunters Point Power Plant: the cleanup and restoration of a shoreline area that stretches from Heron's Head to India Basin Park. The project provides public access, educational outreach related to natural and cultural history, and recreational facilities along a new pedestrian pathway adjacent to San Francisco Bay. Cleanup activities resulted in reduced risks to the community and ecological receptors in San Francisco Bay.

During construction, PG&E implemented a robust safety and compliance program, including stringent dust management practices that ensured the safety of employees, contractors, the public and ecological receptors. We worked with the City of San Francisco's CityBuild program so that 36 percent of our laborer/operator workforce was hired locally, resulting in over 17,000 hours of local hire effort, work skills improvement and economic benefits.

We modified the shoreline plans to accommodate additional fill material, resulting in reduced off-site disposal by approximately 6,000 tons, avoiding approximately 160 tons of greenhouse gas emissions. The design included sustainable elements such as natural bioswales for stormwater filtering to protect the Bay and native plant species for erosion control and aesthetic improvements.



Restoration of the Hunters Point shoreline area included widening the path and adding lighting, landscaping, native plant species, water fountains, picnic and play areas, and interpretive signage detailing the history of the area, as well as benches for views of San Francisco Bay.

- **Applied innovative sustainable remediation at the Shell Pond and Newark substation sites.** PG&E is pioneering the use of phytoremediation to clean up waste residues in soil at various sites. The Shell Pond site is a former 73-acre wastewater pond impacted by legacy operations prior to PG&E's ownership, and the Newark site is an active substation.

In 2017, pilot studies at both sites demonstrated the effectiveness of phytoremediation to clean historic wastes on-site, which eliminates the need for traditional approaches involving off-site trucking and disposal in landfills. The studies used native plant species to naturally degrade wastes to inert substances in the soil. This approach will improve community safety and reduce future construction impacts, eliminating disposal of 350,000 tons of soil, 211,750 truck miles, \$33 million in disposal costs and 284 tons of carbon dioxide emissions. We are exploring opportunities to apply phytoremediation at other sites.



Natural resource education

As PG&E cleans up the Bay Point site, we continue to partner with the local community. In 2017, we held our most successful annual wetlands education event, with over 25 local middle school students in attendance to learn how wetlands naturally improve water quality.



Engaging local communities

PG&E supported the La Cocina San Francisco Street Food Festival, held near the active Potrero Power Plant remediation site. The festival showcased foods from over 30 primarily low-income women chefs from across the Bay Area, with 5,000 attendees. Our crews covered excavation areas with tarps and wrapped security screens around fencing for the event.

- **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 2018.

Measuring Progress

Sustainable Remediation

In 2017, we reduced cumulative greenhouse gas emissions by nearly 700 metric tons and reduced liquid wastes by an estimated 4.1 million gallons. We achieved these results by incorporating the sustainable practices on nearly 100 remediation sites:

- Using heavy construction and remediation equipment meeting Tier 3 and Tier 4 federal emission standards, reflecting the cleanest standards in the industry
- Augmenting construction and remediation equipment to further minimize emissions
- Using alternative fuels and renewable sources of energy for equipment and vehicles
- Maximizing recycling, on-site reuse of materials and reductions in liquid and soil wastes generated during remediation

We also aim to source our equipment and vendors from the local community. In 2017, we added more than \$11.9 million to the local economies near our project sites.

Looking Ahead

We will continue to work closely with regulators, civic leaders and community members as we proactively take responsibility for our past and work towards a more sustainable future. In 2018, we expect to complete remediation of a parking lot in Oroville and a PG&E facility in Emeryville. We also continue to explore innovative remediation strategies for future cleanup work, such as using heat to treat contaminants underground at a site in Fresno and soil stabilization methods in Merced and Vallejo, which will keep impacts in place while limiting material being placed in landfills.

We will also continue partnering with the community on future property redevelopment opportunities, such as in Lodi where a local food truck commissary recently purchased a former MGP site so it can expand its operations.

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	2018 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 2017 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 2018 Information Request response
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; 2017–2018
G4-29	Date of most recent previous report	August 2017
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	2018 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	2018 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.	2018 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 23–25

G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided	2018 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 19
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	2018 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 39–58
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	2018 Report Location
Economic			
Economic Performance	Disclosure of Management Approach (G4-DMA)		PG&E Corporation and Pacific Gas and Electric Company 2017 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 2017 Annual Report, p. 130–131
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)		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 2018 PG&E Corporation and Pacific Gas and Electric Company Joint Proxy Statement, p. 12–17
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 Message from PG&E Corporation's Chief Executive Officer and President, contains forward-looking statements regarding our plans, expectations, objectives and forecasts that are based on assumptions and information currently available to management.

These plans, expectations, objectives and forecasts, and the underlying assumptions 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, 2017 (the "2017 Annual Report") and the Quarterly Reports on Form 10-Q for the quarters ended March 31, 2018 and June 30, 2018.