Module: Introduction

Page: Introduction

CC0.1

Introduction
Please give a general description and introduction to your organization.

PG&E Corporation is an energy-based holding company whose core business is Pacific Gas and Electric Company (PG&E). PG&E is one of the largest combined natural gas and electric utilities in the United States. Based in San Francisco, with more than 20,000 employees, the 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 $60 billion in assets as of December 31, 2014, and generated revenues of more than $17 billion in 2014.

PG&E's long-standing commitment to address climate change and prepare for California's carbon market was featured in a recent report by the World Bank's Partnership for Market Readiness, available at http://blogs.worldbank.org/climatechange/preparing-price-carbon-lessons-3-companies.

CC0.2

Reporting Year
Please state the start and end date of the year for which you are reporting data.
The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.
We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.
Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Wed 01 Jan 2014 - Wed 31 Dec 2014

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
United States of America

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

USD($)

CC0.6

Modules

As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sub-industries, companies in the oil and gas sub-industries, companies in the information technology and telecommunications sectors and companies in the food, beverage and tobacco industry group should complete supplementary questions in addition to the main questionnaire.

If you are in these sector groupings (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see https://www.cdp.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Further Information

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

The Compliance and Public Policy Committee of the PG&E Corporation Board of Directors has responsibility for climate change policies and programs. In addition, the Board's Finance Committee reviews the company's potential financial impacts associated with climate change and the steps that management has taken to monitor and control such impacts. PG&E Corporation's Chief Executive Officer (CEO) has the overall responsibility for climate change within the company. PG&E's Vice President of Safety, Health, and Environment leads PG&E's efforts to address greenhouse gas emissions in the company's operations.

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Other: Management employees	Monetary reward	Emissions reduction target Energy reduction target Efficiency target	Management employees at all levels with responsibilities over environmental matters are eligible for pay raises and monetary rewards based on their performance against their individual operating plans. These may consider achievement towards the company's key metrics and targets that relate to climate change, such as the amount of renewable energy delivered to customers; the number of therms, kW, and kWh reduced through energy efficiency programs; and employees' success in advancing climate change policy in line with PG&E's policy goals.
All employees	Recognition (non-monetary)	Behaviour change related indicator	All employees may receive non-monetary recognition based on their management of climate change issues. For example, PG&E's Richard A. Clarke Award honors an individual and a team who have demonstrated environmental leadership. The winners receive a $1,000 or $5,000 charitable contribution to an environmental non-profit organization of their choice.

Further Information

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Board or individual/sub-set of the Board or committee appointed by the Board	Northern and Central California (all operations)	> 6 years	The PG&E Corporation Board of Directors and Chief Risk and Audit Officer have oversight responsibility for risk management at PG&E. Enterprise-wide Risk and Compliance teams, led by our Chief Risk and Audit Officer, guide the risk management process, including incorporating risk management into our integrated planning process. Each line of business has a risk manager and regular Risk and Committee Meetings chaired by the senior-most officer. PG&E's senior executives from every business unit meet annually to review and assess our plans to manage risk and compliance, setting the foundation for structured strategy and resource allocation discussions. On an ongoing basis, we proactively track and evaluate risks and have a process in place to prioritize infrastructure investments. Risks are reported to shareholders, the public, and other stakeholders through PG&E's Annual Form 10-K and Corporate Responsibility and Sustainability Report, and to regulators via annual reporting requirements.

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

i. Company-level: Risk management responsibilities are allocated to business units within PG&E, with oversight from the Chief Risk and Audit Officer and PG&E Corporation Board of Directors. Each line of business within PG&E has a dedicated risk manager and regular Risk and Committee Meetings that are chaired by the senior-most officer of the line of business. The risk manager is responsible for establishing an inventory of line of business-specific risks known as a risk register, and refreshing the risk register annually with input from subject matter experts. This is the mechanism for reporting new risks and to report changes to existing risks. At each Risk and Compliance Committee meeting, officers review risk evaluations, approve risk response strategies, and monitor the progress of risk management activities within their organization.

ii. Asset-level: Since 2008, PG&E has been investigating the potential physical risks of climate change to our system. We have identified a number of potential risks to our business, including sea level rise, temperature changes, rainfall and runoff patterns, wildfire risk, and storm frequency and intensity. To address a range of near-term risks, including storms and wildfires, PG&E has robust emergency response plans and procedures in place. For longer-term risks, such as sea level rise, PG&E has a process in place to prioritize infrastructure investments. More specifically, as part of PG&E's risk management program, a cross-functional team is conducting a holistic assessment of the risks to PG&E assets from different natural hazards, such as sea level rise. This structured process is helping to identify

potential impacts to PG&E assets and enabling potentially affected business units to evaluate climate-change-related risks to facilities and develop the necessary adaptation strategies. An in-house climate science team regularly reviews the most relevant scientific literature, and this research is integrated into this process.

CC2.1c

How do you prioritize the risks and opportunities identified?

On an annual basis, PG&E incorporates risk into the company's integrated planning process. Each line of business within PG&E has a dedicated risk manager and regular Risk and Committee Meetings that are chaired by the senior-most officer of the line of business. The risk manager is responsible for establishing an inventory of line of business-specific risks known as a risk register, and refreshing the risk register annually with input from subject matter experts. This is the mechanism for reporting new risks and to report changes to existing risks. At each Risk and Compliance Committee meeting, officers review risk evaluations, approve risk response strategies, and monitor the progress of risk management activities within their organization. These groups determine priorities based on the likelihood and severity of risks and opportunities impacting the business and our customers, and the magnitude of impacts.

In the spring of each year, PG&E completes a Risk and Compliance Session with all senior officers of the company. This is an opportunity for the company to demonstrate year-over-year improvements in risk management and establish goals for further improvements. This discussion is the beginning of the company's integrated planning process and is used to form the foundation of our annual strategy and resource discussions later in the year.

Additionally, to further strengthen PG&E's corporate sustainability reporting and focus, and to inform the company's overall corporate strategy, PG&E published its first "materiality" assessment in 2014. The materiality assessment was designed to identify the key priority issues for the long-term sustainability of PG&E as a company. The assessment involved in-depth conversations with company leaders and key external stakeholders.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment

CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

i. During 2014, PG&E published the results of a third-party led materiality assessment. This was a strategic project to help PG&E identify topics that are “material” priorities for the long-term sustainability of our business. The assessment was designed to sharpen PG&E’s sustainability focus and reporting, identify opportunities we can explore, engage stakeholders, and help us continue to demonstrate best practice on sustainability issues, including climate change. The assessment was developed through a structured process that included interviews with internal and external stakeholders. The assessment identified numerous material issues related to climate change, including PG&E’s GHG emissions, renewable energy, and climate change resilience. PG&E’s Corporate Sustainability team spearheaded the project with the Corporate Strategy team and the results have informed PG&E’s business strategy. For example, PG&E is further examining the risks and opportunities associated with water and climate change adaptation. We also incorporate climate change risk into our business strategy on an ongoing basis through public policy engagement, including addressing the U.S. EPA Clean Power Plan and California’s existing and proposed policies to cut greenhouse gas emissions, deliver more renewable energy, reduce vehicle petroleum use, and increase energy efficiency.

ii. There are several aspects of climate change that influence PG&E’s corporate strategy: regulatory risks related to public policy and regulatory requirements; physical risks associated with the long-term impacts of climate change on our business; and reputational risks associated with meeting the expectations of customers and other stakeholders. Climate change is integrated into PG&E’s business strategy through several established processes. Firstly, the profit the CPUC allows PG&E to make is separated from the amount of gas and electricity we sell through "decoupling,” which allows us to focus on aggressively pursuing customer energy efficiency. Secondly, PG&E is required to follow the “loading order” which prioritizes how electric utilities should meet new energy demands (first through demand reduction, second with renewable energy, last through clean and efficient fossil generation). Thirdly, PG&E's business strategy builds upon California's public policy: for example, California's Assembly Bill (AB) 32 requires the state to reduce GHG emissions to 1990 levels by 2020, the RPS requires us to meet 33% of our customers’ electric demand through eligible renewable resources by the end of 2020, and the CPUC authorizes our energy efficiency programs with ambitious customer GWh, MW, and therm savings goals.

iii. Reducing PG&E’s contribution to climate change -- and that of our customers -- is part of our long- and short-term business strategy. Key components of our short-term strategy include:
-Attainment of key climate change-related metrics including achieving customer energy efficiency targets, compliance with GHG and renewable energy requirements, and annual goals to reduce energy, water, and waste in our operations
-Adding energy storage, which will build upon our hydro pumped storage capabilities, as we integrate increasing amounts of intermittent renewable resources
-Smart Grid technology demonstration and deployment programs as we build toward our vision for a “Grid of Things”
-Investment in hybrid and electric vehicles
-Customer communications to promote energy choices such as energy efficiency, demand response, solar, and renewable energy
-Empowering customers with real-time energy usage information and analytical tools leveraging SmartMeters
-Continued support for appropriate state and federal climate change-related legislation and regulation, including tax credits for renewable energy sources and low-

emission alternative vehicles and electrification.

iv. Key components of our long-term strategy include our commitment to the state's loading order, Renewable Portfolio Standard, and AB 32 implementation – and meeting these commitments in a cost-effective manner, as well as preparing for the long-term impacts of climate change on our business.

v. PG&E's strategy provides an advantage over competitors because it: 1) empowers us to anticipate, understand, and better respond to our customers' needs, 2) challenges us to develop new, innovative, and cost-effective programs, 3) prepares us to contribute to a low-carbon economy and gives the company experience integrating intermittent renewable resources through the developing smart grid, and 4) bolsters our ability to attract and retain talent.

vi. The most substantial strategic decisions in 2014 influenced by climate change are listed below.

To address regulatory risks and opportunities:
-Continued engagement to ensure that AB 32 is implemented in a way that delivers sustained GHG reductions while minimizing costs to our customers;
-Continued investments to stay on track to meet the RPS
-Membership in coalitions engaged in climate change and clean energy policy issues
-Active technical engagement with the U.S. EPA and California ARB regarding regulation of GHGs
-Active engagement in the CPUC mandate for the state's investor-owned utilities to add 1.3 gigawatts of energy storage by decade's end
-Smart grid technology demonstration and deployment programs

To address potential physical impacts:
- Strengthened emergency response plans and procedures
-Working with water agencies, regulators, and other stakeholders to effectively manage our hydro resources, including research partnerships with agencies to model available hydro resources
-Internal Drought Task Force to coordinate water stewardship efforts, including facility water reduction goals and use of dry cooling technology at three natural gas generating stations to increase resiliency to lower water availability
-Robust energy efficiency and demand response programs to mitigate increased customer energy demand from temperature increases
-Active engagement at the national, state, and local level to better understand potential risks to our business and share best practices

To address reputational risks and opportunities of meeting the expectations of our customers and other stakeholders:
-Pioneering new energy efficiency strategies, including "Step Up, Power Down" partnership with cities, and actively supporting state and federal energy efficiency codes and standards
-Offering innovative programs, including a "Green Option" that will allow PG&E bundled customers to choose to buy certified 100% renewable energy
-Fulfillment of the 1.36 million metric ton offset procurement goal for the ClimateSmart program, a demonstration project that concluded in 2011 and had enabled customers to balance out the GHG emissions from their energy use through California offset projects verified under the stringent Climate Action Reserve protocols. As of May 2015, the ClimateSmart program retired 1.38 million metric tons of offsets

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.2c

Does your company use an internal price of carbon?

CC2.2d

Please provide details and examples of how your company uses an internal price of carbon

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
Trade associations
Funding research organizations

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Cap and trade	Support	Through the Joint Utility Group, PG&E collaborated with the state's investor- and publicly-owned utilities to advocate for resource shuffling guidance language in the Cap-and-Trade Regulation, a new cost containment mechanism, and streamlined reporting requirements.	Inclusion of resource shuffling regulatory language and introduction of cost containment mechanism

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Cap and trade	Support	Through the Gas Utility Group, PG&E engaged California's natural gas suppliers to work with the California Air Resources Board staff, environmental organizations, and other stakeholders to develop an allowance allocation methodology for natural gas suppliers who become regulated under the Cap-and-Trade program in 2015. The coalition reached agreement on a methodology which provides a fair allocation to natural gas suppliers, on behalf of their customers, and establishes a framework for supporting the emissions reduction goals of AB 32.	Inclusion of an allowance allocation to natural gas suppliers included in Cap-and-Trade Regulation
Cap and trade	Support	Through the Joint Utility Group, California Council for Environmental and Economic Balance, International Emissions Trading Association (IETA), and directly, PG&E advocated for the passage of a new Rice Cultivation Projects Compliance Offset Protocol and expanded Forest Projects Protocol (Forest Protocol).	Addition of Rice and expanded Forest Protocol
Other: Low Carbon Fuel Standard	Support	Through the California Electric Transportation Coalition, California Natural Gas Vehicle Coalition, other stakeholders, and directly, PG&E advocated for the re-adoption of the Low Carbon Fuel Standard. Worked with Air Resources Board staff to support modeling of natural gas and electricity carbon intensity values, and regulation provisions.	
Clean energy generation	Support	Through the Joint Utility Group, PG&E submitted comments in support of the CPP's flexible framework to reduce electricity sector CO2 emissions. PG&E also met with policy makers to discuss Western Electricity Coordinating Council (WECC) state coordination on CPP compliance and our analysis of the market impacts of different CPP compliance scenarios.	
Energy efficiency	Support	PG&E supported legislation to establish targets and goals for energy efficiency in appliances to reduce plug load.	

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Alliance to Save Energy	Consistent	The Alliance states that climate change is already making the United States warmer, and much greater temperature increases are expected in the coming decades. Along with increasing temperatures, precipitation patterns are shifting, extreme weather events such as storms and droughts are increasing, and sea levels are rising. These changes in weather patterns affect both energy demand, especially with increased peak electricity use for air conditioning, and energy supply, with reduced reliability and efficiency. Weather changes due to climate change also have closely related effects on water demand and supply. Energy efficiency is one of the most important tools for avoiding climate change by reducing use of fossil fuels. However, energy efficiency and related demand management measures also can address some of the energy sector’s vulnerabilities to climate change impacts.	Serving on the board.
Edison Electric Institute	Mixed	The Institute states that global climate change presents one of the biggest energy and environmental policy challenges this country has ever faced. EEI member companies are committed to addressing the challenge of climate change and support an 80% reduction in GHG emissions by 2050. As EPA works to finalize and implement the Clean Power Plan, it is essential to include effective reliability and consumer-protection measures that help to avoid harm to U.S. industry and the economy. In Congress, EEI supported the American Clean Energy and Security Act in 2009. In addition, the EEI Foundation established an institute focused on advancing the adoption of innovative and efficient technologies among electric utilities and their technology partners that will transform the power grid.	Serving on the EEI Executive Board
American Gas Association	Consistent	Excerpted from Dave McCurdy, President and CEO of the American Gas Association (AGA) in response to President Obama’s Climate Action Plan: “Working alongside renewables and energy efficiency, our domestic abundance of natural gas	Serving on the board

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		provides an incredible opportunity to deliver the essential energy that will help drive economic growth while protecting the environment. Natural gas utilities are committed to actions that, in the words of the President, 'save families money, make our businesses more competitive and reduce greenhouse gas emissions." AGA has constructively engaged on the Clean Power Plan and has also worked cooperatively with environmental groups on measuring methane emissions associated with natural gas distribution systems.	
Nuclear Energy Institute	Consistent	The Institute states that climate change increasingly is important as federal, state, and local policymakers consider energy supply and GHG mitigation. Given those concerns and the need for base load electricity production, policymakers and energy industry leaders are evaluating an expanded role for nuclear power. Carbon mitigation strategies from Princeton University, Columbia University's Earth Institute, Harvard University, and the Pew Center on Global Climate Change have reached a similar conclusion: A clear path toward meeting the global challenge of reducing GHG relies in part on an expanded portfolio of low-emission sources of electricity, including nuclear power.	Serving on the executive committee
Business Council for Sustainable Energy (BCSE)	Consistent	The Council believes the optimal policy for regulating greenhouse gas emissions is for Congress to enact comprehensive market-based legislation that allows for flexibility and cost-effective emissions reductions, including carbon offsets. In addition, BCSE highlights several areas where existing authorities are in place were the federal government to take action. For example, the BCSE calls for the EPA to consider—where legally appropriate—the role that existing clean energy technologies and fuels can play in achieving the goals of Clean Air Act regulation. With respect to the development of GHG NSPS for fossil fuel fired power plants, including emissions guidelines under Clean Air Act Section 111(d), the BCSE urges U.S. EPA to use an output-	Serve on the clean air policy group

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		based approach to setting emissions standards and to provide clear guidance to the states regarding how climate and clean energy programs might show equivalency with federal emissions guidelines.	
California Chamber of Commerce	Mixed	The California Chamber of Commerce will continue working to ensure that compliance costs are minimized through measures that effectively reduce GHGs while allowing for continued economic growth. Regulations must be seen through the lens of the economy and must minimize costs and maximize benefits for California. In order to ensure GHG reductions are achieved while maintaining the competitiveness of California businesses and the health of the economy, it is critical that the state agencies promulgating climate change policies (i.e. the California Air Resources Board (ARB) and California Public Utilities Commission) periodically review all GHG programs as implemented to ensure GHG emissions are reduced in an economically efficient and environmentally sound manner.	Serving on the board
California Council for Environmental and Economic Balance (CCEEB)	Consistent	The Climate Change Project was launched in 2008 to assist with the design and implementation of AB 32 and other climate change policies. Key priorities include: designing a regulatory structure that effectively balances command-and-control regulations with market-based measures; creating accurate and comprehensive emission inventories and clear and consistent reporting protocols; and ensuring California's framework is consistent with local, national, and international efforts.	PG&E actively participates in CCEEB's Climate Change Project and its work to develop and advocate for policy positions on pending climate change legislation and regulations. PG&E also serves on the board. In 2014, CCEEB supported AB 985 to adjust holding limits under Cap and Trade consistent with PG&E's position to limit opportunities for market manipulation and increase liquidity.
Silicon Valley Leadership Group	Consistent	The Silicon Valley Leadership Group (SVLG) served as part of the Executive and Steering Committees for the victorious 2010 "No on Proposition 23" campaign to prevent the rollback of California's landmark Global Warming Solutions Act – Assembly Bill 32. The Group continues to be actively involved in helping ensure the implementation of AB 32 rewards efficiency, protects innovation, and provides flexibility to seek	PG&E is represented on the board

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		out and implement the lowest-cost solutions, while also meeting our GHG reduction goals. In addition, the Leadership Group is increasingly active in federal-level advocacy for smart energy and climate policies.	
California Electric Transportation Vehicle Coalition	Consistent	Cal ETC promotes economic growth, clean air, fuel diversity and energy independence, and combating climate change through the use of electric transportation. CalETC is committed to the successful introduction and large-scale deployment of all forms of electric transportation including plug-in electric vehicles, transit buses, port electrification, off-road electric vehicles, and equipment and rail.	PG&E is represented on the board. In 2014, PG&E advocated through Cal ETC and was successful in securing $200 million for the California Clean Vehicle Rebate Program.

CC2.3d

Do you publicly disclose a list of all the research organizations that you fund?

No

CC2.3e

Do you fund any research organizations to produce or disseminate public work on climate change?

Yes

CC2.3f

Please describe the work and how it aligns with your own strategy on climate change

In 2014, U.S. EPA proposed a regulation on CO2 emissions from existing power plants through the Clean Air Act Section 111(d). PG&E is actively involved in analyzing the market impacts of different 111(d) policy scenarios and developing a tool to demonstrate how Western Electricity Coordinating Council (WECC) states could comply with 111(d). In 2015, PG&E presented the findings of this ongoing work at a Center for the New Energy Economy (CNEE) workshop that brought together WECC state utility and environmental regulators and utility management to discuss regional coordination on compliance with U.S. EPA's draft 111(d) regulation.

PG&E is also supporting the University of California Davis CA-TIMES model—an optimization model of the California energy system—to understand how California can meet the state's proposed 2050 targets for GHG emission reductions (80% below 1990 levels).

This is aligned with our strategy to work constructively to advance policies that put our state and country on a cost-effective path toward a low-carbon economy by managing our emissions and expanding our portfolio of emission reducing opportunities.

CC2.3g

Please provide details of the other engagement activities that you undertake

CC2.3h

What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Since 2006, PG&E's Climate Change Policy Framework has ensured that our activities are consistent with PG&E's climate change strategy. The framework outlines commitments and values to establish responsible policies and programs to address global climate change. Specifically, PG&E supports and prefers national regulatory action based on market mechanisms to achieve emission reductions efficiently, economically, and in a way that encourages the next generation of energy technologies and minimizes impacts to the U.S. economy.

PG&E's climate change policy is managed by a cross-functional team comprised of representatives from across the company. The team meets with PG&E's GHG Policy Review Committee comprised of PG&E officers to share developments at the state and national levels and seek approval on policy positions.

CC2.3i

Please explain why you do not engage with policy makers

CC2.4

Would your organization's board of directors support an international agreement between governments on climate change, which seeks to limit global temperature rise to under two degree Celsius from pre-industrial levels in line with IPCC scenarios such as RCP2.6?

CC2.4a

Please describe your board's position on what an effective agreement would mean for your organization and activities that you are undertaking to help deliver this agreement at the 2015 United Nations Climate Change Conference in Paris (COP 21)

Further Information

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?

Absolute target

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
Abs1	Scope 1+2	0.6%	15%	2009	29101	2014	PG&E had a goal to reduce energy use by 15% in MMBTUs at PG&E offices and service yards by 2014 from a 2009 baseline, which was equivalent to avoiding the emission of approximately 4,365 metric tons of CO2.
Abs2	Scope 3: Waste generated in operations			2010	3726	2014	PG&E had a goal to increase our waste diversion rate to 80% at 115 offices and service yards by 2014. Based on results for the final metric quarter of 2014, PG&E achieved an 81% waste diversion rate for these sites, exceeding our 80% target. Waste emissions are calculated using the U.S. EPA WARM model, although it calculates lifecycle emissions and not necessarily annual reductions in emissions. For the baseline year, emissions represent tons of waste sent to landfill (3,726 MT CO2e). During 2013 to 2014, we expanded the number of facilities and the scope of waste material covered in this metric. Given the uncertainty associated with these variables, it is not possible to estimate an emissions figure for 2014 and a corresponding percentage reduction from the base year. Tracking and reporting of the PG&E waste streams was quantified by iReuse, a waste management consultant.
Abs3	Scope 1+2+3			1990		2020	PG&E's target is to comply with the Global Warming Solutions Act of 2006 (AB 32), which mandates the reduction of California's GHG emissions to the 1990 level of 431 million metric tons of CO2e by 2020. Under AB 32, PG&E and other "covered entities" that emit significant amounts of GHG emissions in California are included in a Cap-and-Trade program for GHG emissions. The regulation became effective on January 1, 2012, and the program began implementation on January 1, 2013. The Cap-and-T program is one of many program measures being implemented under AB 32 to meet the 2020 GHG emission reduction goal. PG&E is also working with its regulators, stakeholders, and other businesses to encourage more focus be given to other aspects of AB 32 such as ensuring reductions are cost effective and facilitating the development of regional, national, and international GHG reduction programs.
Abs4	Scope 3: Use of sold products			2014		2014	PG&E had a customer energy efficiency savings goal for 2014 of 593 GWh, which was equivalent to avoiding the emission of approximately

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
							115,000 metric tons of CO2e.
Abs5	Scope 3: Use of sold products			2014		2014	PG&E had a customer energy efficiency savings goal for 2014 of 20 million therms, which was equivalent to avoiding the emission of approximately 106,000 metric tons of CO2e.
Abs6	Scope 3: Fuel- and energy-related activities (not included in Scopes 1 or 2)		10%	2008		2015	PG&E is participating in the Electric Utility Industry Sustainable Supply Chain Alliance’s goal of achieving an aggregate 10% reduction in participating members’ supply chain operations' energy use by 2015, compared to a 2008 baseline. The Alliance's goal does not include fuel used for electricity generation.

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment

CC3.1d

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions)	Comment
Abs1	100%	100%	In 2014, PG&E reduced energy use by 8.1%, or 14,310 MMBTUs, at 168 offices and service yards, meeting our annual 3.5% target. This represents a cumulative total of a 16% reduction, exceeding our five year goal of 15%. We achieved this reduction through upgrades, such as installing LED exterior lighting at many sites, and by adopting energy efficient designs during major remodel projects. We achieved significant reductions in natural gas use by leveraging the building management system at our corporate headquarters.
Abs2	100%	100%	In 2014, PG&E achieved an 81% waste diversion rate in our final quarter, measuring all non-hazardous municipal waste at 115 sites, exceeding our annual goal of 80%. Key steps to divert waste from the landfill included ensuring yard bins were the right size, upgrading service, adding composting and single-stream recycling at more locations, and engaging employees in a friendly waste competition.
Abs3			The regulations for California's Cap-and-Trade program took effect on January 1, 2012 and the first two year compliance period began on January 1, 2013. The program expanded to include transportation fuels, including PG&E's business as a natural gas supplier, on January 1, 2015. PG&E is a covered entity for all compliance periods (2013-2020).
Abs4	100%	100%	PG&E had a customer energy efficiency savings goal for 2014 of 593 GWh, which would be equivalent to avoiding the emission of approximately 115,000 metric tons of CO2e.
Abs5	100%	100%	PG&E had a customer energy efficiency savings goal for 2014 of 20 million therms, which would be equivalent to avoiding the emission of approximately 106,000 metric tons of CO2e.
Abs6			PG&E is participating in the Electric Utility Industry Sustainable Supply Chain Alliance's goal of achieving an aggregate 10% reduction in participating members' supply chain operations' energy use by 2015, compared to a 2008 baseline. The Alliance's goal does not include fuel used for electricity generation.

CC3.1e

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?

Yes

CC3.2a

Please provide details of how the use of your goods and/or services directly enable GHG emissions to be avoided by a third party

PG&E maintains a broad set of programs that enable customers to avoid GHGs including: a) energy efficiency (EE), b) distributed generation, and c) Clean Air Transportation (CAT). PG&E also delivers some of the nation's cleanest energy to our customers.

i. Explanation on how the Scope 1 and/or Scope 2 emissions are/were avoided by the third party:
The emissions avoided through PG&E's offerings help our customers reduce both their Scope 1 and Scope 2 emissions.

ii. An estimate of the amount of the emissions that are/were avoided over the time (must include timescale over which emissions are avoided or baseline year):

a. EE programs help customers reduce GHGs through rebates and incentives, energy analyses, training, and education. PG&E's 2014 EE savings results of 845 GWh, 164 MW, and 29 million therms will avoid more than 776,000 metric tons CO_2.
b. PG&E helps customers make solar and other clean energy alternatives more affordable through incentives funded by a distribution charge in customer rates. (Note: In 2013, PG&E reserved enough capacity to meet its goals for the California Solar Initiative (CSI) General Market program; therefore, CSI incentives are no longer available. However, PG&E maintains a variety of other incentives, including programs for low-income multifamily dwellings, solar on new homes, and non-solar alternatives such as wind, fuel cells, and battery storage.)
c. PG&E programs facilitate customer use of compressed natural gas (CNG) or plug-in electric vehicles. Our customers avoided annual emissions of 8,755 metric tons CO_2e from CNG vehicles and 152,509 metric tons CO_2e from electric vehicles in 2014.
d. Between 2012 and 2013, the CO_2 emissions associated with PG&E's delivered electricity decreased by more than 700,000 metric tons. This is the most recent year for which verified data is available.

iii. Methodology, assumptions, emission factors and GWPs (if figure given in CO_2e) used for the estimations:

Avoided emissions from customer energy efficiency are calculated using the cost-effectiveness calculator approved by the California Public Utilities Commission.

Emission factors from this calculator average 0.00046 metric tons of CO2/kwh, and 0.0053 metric tons of CO2/therms.

Customer fleet avoided emissions are calculated using the California GREET model and emission factors, developed by the California Air Resources Board for mandatory vehicle emissions reporting, assuming that CNG and electric vehicles are replacing medium duty gasoline vehicles.

Emissions associated with PG&E's delivered electricity are calculated in accordance with the protocols of The Climate Registry. PG&E's current emission factor, calculated from emission year 2013, is 427 pounds CO2/MWh. We assume that this emission factor, based on data from 2010-2013, is the best representation of PG&E's CO2 emissions from delivered electricity.

iv. Whether considering originating CERs or ERUs within the framework of CDM or JI (UNFCCC):

PG&E does not originate Certified Emission Reductions or Emission Reduction Units within the framework of Clean Development Mechanism or Joint Implementation (United Nations Framework Convention on Climate Change - UNFCCC).

CC3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	65	1153
Implementation commenced*	65	1153
Implemented*	78	145228
Not to be implemented	0	0

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building services	PG&E had a five year goal to reduce energy use by 15% in MMBTUs at PG&E offices and service yards by 2014 from a 2009 baseline. In 2014, PG&E's annual goal was to reduce energy use by an additional 3.5% in BTUs at 168 company offices and service yards. We met our goals, achieving an 8.1% annual reduction and an overall 16%.reduction over five years.	1872	Scope 2	Voluntary	816492	13390290	4-10 years	16-20 years	
Other	In 2014, we improved recycling, composting, and waste reduction efforts at 115 locations, achieving an 81% diversion rate—exceeding our target of 80%. Waste emissions are calculated using the U.S. EPA WARM model, although it calculates lifecycle emissions and not necessarily annual reductions in emissions.	52811	Scope 3	Voluntary	513000	0	1-3 years		
Fugitive emissions reductions	PG&E has reduced Scope 1 SF6 emissions by implementing SF6 tracking, early detection measures for circuit breakers, and an active breaker replacement program. We continue to	42923	Scope 1	Mandatory					

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	implement tighter controls and tracking measures to enhance our successful program in compliance with ARB's regulation for reducing SF6 emission rates. PG&E's SF6 emission rate was 1.5% in 2014.								
Transportation: fleet	As part of our commitment to reduce our operational footprint, we continue to incorporate energy efficiency measures and innovative new vehicles into our fleet. Of our 9,400 on-road vehicles, our target is for 27.5% to be alternative fueled and high efficiency vehicles powered by compressed natural gas (CNG), electricity, or other alternatives at the end of 2014. To support the growing number of electric vehicles in our fleet, PG&E has installed more than 500 electric vehicle charging points at 80 PG&E locations. PG&E accrues emission reductions through the life of the vehicles; the average life of PG&E's light- and heavy-duty vehicles is 8 to 10 years.	1387	Scope 1	Voluntary			4-10 years	6-10 years	
Process emissions reductions	As reported through our participation in the U.S. EPA's Natural Gas STAR Program, PG&E avoided the release of 61 mmcf of natural gas in 2014. These savings were achieved primarily by replacing the remaining cast iron mains in PG&E's distribution system as well as	34726	Scope 1	Voluntary	285714				

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	steel gas mains, and removing from service high-bleed pneumatic devices from one of PG&E's underground storage facilities. PG&E also implemented a technique called cross compression, a process by which natural gas is transferred from one pipeline to another during large transmission pipeline construction and repair projects.								
Other	PG&E reduced its emissions in 2014 across 85 environmental remediation sites through the use of alternative fuels; high-tier, lower-emitting remediation/construction equipment; reductions in business travel and mobilizations to remediation sites; green and sustainable remediation techniques; and increased material reuse and/or recycling of waste.	11509	Scope 3	Voluntary					

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	PG&E uses an integrated planning process to link our business strategy with resource planning. Grounded in benchmarking and continuous improvement, the process keeps us focused on our key objectives and will ultimately help us deliver results for many years to come. As part of this process, AB 32—in concert with California's Renewable Portfolio Standard, customer energy efficiency goals, and emerging U.S. EPA regulations—serves as a catalyst for PG&E to assess costs and opportunities for low-carbon investments. AB 32 requires the state to reduce GHGs to 1990 levels by 2020 and includes a Cap-and-Trade Program among other program measures. California's Renewable Portfolio Standard (RPS), which requires 33% renewable energy by the end of 2020, drives investment in GHG emission reduction activities such as low- and zero-GHG electricity purchases and installations. Compliance with SB 1368, which prohibits any load-serving entity in California such as PG&E from entering into a long-term financial commitment for conventional electricity generation unless it complies with a GHG emission performance standard, also drives investment in lower emissions generation.
Dedicated budget for energy efficiency	The budget for PG&E's customer energy efficiency programs to save 593 GWh, 100 MW, and 20 million therms for 2014 was $420 million—the largest investment in energy efficiency by any U.S. utility. These programs saved more than 776,000 MT of CO2 in 2014.
Dedicated budget for other emissions reduction activities	PG&E has a dedicated budget to reduce our Scope 1 SF6 emissions.
Dedicated budget for other emissions reduction activities	PG&E has a dedicated budget to improve our fleet's energy efficiency and to incorporate innovative new, low-emissions vehicles into our fleet.

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Further Information

Page: CC4. Communication

CC4.1

Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Status	Page/Section reference	Attach the document
In mainstream financial reports but have not used the CDSB Framework	Complete	pages 19-21, 29-30	https://www.cdp.net/sites/2015/78/14678/Climate Change 2015/Shared Documents/Attachments/CC4.1/2014 PGE 10K.pdf
In voluntary communications	Underway - previous year attached	pages 151-158	https://www.cdp.net/sites/2015/78/14678/Climate Change 2015/Shared Documents/Attachments/CC4.1/PGE 2014 Sustainability Report.pdf
In voluntary communications	Underway - previous year attached	pages 1-3	https://www.cdp.net/sites/2015/78/14678/Climate Change 2015/Shared Documents/Attachments/CC4.1/PGE Emissions Summary Report 2013.pdf

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Risks driven by changes in regulation
Risks driven by changes in physical climate parameters
Risks driven by changes in other climate-related developments

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Renewable energy regulation	California's Renewable Portfolio Standard (RPS) requires PG&E to increase our renewable energy to 33% of total retail sales by the end of 2020. PG&E is required to deliver an average of 23% of its electricity from RPS-eligible resources over the 2014 to 2016 period and ~30% on average over the 2017 to 2020 period. By the end of 2014, 27% of the electricity PG&E delivered to its customers came from RPS-eligible resources, meeting the state's interim target. PG&E faces the regulatory risk of non-compliance, which invokes financial penalties.	Increased operational cost	1 to 3 years	Direct	Very unlikely	Medium-high	PG&E's cost of compliance risk for not meeting California's RPS is $50 per MWh up to $25 million per year.	PG&E uses a variety of approaches to achieve California's ambitious renewable energy goals, including competitive solicitations to procure renewable energy from third-parties and owning renewables projects ourselves.	Total 2014 renewable energy procurement and administrative costs (both of which are necessary to ensure compliance) were ~$2.2 billion.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Renewable energy regulation	Risk of increased costs to customers. PG&E supports renewable energy and also recognizes the risk of cost impacts from these resources including the challenges of successful integration of renewable energy into the electric grid.	Increased operational cost	>6 years	Indirect (Client)	Virtually certain	High	Total costs of the RPS program, including integration and transmission costs, over and above market prices, will result in an average rate increase of 1-2% per year from 2011 through 2020.	PG&E strongly advocates for RPS policies that provide flexibility and help minimize costs to our customers. PG&E supports a technology neutral procurement process, where all technologies can fairly compete as this provides the best value to customers at the lowest possible cost.	The 2014 administrative cost of managing the renewables program (which includes keeping customer costs as low as possible) was $12 million.
Cap and trade schemes	In 2011, the California Air Resources Board (ARB) adopted Cap-and-Trade regulations that include provisions to establish a statewide cap on GHG emissions, allocate allowances among utilities and other entities, and permit the purchase and sale of allowances	Increased operational cost	Up to 1 year	Direct	Likely	Low-medium	The California Air Resources Board's (ARB's) Cap and Trade regulation addresses financial implications of not complying with the Cap and Trade program; Penalties are four times the amount of allowances that an entity is short at the end of each compliance period, plus daily penalties	Over the last few years, PG&E has participated in the California Air Resources Board's (ARB's) rulemaking to design the cap-and-trade program and focused on specific design features that will help mitigate costs to customers, such	Management costs stem from any incremental full-time equivalent positions created to administer the program and comply with program requirements. The cost would be less than 1% of operating revenue, which

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	through an ARB-managed auction. The first compliance period began on 1/1/2013 and applies to the electricity and industrial sectors. The second period started on 1/1/2015 and expanded to include suppliers of natural gas and liquid fossil fuels. There is still a risk that the design and implementation of the program will expose PG&E and our customers to unreasonably high costs. Also, while most electric customers will see cap-and-trade compliance costs mitigated by the return of allowance revenues via the ratemaking process, mid-sized business customers who are not deemed emissions intensive and trade exposed						if the 4 to 1 surrender requirement is not met within a certain time frame and $10,000 per day per violation.	as allocating allowances to utilities for the benefit of their customers, access to robust supply of high quality offsets, robust market oversight, and the establishment of an allowance price containment reserve that will protect entities from high allowance prices and many other provisions. PG&E has also been involved in ARB's allowance allocation process in order to better understand the potential impacts of proposed GHG reduction targets, and has conducted analyses of possible scenarios and their effect on the company. To manage	was more than $17 billion in 2014.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	will not. GHG cost ratemaking and allowance revenue return for natural gas customers has not been determined by PG&E's regulator. There is an additional risk of insufficient monitoring of the emissions trading market. While GHG regulation may increase customer electricity prices, the quantity of allowances allocated for the benefit of our customers and the manner in which those allowances are returned to customers is dictated by the CPUC and determines to what degree customer costs associated with the program are mitigated.							regulatory risks, compliance, and costs, PG&E created a GHG procurement strategy that was approved by the California Public Utilities Commission in October 2012. This strategy allows PG&E to employ several procurement mechanisms such as: (a) participation in ARB's quarterly allowance auctions and its Allowance Price Containment Reserve; (b) bilateral transactions via an RFO (Request for Offers) process, and (c) transacting via exchanges.	
Carbon taxes	PG&E's facilities in the nine-county	Increased operational	Up to 1 year	Direct	Virtually certain	Low	The fee was 7 cents per metric		

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	San Francisco Bay Area became subject to a GHG emissions fee imposed by the Bay Area Air Quality Management District in 2009. PG&E facilities that are required to submit an air quality permit to operate (such as fossil-fueled power plants, natural gas compressor stations, and smaller sources such as emergency generators) have a fee added to their permit bill.	cost					ton of CO2-equivalent, and, effective July 1, 2015, will be 9 cents per metric ton.		
Emission reporting obligations	As required by AB 32, PG&E submits annual reports to the ARB covering the GHG emissions from our electricity generating facilities, major natural gas compressor stations, supply of natural gas to customers,	Increased operational cost	Up to 1 year	Direct	Unlikely	High	Cap-and-Trade regulation stipulates that failure to comply with ARB's GHG reporting requirements could result in civil penalties of $10,000, and forfeiture of an entity's free allocation of	PG&E's GHG Reporting management team implements a robust methodology and quality review process with different lines of business to collect, compile, calculate, report and	Management costs stem from any incremental full-time equivalent positions created to comply with program requirements. The cost would be less than 1% of operating

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	distribution gas system, and electricity imported into California, all of which are verified for material compliance and conformance with the ARB regulation. Additionally SF6 leaks from electric transmission and distribution equipment are also reported to ARB. PG&E faces regulatory risk from inaccurate reporting, and non-compliance could result in significant financial penalties, which could increase PG&E's operating expenses. All of PG&E's facilities are located in California.						allowances, which could result in $300 million+ of GHG emissions allowances (credits).	independently verify numerous mandatory GHG emissions reports. Data is captured in an environmental Management Information System. System-generated output reports meet the regulatory reporting requirements and are used as the single source for reporting to the on-line regulatory reporting systems. PG&E uses this method to assure consistency of regulatory reports.	revenue, which was more than $17 billion in 2014.
Uncertainty surrounding new regulation	Incompatible and stringent state and federal GHG regulations may result in increased cost to PG&E	Increased operational cost	1 to 3 years	Direct	Likely	Unknown	The potential financial implications could include costs involved in ensuring existing	PG&E has participated actively with regulators at the state and federal level and with	Management costs stem from any incremental full-time equivalent positions

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	customers. At the state level, the Governor has announced an aggressive economy-wide GHG reduction goal of 40% below the 1990 levels by 2030. There are a number of bills introduced by the state legislature to formalize the Governor's goals and to set the state's future GHG targets. At the federal level, in June 2014, U.S. EPA issued draft regulations applicable to CO2 emissions from existing power plants under section 111(d) of the Clean Air Act. An unclear schedule and simultaneous development of policy at the state and federal level present a high level of uncertainty						facilities are compliant with incremental mandates that increase portfolio costs and limit flexibility. While it is premature to forecast costs, we expect to recover these costs in rates.	other concerned stakeholders to ensure that regulations to reduce GHG emissions are cost-effective and take our voluntary or early actions into account, where applicable.	created, which to date have been less than 1% of operating revenue, which was more than $17 billion in 2014.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Uncertainty surrounding new regulation	In June 2014, the U.S. EPA issued draft regulations applicable to CO2 emissions from existing power plants under section 111(d) of the Clean Air Act, which will have direct impacts on PG&E's owned natural gas power plants as well as power markets in California and throughout the west.	Increased capital cost	1 to 3 years	Direct	Likely	Low	The potential financial implications could include costs involved in ensuring facilities are compliant (retrofits) and costs of an uncoordinated approach to 111(d) compliance across the WECC, manifested as wholesale electricity prices. Until states adopt 111(d) Implementation Plans in June 2016, it is premature to forecast costs. We expect, however, to recover compliance costs in rates.	PG&E has encouraged U.S. EPA to allow states to meet new federal GHG performance standards by crafting their own programs, if such programs can demonstrate that they will achieve emission reductions equal to or greater than would be achieved by the application of EPA's standards. PG&E is also supportive of the option to join multi-state compliance plans and have a regional program to meet 111(d) goals.	These costs stem from any incremental full-time equivalent positions created, the costs of which to date have been less than 1% of operating revenue, which was more than $17 billion in 2014.
Uncertainty surrounding new regulation	In May 2015, the California Air Resources Board released a concept paper on short-lived climate pollutants (SLCPs).	Increased operational cost	1 to 3 years	Direct	Likely	Unknown	The potential financial implications could include costs involved in ensuring facilities are compliant.	PG&E has participated actively with regulators at the state and federal level and with other concerned	These costs stem from any incremental full-time equivalent positions created, the costs of which

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	This paper describes policies to meet 2020 and 2030 emission reduction targets for methane, and other SLCPs. This includes policies that affect PG&E, including minimizing pipeline emissions (leaks and venting) and increasing renewable natural gas, among others. In March 2014, the White House launched an interagency effort to identify and pursue opportunities to reduce methane emissions across the economy as part of the administration's Climate Action Plan. If EPA decides to develop additional regulations, it will complete those regulations by the end of 2016.						While it is premature to forecast costs, we expect to recover these costs in rates.	stakeholders to ensure that regulations to reduce GHG emissions are cost-effective and take our voluntary or early actions into account, where applicable. PG&E also maintains a cross-functional team to identify and coordinate our activities around methane emission reporting and reduction. The team coordinates closely with our trade associations and other gas utilities to conduct research and share best practices.	to date have been less than 1% of operating revenue, which was more than $17 billion in 2014.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Uncertainty surrounding new regulation	In January 2014, the U.S. EPA published draft regulations under section 111(b) of the Clean Air Act to control CO2 emissions from new fossil fuel-fired power plants. While these draft regulations as presently written do not apply to PG&E's power plants currently in operation or under construction, it is possible that the final regulations may affect the design, construction, operation and cost of future fossil fuel-fired power plants.	Increased capital cost	1 to 3 years	Direct	Unknown	Low	The potential financial implications could include costs involved in ensuring facilities are compliant (retrofits). While it is premature to forecast costs, we expect to recover these costs in rates.	With regard to future power plants or other facilities that PG&E owns, we work to ensure that any facilities built in-state meet both the state's and the EPA's rigorous standards. PG&E's efforts to build a clean energy portfolio include developing new, highly efficient and flexible natural gas-fueled plants owned and operated by PG&E.	The costs associated with ensuring that future facilities meet EPA regulations cannot yet be determined, but may be subsumed within the cost of meeting state regulations.

CC5.1b

Please describe your inherent risks that are driven by change in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in temperature extremes	PG&E faces the risk of increased electricity demand and loads from more extreme and prolonged hot weather events. Higher temperatures, including warmer daytime maximums and night time minimums, for prolonged periods, may also mean that certain electrical assets may fail, become less efficient or less reliable, and may need to be modified or replaced. Higher electrical loads increase stress and management of electricity on the transmission system. Prices of electricity may fluctuate and in some extreme events, there may not be enough electricity to meet demand.	Increased operational cost	>6 years	Direct	Likely	Medium	The July 2006 California heat-wave was estimated to have a $150-300 million direct impact on PG&E due to infrastructure repair costs and the increased price of electricity due to peak demand. While this was a singular event, science suggests these events will occur more frequently, which could result in potential financial implications equal to or greater than $150-300 million.	For heat events, PG&E's demand-response programs (e.g., SmartRate, Peak Day Pricing, SmartAC) can mitigate peak demand. Smart Meter data can also be applied in near real-time for demand-side management during events. PG&E meteorologists implemented a heat storm model that provides the utility advance forecasts of heat storm intensity in terms of outage estimates for each division and heat wave duration. These forecast models are providing state-of-the-art guidance to emergency response teams resulting in enhanced public safety, reduced power restoration times, and increased system reliability. Proactive	PG&E's budget for demand response programs in 2015 is $60 million.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								outreach and “cooling centers” for the public help mitigate impacts. Longer-term management strategies include infrastructure improvements that increase resiliency of critical systems and improve system reliability. Distributed generation and increased energy storage and management, including the use of electrical vehicles tied to the grid, could help alleviate peak loads.	
Change in mean (average) temperature	PG&E faces the risk of increased electricity demand and load if average temperatures increase at the rate global climate models currently predict. Higher electrical loads increase stress and management of electricity on the	Increased operational cost	>6 years	Direct	Very likely	Medium-high	The CEC’s 2013 Integrated Energy Policy Report provides potential load growth scenarios due to average temperature increases predicted by climate models. Using mid and high demand	To manage higher demand, PG&E is continuing our efforts to improve customer energy efficiency and demand response programs. We are also increasing energy supply capacity, including adding new contracts.	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	transmission system.						scenarios, the consumption impact for PG&E in 2024 ranges from 482 to 609 GWh.		
Change in precipitation pattern	PG&E faces the risk of reduced hydroelectric output. PG&E owns and operates the nation's largest investor-owned hydroelectric system, with a total generating capacity of nearly 4,000 MW. PG&E's system relies on nearly 100 reservoirs located primarily in the higher elevations of California's Sierra Nevada and Southern Cascade mountain ranges. The California Department of Water Resources projects that the Sierra Nevada snowpack may be further reduced from its mid-20th century average by	Increased operational cost	>6 years	Direct	Very likely	Medium-high	Annual cost of impacts of climate change on hydroelectric production would vary greatly by year.	Development and calibration of new distributed runoff forecasting models are enabling PG&E to improve planning and better manage increased variability and extremes. Possible storage projects that would help mitigate the expected snowpack decline could potentially include the development of pump storage projects, new reservoir capacity, and additional capacity from other energy sources.	Management costs are projected to be less than 1% of operating revenue, which was more than $17 billion in 2014.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	25 to 40% by 2050. If future hydroelectric generation is reduced due to climate change, it may become necessary to replace some of this electricity from other sources.								
Sea level rise	PG&E faces the risk of higher flooding potential at coastal and low elevation facilities due to sea level rise, especially when combined with high tides, increased runoff, and increased wave heights from storm surges.	Increased capital cost	>6 years	Direct	Likely	Medium-high		PG&E engineers are evaluating low elevation electric and gas facilities to determine site specific sea level rise risks. Where risks are identified, temporary mitigation measures can be initiated while permanent engineered adaptations are planned.	
Induced changes in natural resources	PG&E faces the risk of increased wildfire frequency and intensity within this century. Wildfires could pose a threat to customers as well as PG&E assets such as electric	Increased operational cost	>6 years	Direct	Likely	Medium		Seasonal wildland fire frequencies are expected to increase throughout PG&E's service area. Vegetation management has reduced the risk of fire to PG&E energy facilities.	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	transmission and distribution lines, and create the need for additional emergency response from PG&E crews.							Additionally, collaborative emergency response plans incorporating regional wildland fire resources are designed to mitigate impacts.	
Change in precipitation extremes and droughts	Storm events can significantly impact PG&E's operations and if storms become stronger and more frequent it would drive increased operational costs, and drive investments in infrastructure to make the system more resilient.	Increased operational cost	>6 years	Direct	Likely	Medium	In April, 2015, the Bay Area Council Economic Institute published "Surviving the Storm," a report that finds that a Superstorm and the associated flooding could have a $10.4 billion impact on the Bay Area economy. Included in the report is PG&E's estimate that disruption to our Bay Area substations could result in an economic impact of up to $125 million. This estimate represents the associated outage	PG&E meteorologists have implemented a storm model that provides the utility advance forecasts of wind, rain, lightning, and heavy snow event intensities in terms of outage estimates for each local PG&E Division and storm timing.	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							cost—or loss of value—to PG&E customers, not the cost of replacing or repairing equipment.		

CC5.1c

Please describe your inherent risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Uncertainty in market signals	If customers do not take sufficient advantage of PG&E's energy efficiency programs, PG&E runs the risk of missing the programs' ambitious goals.	Increased operational cost	Up to 1 year	Direct	About as likely as not	Low-medium	If PG&E does not meet its targets, we will not earn the shareholder incentive authorized by the CPUC. PG&E expects to earn between $20-25 million per year based on historical averages and future outlook. In 2014, this incentive was	As part of our focus on our customers, we are taking important steps to design and deliver energy efficiency programs and services in a more integrated manner, and on delivering tailored energy solutions that meet different customers' needs. We are proactively giving residential customers Home Energy Reports, which provide information	In 2014, PG&E had a budget of $420 million—the largest investment in energy efficiency by any U.S. utility; this does not include an additional $167 million for programs serving low-income customers. The company's significant investments in

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							$36.3 and is one of the ways PG&E earns a financial return under California's decoupled regulatory structure.	about their energy use, along with personalized tips on how they can save energy. For large business customers, we are using energy management tools that enable us to have strategic discussions and recommend the best mix of our products and services.	energy efficiency are funded with a budget collected from customers via public purpose program charges embedded in gas and electric rates, and is therefore revenue-neutral to PG&E.
Changing consumer behaviour	Changes in customer attitudes can lead to greater variability in the demand for electricity and difficulty predicting load.	Increased operational cost	Up to 1 year	Direct	Very likely	Low	In 2014 PG&E's demand response programs had the ability to reduce demand on our electric system by 586 MW, which is roughly equivalent to a peaking power plant.	To manage fluctuating demand, PG&E has a demand response program to reduce consumer electricity use at periods of high demand.	PG&E's budget for demand response programs in 2015 is $60 million.
Reputation	PG&E faces reputational risks associated with how our customers perceive our policies, actions, and plans to	Other: Reduction in corporate goodwill	Up to 1 year	Direct	Very likely	Low	The financial impacts of reputational risk associated with how our customers perceive our policies, actions, and plans to	PG&E manages this reputational risk by complying with relevant laws and regulations and seeking opportunities to go beyond compliance, sharing our plans and progress in a	Management costs stem from any incremental full-time equivalent positions created, which to date have been less than 1% of operating

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	address climate change.						address climate change could include increased expenses related to programs that increase awareness of and satisfaction with PG&E's policies, actions, and plans.	transparent manner, and proactively engaging with stakeholders to stay abreast of climate change issues facing PG&E and the communities we serve and being a constructive voice in developing solutions.	revenue, which was more than $17 billion in 2014.
Uncertainty in market signals	Rooftop solar is an important and growing source of energy, which PG&E has long supported. PG&E's business model will need to adapt to increasing adoption of distributed generation resources among our customer base.	Reduced demand for goods/services	1 to 3 years	Direct	Very likely	Medium		PG&E's business model will need to adapt to increasing adoption of distributed generation resources among our customer base. While distributed generation will reduce energy demand, it will also present opportunities by requiring new grid technologies and systems/processes to integrate higher levels of distributed generation.	

CC5.1d

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to inherent risks driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation
Opportunities driven by changes in physical climate parameters
Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Product efficiency regulations and standards	PG&E has a strong track record of meeting or exceeding the gas and electric customer energy efficiency goals set by the CPUC. PG&E can earn a financial incentive for achieving the CPUC-approved customer energy efficiency targets.	Increased demand for existing products/services	Up to 1 year	Direct	Likely	Medium	PG&E can earn a financial incentive for achieving the CPUC-approved customer energy efficiency targets. PG&E expects to earn between $20-25 million per year based on historical averages and future outlook. In 2014, PG&E was awarded	As part of our focus on our customers, we are taking important steps to design and deliver energy efficiency programs and services in a more integrated manner, and on delivering tailored energy solutions that meet different customers' needs. We are proactively giving residential	In 2014, PG&E had a budget of $420 million—the largest investment in energy efficiency by any U.S. utility; this does not include an additional $167 million for programs serving low-income customers. The company's significant investments in energy efficiency continue with a

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							$36.3 million.	customers Home Energy Reports, which provide information about their energy use, along with personalized tips on how they can save energy. For large business customers, we are using energy management tools that enable us to have strategic discussions and recommend the best mix of our products and services.	budget collected from customers via public purpose program charges embedded in gas and electric rates, and is therefore revenue-neutral to PG&E.
Cap and trade schemes	PG&E has consistently supported the California Air Resources Board's (ARB) efforts to broaden the Cap-and-Trade market to	Reduced operational costs	Up to 1 year	Direct	More likely than not	Medium	If the California Cap-and-Trade program links with other jurisdictions, then additional compliance	PG&E is supporting the California Air Resources Board (ARB)'s efforts to broaden the Cap-and-Trade market to jurisdictions	These costs are integrated into our business model. They are likely to be less than 1% of operating revenue, which was more than

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	jurisdictions beyond California. PG&E supported linkage with Québec as a critical first step in broadening California's cap-and-trade market through linking with other jurisdictions. Larger more diverse markets enhance the prospects for efficient market outcomes, eventually leading to lower-cost emission reduction opportunities. PG&E also supports the memorandum of understanding signed with the Pacific Coast Collaborative (including						instruments at a lower cost may become available and enable PG&E to reduce its cost of compliance with the program.	beyond California.	$17 billion in 2014.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Oregon, Washington, and British Colombia) and the California Governor's stated intention of pursuing partnership opportunities with Mexico. PG&E also supports a regional approach to meet the compliance goals under the EPA 111(d) regulation, which could be accomplished through a regional cap-and-trade program.								
Fuel/energy taxes and regulations	As a supplier of a low-carbon fuel, California's Low Carbon Fuel Standard (LCFS) allows PG&E to generate and sell carbon	Increased demand for existing products/services	1 to 3 years	Direct	Likely	Medium			

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	credits on behalf of our electric and natural gas vehicle customers.								
Emission reporting obligations	PG&E was among the earliest companies to voluntarily quantify and report the GHGs from the electricity we deliver to our customers beginning in 2003. All of PG&E's prior reporting experience provides an opportunity for the company to be in a better position to meet reporting requirements at the federal, state, regional, and local level. In addition, PG&E better understands our carbon	Reduced operational costs	Up to 1 year	Direct	Virtually certain	Low			

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	footprint and can share that information publicly.								

CC6.1b

Please describe the inherent opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other physical climate opportunities	An increase in mean temperature, sea level rise, and changes in precipitation patterns may require PG&E to make infrastructure changes, which could increase capital projects. With CPUC regulatory approval, PG&E has the opportunity to earn a return on	Investment opportunities	>6 years	Direct	Likely	Low-medium	With CPUC regulatory approval, PG&E has the opportunity to earn a return on our investment in infrastructure. While it is premature to forecast climate change-related infrastructure investments, PG&E's enterprise-wide after-tax return on utility rate base is 7.0%. PG&E	As part of PG&E's risk management program, a cross-functional team is conducting a holistic assessment of the risks to PG&E assets from different natural hazards, such as sea level rise. This structured process is helping to identify potential impacts to PG&E assets and enabling potentially	Management costs stem from any incremental full-time equivalent positions created, which to date have been less than 1% of operating revenue, which was more than $17 billion in 2014.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	investments in infrastructure improvements.						earned an overall return of $1.6 billion in 2014 from all capital expenditures, which includes some investments in infrastructure.	affected business units to evaluate climate-change-related risks to facilities and develop the necessary adaptation strategies. An in-house climate science team regularly reviews the most relevant scientific literature, and this research is integrated into this process.	

CC6.1c

Please describe the inherent opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Reputation	PG&E makes charitable contributions to a range of non-profit	Wider social benefits	Up to 1 year	Direct	Virtually certain	Low	An economic impact study conducted by PG&E found that every dollar of	PG&E has partnered with Habitat for Humanity to cover the cost of	Since 2005, PG&E has invested nearly $10 million in shareholder-

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	organizations whose programs reduce GHGs, improve air quality, and educate students and others about how they can make a difference. One example is PG&E's Solar Habitat Program, a partnership between PG&E and Habitat for Humanity International to fund the full cost of solar electric systems on every Habitat-built home in northern and central California. The first-of-its-kind partnership brings solar energy to families with limited incomes, furthering PG&E's						PG&E's charitable contributions resulted in another 90 cents of economic activity in the economy – meaning PG&E's investments nearly doubled in economic impact. The Solar Habitat Program will save customers more than $9 million over the lifetime of the solar panels, and each panel will help avoid 130,000 pounds of CO2 from entering the environment. In terms of reputational benefit, the potential financial implication will likely be low.	installing solar panels for every new Habitat home built in PG&E's service territory. PG&E employees have also volunteered over 11,000 hours on Habitat home sites, both contributing to the construction process and installing solar panels.	funded community investments in the Solar Habitat Program. Over that timeframe, the program has saved customers an average of $500 per year on their energy bills.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	commitment to provide affordable, renewable energy in the communities it serves.								
Other drivers	PG&E participates in a number of voluntary agreements, such as the U.S. EPA's Natural Gas Star and SF6 Emission Reduction Partnership for Electric Power Systems programs. The opportunity is that PG&E will be well-positioned to meet mandated GHG reductions from these sources. Because of PG&E's voluntary efforts to reduce SF6, PG&E was well-positioned to comply with the	Reduced operational costs	Up to 1 year	Direct	Virtually certain	Low-medium	Because PG&E participates in a number of voluntary agreements to reduce GHG emissions, we stand to face lower compliance costs if GHG emission reductions are mandated. In addition, some of these voluntary actions have resulted in significant cost savings to the company, or have benefited the company by creating a supply of products that the company might need in the future.	PG&E's voluntary ClimateSmart program encouraged the development and testing of Climate Action Reserve (CAR) offset project protocols, which led to an increase in supply of CAR offsets. In addition, four of CAR's protocols have been adopted by the ARB for use in its cap-and-trade program. As of May 2015, the ClimateSmart program had invested $12.2 million in retiring 1.38 million metric tons of	The cost of PG&E's participation in voluntary programs stems largely from any incremental full-time equivalent positions created, which to date have been less than 1% of operating revenue, which was more than $17 billion in 2014.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	California Air Resources Board's regulation for reducing SF6 emission rates.							offsets. By requiring the use of CAR offsets for the ClimateSmart program, the program helped spur CAR offset protocol development, while providing the company with valuable experience in developing and contracting for these products.	
Other drivers	PG&E and California lead the nation in EV adoption, with 1 in 5 EVs registered within our service area. PG&E is focused on working with customers and stakeholders to facilitate a smooth transition to this next generation of vehicles.	New products/business services	1 to 3 years	Direct	Virtually certain	Low-medium		PG&E has proposed to undertake the largest deployment of EV charging stations in the country—an estimated 25,000 EV chargers at sites across our service area in Northern and Central California.	
Other drivers	PG&E is supporting	Wider social benefits	Up to 1 year	Direct	Very likely	Low	PG&E's commitment to		

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	California's economy by fulfilling other operational needs. For example, PG&E partnered with Altec Industries to develop a first-of-its-kind plug-in battery-powered system for bucket trucks. The battery operates the auxiliary systems of these trucks—lights, hydraulic lifts, heating and air conditioning, and tools—while at the job site, avoiding the need to idle the vehicle's engine.						purchase hundreds of trucks from Altec Industries will help support about 100 jobs at a new manufacturing facility in PG&E's service area.		
Other drivers	PG&E continues to pioneer the application of sustainable principles, practices, and technologies across active remediation	New products/business services	Up to 1 year	Direct	Very likely	Low			

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	projects using guidance prepared and piloted with a state agency. Examples of sustainable best management practices include the use of remediation equipment powered by cleaner and alternative fuels, reducing greenhouse gas emissions in local communities.								

CC6.1d

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to inherent opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1f

Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Thu 01 Jan 2009 - Thu 31 Dec 2009	3218256
Scope 2	Thu 01 Jan 2009 - Thu 31 Dec 2009	997983

Scope	Base year	Base year emissions (metric tonnes CO2e)

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
The Climate Registry: General Reporting Protocol
The Climate Registry: Electric Power Sector (EPS) Protocol
Other

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

The California Climate Action Registry (CCAR) Draft Natural Gas Transmission & Distribution (T&D) Protocol, (April 2009) and the US EPA's Subpart W reporting protocols were used to derive estimates for the majority of PG&E's fugitive and process emissions from our natural gas T&D system. For certain emission sources in our natural gas T&D system for which we had more accurate methodologies and available data, PG&E used our own system-specific calculation methodologies to estimate emissions, which in general were more accurate.

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	IPCC Second Assessment Report (SAR - 100 year)
CH4	IPCC Second Assessment Report (SAR - 100 year)
N2O	IPCC Second Assessment Report (SAR - 100 year)
Other: HFC-134a	IPCC Second Assessment Report (SAR - 100 year)
SF6	IPCC Second Assessment Report (SAR - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference
Biodiesels	9.45	Other: kg CO2/gallon	The Climate Registry, General Reporting Protocol, v1.1, Table 13.1
Motor gasoline	8.78	Other: kg CO2/gallon	The Climate Registry, General Reporting Protocol, v1.1, Table 13.1
Jet gasoline	9.75	Other: kg CO2/gallon	The Climate Registry, General Reporting Protocol, v1.1, Table 13.1
Biogas	0.0438	Other: kg CO2/scf	The Climate Registry, General Reporting Protocol, v1.1, Table 12.1
Distillate fuel oil No 2	10.21	Other: kg CO2/gallon	The Climate Registry, General Reporting Protocol, v1.1, Table 12.1
Natural gas	0.05	Other: kg CO2/scf	The Climate Registry, General Reporting Protocol, v1.1, Table 13.1
Liquefied Natural Gas (LNG)	4.46	Other: kg CO2/gallon	The Climate Registry, General Reporting Protocol, v1.1, Table 13.1
Other: Compressed Natural Gas	0.054	Other: kg CO2/scf	The Climate Registry, General Reporting Protocol,

Fuel/Material/Energy	Emission Factor	Unit	Reference
			v1.1, Table 13.1
Electricity	427	lb CO2 per MWh	PG&E's 2013 Electric Power Sector Report to The Climate Registry
Propane	5.59	Other: kg CO2/gallon	The Climate Registry, General Reporting Protocol, v1.1, Table 13.1

Further Information

Page: CC8. Emissions Data - (1 Jan 2014 - 31 Dec 2014)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

3774972

CC8.3

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

1204714

CC8.4

Are there are any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of Scope 2 emissions excluded from this source	Explain why the source is excluded

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	More than 5% but less than or equal	Other: Published Emission Factors	There is little uncertainty with regard to stationary combustion emissions from utility-owned generation and compressor stations because fuel use at these facilities is metered with utility-grade meters, which must

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
	to 10%		meet strict accuracy standards set by the CPUC. These emissions comprised ~72% of PG&E's Scope 1 emissions. However, approximately 23% of PG&E's Scope 1 emissions were fugitive and process emissions from PG&E's natural gas T&D system, which are difficult to accurately quantify. Starting with 2011 emissions, PG&E began reporting the greenhouse gas emissions from the process and fugitive emissions from our natural gas distribution system and compressor stations to the U.S. EPA. PG&E used U.S. EPA's subpart W methodology to quantify the sources of emissions covered under this regulation. However, Subpart W does not cover all the sources of process and fugitive emissions that PG&E has been reporting to The Climate Registry since 2007. For these other emissions, PG&E used estimation methods proscribed by The Climate Registry's Draft Natural Gas Transmission & Distribution Protocol, (April 2009). By its own admission, the draft protocol's emission factors have a wide range of uncertainty. For emission sources in our natural gas T&D system for which we had more accurate methodologies and available data, PG&E used our own system-specific calculation methodologies to estimate emissions, which in general were more accurate than the draft protocol's methodologies. The Gas Research Institute/US Environmental Protection Agency "Methane Emissions from the Natural Gas Industry" study ("GRI/EPA 1996") produced a national industry-wide methane emission inventory uncertainty of about 33% at a 90% confidence interval. Similarly, the EPA GHG emissions inventory has +30% upper bound/-26% lower bound uncertainty estimates (95% confidence interval) for methane and non-energy CO2 emissions from natural gas systems." Therefore, PG&E estimates that 30% uncertainty applied to 23% of our Scope 1 inventory would result in an uncertainty range of >5% but < or = to 10% for our entire Scope 1 emissions.
Scope 2	More than 2% but less than or equal to 5%	Metering/ Measurement Constraints	With regard to the electricity used by PG&E facilities, which comprised about 5% of PG&E's Scope 2 emissions, this electricity is metered through utility-grade meters, which must meet strict accuracy standards set by the CPUC. PG&E's electricity use is multiplied by a PG&E-specific emission rate for its delivered electricity to calculate the emissions associated with this electricity. This emission rate is third-party verified under The Climate Registry's (TCR's) Electric Power Sector (EPS) protocol. PG&E's T&D line losses, which make up approximately 95% of our Scope 2 emissions, are estimated using electricity delivery data, which is generated by utility billing meters, and by default emission factors for different types of electricity (e.g. purchased electricity, wheeled/direct access electricity). The emission factors for this electricity are default factors based on PG&E's eGRID sub region. Therefore, there is uncertainty associated with how representative these emission factors are for the actual electricity that was delivered over PG&E's T&D system. In addition, the methodology in TCR's EPS protocol to calculate a T&D loss factor uses the difference between the electricity put onto the grid by producers and the electricity taken off the grid by consumers to calculate a T&D loss factor. This factor therefore includes the contribution of metering errors, unaccounted for energy, theft, unmetered loads, and other factors. In other words, it is not simply the losses on the line from electrical inefficiencies and the physical characteristics of the lines and the power that flows through them that creates a loss factor, as noted in the protocol. PG&E engineers

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
			attribute the variability in PG&E's loss factor more to the variability in the difference between electricity generated and that consumed due to metering errors, unaccounted for energy, theft, unmetered loads, and other factors, than to changes in the actual physical characteristics of our T&D infrastructure. Therefore, the uncertainty inherent in PG&E's T&D loss factor contributes towards the uncertainty in our Scope 2 emissions.

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance underway for the reporting year but not yet complete - last year’s statement attached

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Reasonable assurance	https://www.cdp.net/sites/2015/78/14678/Climate Change 2015/Shared Documents/Attachments/CC8.6a/2013 Verification Statement.pdf	pages 1-3	The Climate Registry’s General Verification Protocol	100

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to your reported Scope 2 emissions

Third party verification or assurance underway for the reporting year but not yet complete - last year's statement attached

CC8.7a

Please provide further details of the verification/assurance undertaken for your Scope 2 emissions, and attach the relevant statements

Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Reasonable assurance	https://www.cdp.net/sites/2015/78/14678/Climate Change 2015/Shared Documents/Attachments/CC8.7a/2013 Verification Statement.pdf	pages 1-3	The Climate Registry's General Verification Protocol	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
Year on year emissions intensity figure	PG&E reports its carbon dioxide emissions rate annually to The Climate Registry. In 2013, this rate was 427 pounds of CO2 per megawatt-hour of delivered electricity, taking into account both PG&E-owned power generation and power purchased from third parties.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

Further Information

To better understand our methane emissions associated with natural gas distribution, PG&E partnered with other major gas utilities and Washington State University's Laboratory Atmospheric Research in a nationwide field study. PG&E joined the American Gas Association, Environmental Defense Fund, and other utilities to commission the study to measure methane emissions when gas is routed through local service and distribution main pipelines, as well as gas metering and regulating stations. The Climate Registry's Draft Natural Gas T&D Reporting Protocol (April 2009) details the uncertainty inherent in reporting emissions from process/venting and fugitive emissions from the natural gas T&D sector. It states: "While emissions from stationary and mobile combustion are relatively well understood, process/venting and fugitive emissions entail much greater uncertainty due to the paucity of data and variability between sites and equipment. Therefore, organizations in the natural gas T&D sector face a unique challenge, as a majority of their emissions come from process/venting and fugitive emissions sources. These categories of emission sources are highly unpredictable and uncertain (e.g., whether a pressure release valve or a pipeline connector is actually leaking or not), and the commonly used approaches to calculate entity-wide GHG inventories yield values with high levels of uncertainty. The uncertainty associated with process/venting and fugitive emission factors is not the result of any singular cause, but rather a function of the necessary complexity of individual

organizations. Many of the published emission factors used to calculate GHG emissions from the natural gas T&D sector are based on data collected to develop sector-wide emissions characterizations. Therefore, applying industry-averaged factors to organization-specific facilities and equipment with different characteristics (e.g. age, size, design) than the sample equipment and operations that are the basis for the emission factor introduces significant uncertainty to emissions estimates. Appendix B includes an estimate of the uncertainty associated with many of the emission factors used in this protocol. Furthermore, the emission factors reflect not only potentially different conditions, but are the result of surveys taken over a decade ago; emission factors have the potential to be both out-of-date and inconsistently applied."

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2014 - 31 Dec 2014)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

No

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By GHG type
By activity

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	2791580
CH4	915319
N2O	2725

GHG type	Scope 1 emissions (metric tonnes CO2e)
HFCs	158
SF6	65190

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Sulfur Hexafluoride (SF6) from PG&E Electrical Equipment	65190
PG&E Facility Natural Gas Use	5781
PG&E Gas Compressor Stations	334390
PG&E Owned Fossil Generation	2389203
Process and Fugitive Emissions from PG&E's Natural Gas System	874929
PG&E Fleet (transportation emissions)	104075
Other Emissions (e.g. propane use, stationary equipment gas and diesel use)	1402

CC9.2e

Please break down your total gross global Scope 1 emissions by legal structure

Legal structure	Scope 1 emissions (metric tonnes CO2e)

Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2014 - 31 Dec 2014)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

No

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted for in CC8.3 (MWh)

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By activity

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 emissions (metric tonnes CO2e)

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions (metric tonnes CO2e)

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions (metric tonnes CO2e)
T&D Line Losses	1146225
PG&E Facility Electricity Use	29290
PG&E Compressor Station Electricity Use	29199

CC10.2d

Please break down your total gross global Scope 2 emissions by legal structure

Legal structure	Scope 2 emissions (metric tonnes CO2e)

Further Information

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

CC11.2

Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Fuel	17715881
Electricity	150214
Heat	0
Steam	0
Cooling	0

CC11.3

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	16921572
Motor gasoline	174908
Distillate fuel oil No 2	215955
Biodiesels	4405
Propane	4312
Jet gasoline	10747
Other: Compressed Natural Gas	383770
Liquefied Natural Gas (LNG)	212
Residual fuel oil	0
Biogas	0

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the Scope 2 figure reported in CC8.3

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor	0	

Further Information

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Decreased

CC12.1a

Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	2	Decrease	Total Scope 1 and Scope 2 emission reductions due to emissions reduction activities include P&GE's reductions in SF6 from electric transmission and distribution: 42,923 MT CO2e; Fleet: 1,387 MT CO2e; Energy efficiency, building services: 1,872 MT CO2e, and Natural gas process and fugitive emissions savings: 34,726 MT CO2e. These programs totaled 80,908 MT CO2e in reductions. PG&E's total Scope 1 and Scope 2 emissions in 2013 were 4,979,686 metric tons CO2e. Therefore we arrived at 2% through (80,908 MT/4,979,686)*100=2
Divestment			
Acquisitions			
Mergers			
Change in output	4	Decrease	Overall customer demand for electricity decreased 4%. As a result, PG&E generated less electricity, which reduced emissions. PG&E generated about 200,000 MWh less power from its owned natural gas generating stations. While a small source, PG&E-owned solar generation increased by over 100,000 MWh. PG&E's hydro generation decreased 5% in light of continued drought conditions. Emissions from PG&E's natural gas compressor stations dropped in part because there was 5% less throughput in the system.
Change in methodology	19	Decrease	Process and fugitive emissions decreased, primarily due to improved measurement methods, although measurement uncertainties remain with this emissions category.
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other			

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.00032	metric tonnes CO2e	unit total revenue	12	Decrease	Overall Scope 1 and Scope 2 emissions decreased approximately 7%due in part to emissions reduction activities, while revenue increased more than 3%.

CC12.3

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
235	metric tonnes CO2e	FTE employee	10	Decrease	Overall Scope 1 and Scope 2 emissions decreased approximately 7% due in part to emissions reduction activities, while the number of full time employees increased nearly 3%.

CC12.4

Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.194	metric tonnes CO2e	megawatt hour (MWh)	17	Decrease	Emissions represent PG&E's delivered electricity. The drop in PG&E's delivered electricity emission rate was due in large part to added renewable energy as PG&E continued working toward California's goal of 33 percent eligible renewable energy by the end of 2020. PG&E increased the share of renewables in its power mix from 19 to 22 percent. As a result, PG&E's emissions remained low despite reduced hydro output from continued drought conditions.

Further Information

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

Yes

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
California's Greenhouse Gas Cap and Trade Program	Wed 01 Jan 2014 - Wed 31 Dec 2014	24786927			Other: Under ARB rules, PG&E is prohibited from disclosing any non-public information concerning auction participation. PG&E is required under the regulation to consign all of its allocated electric distribution utility allowances for sale in ARB-run auctions. In 2015, PG&E is required to consign at least 25% of its freely allocated allowances as a natural gas supplier for sale in ARB-run auctions. This amount will increase by 5% each year through 2020. PG&E has been authorized by the CPUC to procure allowances needed to meet its own GHG compliance obligations.

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

PG&E has a compliance obligation under the California Air Resources Board (ARB)'s Cap-and-Trade program for emissions from:
- Our electric generation units that exceed the inclusion threshold;
- Imported electricity;
- Natural gas compressor stations; and
- Natural gas delivered to customers that are not separately covered by the Cap-and-Trade program.

Each year, PG&E will receive an allowance allocation for the following calendar year. PG&E's obligations with respect to the allocation differ based on whether the allowances are associated with its business as an electric distribution utility (EDU), or its business as a natural gas supplier. Under the Cap-and-Trade program, allowances are allocated to EDUs at no cost for the benefit of their customers. PG&E is required under the regulation to consign its EDU allowances in ARB-managed auctions. PG&E can then purchase the allowances needed to meet its own physical or contractual GHG compliance obligations through these auctions or in the secondary market.

For 2015 and thereafter, allowances are also allocated to natural gas suppliers at no cost for the benefit of their customers. Only a portion of these allowances are required to be consigned to auction with the remainder being used directly for compliance. The ARB requires the consignment minimum to increase by 5% per year.

Compliance entities can also purchase offset credits from certified parties that develop projects that reduce GHG in sectors not regulated under the cap, such as forest management, destruction of ozone depleting substances, and methane capture projects. Compliance entities can then use the ARB-issued offset credits to satisfy up to 8% of their compliance obligations. On specified deadlines, entities must surrender compliance instruments (i.e., allowances and offset credits) in an

amount equal to their GHG emissions during the period, to the ARB.

To manage regulatory risks, compliance, and costs, PG&E developed a GHG procurement strategy as part of its Bundled Procurement Plan that was approved by the California Public Utilities Commission. This strategy allows PG&E to employ several procurement mechanisms such as: (a) participation in ARB's quarterly allowance auctions and its Allowance Price Containment Reserve, (b) bilateral transactions via a Request for Offers process, and (c) transacting via exchanges. In December 2014, PG&E received GHG procurement authority to cover PG&E's compliance obligation as a natural gas supplier.

More broadly, PG&E maintains a GHG Policy Review Committee to share developments at the state and national levels and to develop company policy positions and recommendations. PG&E also maintains an AB 32 Governance Committee.

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

Yes

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance
Credit Purchase	Landfill gas	Recology Hay Road and Yuba-Sutter Landfill Gas Projects	CAR (The Climate Action Reserve)	10500		Yes	Voluntary Offsetting
Credit Purchase	Forests	City of Arcata Forest Carbon Project	CAR (The Climate Action Reserve)	5422		Yes	Voluntary Offsetting
Credit Purchase	Forests	The Conservation Fund – Big River and Salmon Creek Forest Carbon Project	CAR (The Climate Action Reserve)	60000		Yes	Voluntary Offsetting
Credit	Forests	Sempervirens - Lompico Forest Carbon	CAR (The Climate	885		Yes	Voluntary

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance
Purchase		Project	Action Reserve)				Offsetting

Further Information

The carbon credits that PG&E purchased as noted in Question 13.2a were purchased in 2014 in continued fulfillment of contracts from 2009. PG&E did not provide the number of credits in terms of risk adjusted volume because all of the offsets for which we have contracted on behalf of participating customers in the ClimateSmart program have been Climate Action Reserve offsets, which are not risk adjusted.

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods	Relevant,	1000000	In collaboration with UC Berkeley and Climate	0.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
and services	calculated		Earth, PG&E mapped its 72,000+ line item expenditures (2007-2009) to product categories in the Comprehensive Environmental Data Archive for Economic and Environmental Systems Analysis (CEDA 3.0). CEDA uses economic input-output tables and industry-level environmental data to construct a top-down database of environmental impact per dollar of sales from an industry for all 430 sectors of the U.S. economy. This mapping exercise helped PG&E quantify greenhouse gas emissions associated with goods and services procured in our supply chain. This study was based on 2007-2009 procurement data. At this time, PG&E does not plan to conduct this study on a regular basis given the lack of expected variation in results, year over year.		
Capital goods	Not relevant, explanation provided				As a supplier of electricity and natural gas, PG&E's capital goods consist primarily of energy infrastructure and purchased electricity and natural gas. The emissions associated with our energy production and natural gas transmission and distribution are accounted for in our Scope 1 and Scope 2 emissions, and there are no other material emissions from our capital goods.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	14041680	Reported to TCR in accordance with the Electric Power Sector (EPS) protocol. For energy deliveries, PG&E refers to the Power Source Disclosure Report (PSDR), a report that PG&E	100.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			submits annually to the California Energy Commission. This report details the name, identification numbers, fuel types, and net kWh purchased for every power plant (renewable and non-renewable) from which PG&E purchases electricity. PG&E reports the CO2 emission rates for its owned power plants to the United States Environmental Protection Agency (U.S. EPA) annually. These rates, multiplied by the amount of electricity sourced from each of its owned power plants each year (from the PSDR), total the CO2 emissions from PG&E's owned generation. To determine CO2 emissions for purchased power, PG&E refers to the U.S. EPA eGRID database for CO2 emission rates, and multiplies these by the net MWh sourced by facility.		
Upstream transportation and distribution	Not relevant, explanation provided				PG&E's supply chain primarily consists of upstream purchased electricity and natural gas. Energy use and losses in transporting electricity and natural gas is accounted for in our Scope 1 and Scope 2 emissions, and there are no other material transportation and distribution emissions upstream.
Waste generated in operations	Not relevant, calculated	2727	PG&E measures volumes and weights of waste generated at all facilities, and inputs this data to the US EPA WARM Model Lifecycle GHG comparison. PG&E uses industry standard volume-to-weight conversions to generate tonnages for each weight type in instances	20.00%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			where haulers do not provide primary weight data.		
Business travel	Relevant, calculated	2646	These figures represent the emissions associated with flights booked through any of the travel agencies that PG&E employs. These figures do not include emissions from flights booked by employees on personal or company credit cards as those emissions are difficult to track and quantify. Miles traveled are multiplied by emission factors from Department for Environment, Food, and Rural Affairs (DEFRA), Updated: October 5, 2010, Version 1.2.1.	100.00%	
Employee commuting	Relevant, calculated	2017	Employees were surveyed on miles traveled and mode of transport as part of PG&E's General Office LEED survey. Passenger miles traveled were input to the GHG Protocol Mobile Combustion GHG Emission Calculation Tool, v2.3 with custom emission factors for light rail from the U.S. Department of Transportation (0.3 pounds CO2/passenger mile traveled), and San Francisco BART (0.13 pounds CO2/passenger mile traveled).	1.00%	
Upstream leased assets	Not relevant, explanation provided				PG&E has entered into capital lease agreements to purchase energy and capacity with independent power producers that own generation facilities that meet the definition of a QF under federal law. Emissions from these sources are included in PG&E's Scope 3 emissions for electricity delivered to customers, included above.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Downstream transportation and distribution	Not relevant, explanation provided				PG&E delivers electricity and natural gas directly to customers. There are no downstream operations to account for emissions in this category.
Processing of sold products	Not relevant, explanation provided				PG&E delivers electricity and natural gas directly to customers. Any emissions from the processing of natural gas we deliver are included in Fuel-and-Energy-related activities above.
Use of sold products	Relevant, calculated	38070956	Reported to the California Air Resources Board (ARB) in accordance with the AB 32 Mandatory Reporting Regulation (MRR) and to The Climate Registry. Excludes natural gas used by generating stations to generate electricity delivered to customers (Scope 3 Electricity Purchased for Customers). This category includes CO2e from purchased natural gas that is delivered to customers. The figure represents 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.	0.00%	
End of life treatment of sold products	Not relevant, explanation provided				The use of electricity and natural gas does not have a significant source of emissions related to disposal of the products.
Downstream leased assets	Not relevant, explanation				PG&E did not lease assets during the reporting year.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
	provided				
Franchises	Not relevant, explanation provided				PG&E did not operate any franchises during the reporting year
Investments	Not relevant, explanation provided				PG&E did not have significant emissions due to investments that are not captured in Scopes 1 and 2, or listed elsewhere on this table.
Other (upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance underway for the reporting year but not yet complete - last year’s statement attached

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of Scope 3 emissions verified (%)
High assurance	https://www.cdp.net/sites/2015/78/14678/Climate Change 2015/Shared Documents/Attachments/CC14.2a/CARB Verified emissions.xlsx	Line 504, columns T-V	Other: California Mandatory GHG Reporting Regulations (CARB)	74

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Emissions reduction activities	4	Decrease	PG&E purchased more than 2 million MWh more renewable energy. Additionally, overall customer demand for electricity fell, resulting in about 200,000 MWh less in overall third-party electricity purchases.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in physical operating conditions	3	Increase	Natural gas supplied to PG&E’s customers, and the associated emissions, increased due to a rise in customer demand.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

1) Methods of engagement

a. Suppliers: PG&E distributes an annual Alliance Sustainability Survey to its top tier suppliers with questions on how they are managing environmental impacts in their operations, including greenhouse gas emissions, energy and water usage, waste, and materials management. Results from the survey are used to generate an Environmental Performance score for each supplier, which is incorporated in recurrent supplier performance scorecard reviews. PG&E also recognizes suppliers through a Green Supplier of the Year Award. PG&E also collaborated on a mapping study to provide greater visibility into the GHG emissions of our supply chain and identify focus areas.

d. Customers: As an integral part of our business, we work 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 reduce emissions, including providing them with community energy profiles to assess opportunities and connecting them with PG&E programs and other resources that meet local needs.

2) Strategy for prioritizing engagements

a. Suppliers: Within PG&E's supply chain, we prioritize our Top Tier suppliers, our most critical and strategic suppliers and those with whom we spend significant dollars. PG&E evaluates these suppliers using key performance indicators such as safety, quality and operations, supplier diversity, and environmental performance. We work closely with suppliers to identify areas of opportunities for improvement in environmental performance. We evaluate suppliers against our PG&E Supplier Environmental Performance Standards and leverage environmental performance scores to prioritize depth of engagement and support across the supplier base. For suppliers who have low scores, we provide one-on-one coaching and resources/training.

b. Customers: By taking advantage of new technologies to help customers understand, actively manage, and reduce their energy use, we are enabling them to make more informed decisions and improving the level of service we provide. We are increasingly reaching out to customers through a growing variety of channels, including mobile phones, email, web, and social media channels. We provide the vast majority of customers with access to hourly data on their energy use, and a comparison of their use to similar homes in their neighborhoods. Within My Energy (an online portal), customers can see how and when they use energy and find energy saving tips as well as information on our energy efficiency programs and incentives. PG&E's Business Energy Checkup enables small and medium business

customers to find energy-saving ideas that can lower their operating costs, and programs that offer financial incentives to implement them. We've also launched Share My Data, which allows customers to share their energy usage data with select third party service providers so that they can determine if energy products and services, such as solar installations, may be right for them.

3) Measures of success

a. Suppliers: PG&E considers the supplier response rate to the Annual Alliance Sustainability Survey. In 2014, for the third year in a row, PG&E achieved 100% survey completion rate. In addition, PG&E uses the Supplier Environmental Performance Standards to generate environmental performance scores for its suppliers. Internally, our 2014 goal was to ensure that 65% of suppliers met our Environmental Performance expectations (measured as 3 or above, on a point scale of 1-5).

b. Customers: We measure a composite score of customer satisfaction, which serves as one of the metrics we use for determining performance-related compensation. In 2014, we achieved a score of 76.5, which was above our target of 75.7. We also benchmark with customers of best-in-class performing utilities from J.D. Power's Customer Satisfaction Index. This helps us set our goal each year, as we aim to achieve top quartile performance in customer satisfaction. PG&E also provides financial and technical support to local governments for greenhouse gas inventories and climate action plans tailored to the unique needs of individual communities. To date, PG&E has supported 271 local greenhouse gas inventories and 64 community Climate Action Plans.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend	Comment
100	60%	

CC14.4c

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details
Use in supplier scorecards	As part of PG&E's Supplier Environmental Performance Standards, top tier suppliers are required to: A) Implement an environmental management system that tracks the following environmental impacts: greenhouse gas emissions (Scope 1 and 2), energy, water, waste and compliance with environmental requirements; B) Set voluntary reduction goals; and C) Publicly report their annual performance against goals. To score suppliers against the Supplier Environmental Performance Standards, as well as to identify areas for improvement, PG&E uses suppliers' responses to an annual Sustainability Survey. Suppliers' scores are discussed in recurrent supplier performance scorecard reviews,

How you make use of the data	Please give details
	in which “environmental performance” is one of 6 metrics covered (others include safety, cost, quality and operations, client satisfaction, and diversity). Senior leadership from various stakeholder groups, including PG&E Supply Chain, Line of Business, and Supplier companies, are present at these meetings. Feedback on suppliers’ environmental performance is discussed at the meeting as well as corrective action steps. PG&E’s Supplier Sustainability team provides one-on-one coaching to suppliers to identify gaps and help them enhance their environmental performance.

CC14.4d

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

Note on Question CC 14.2a: PG&E's Scope 3 natural gas delivered to customers is verified under the California Mandatory GHG Reporting Regulations (CARB). The CDP Climate Change Reporting Guidance lists this as an accepted standard, but it was not an option listed in the ORS.

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
Ezra Garrett	Vice President of Community Relations and Chief Sustainability Officer	Other: Chief Sustainability Officer

Further Information

Module: Electric utilities

Page: EU0. Reference Dates

EU0.1

Reference dates
Please enter the dates for the periods for which you will be providing data. The years given as column headings in subsequent tables correspond to the "year ending" dates selected below. It is requested that you report emissions for: (i) the current reporting year; (ii) one other year of historical data (i.e. before the current reporting year); and, (iii) one year of forecasted data (beyond 2019 if possible).

Year ending	Date range
2009	Thu 01 Jan 2009 - Thu 31 Dec 2009
2010	Fri 01 Jan 2010 - Fri 31 Dec 2010
2011	Sat 01 Jan 2011 - Sat 31 Dec 2011
2012	Sun 01 Jan 2012 - Mon 31 Dec 2012
2013	Tue 01 Jan 2013 - Tue 31 Dec 2013
2014	Wed 01 Jan 2014 - Wed 31 Dec 2014

Further Information

Page: EU1. Global Totals by Year

EU1.1

In each column, please give a total figure for all the countries for which you will be providing data for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2009	6856	28100	1423990	.051
2010	7695	33164	1591160	.048
2011	7742	41203	1656793	.040
2012	7801	31670	2466223	.078
2013	7854	31548	2464474	.078
2014	7854	28929	2405251	.083

Further Information

Page: EU2. Individual Country Profiles - United States of America

EU2.1

Please select the energy sources/fuels that you use to generate electricity in this country

Oil & gas (excluding CCGT)
CCGT
Nuclear
Hydro
Other renewables
Other

EU2.1a

Coal - hard

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1b

Lignite

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1c

Oil & gas (excluding CCGT)

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2009	102	536	390755	.730
2010	146	516	340877	.660
2011	146	467	336550	.721
2012	146	417	193158	.463
2013	163	373	193008	.517
2014	163	350	162229	.464

EU2.1d

CCGT

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2009	616	2441	1012100	.415
2010	1327	3136	1238650	.395
2011	1325	4612	1308440	.284
2012	1331	5869	2273065	.387
2013	1331	5718	2271466	.397
2014	1331	5726	2243022	.392

EU2.1e

Nuclear

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2009	2240	16265
2010	2323	18458
2011	2323	18566
2012	2323	17727
2013	2323	18041
2014	2323	17039

EU2.1f

Waste

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1g

Hydro

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2009	3896	8806
2010	3896	11017
2011	3896	17513
2012	3896	7469
2013	3882	7119
2014	3882	5458

EU2.1h

Other renewables

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2009	2	1
2010	2	5
2011	52	28
2012	102	166
2013	152	279
2014	152	337

EU2.1i

Other

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2009	0	52	21135	.404
2010	0	32	11633	.368
2011	0	17	11803	.684
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0

EU2.1j

Solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0

EU2.1k

Total thermal including solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2009	718	2977	1402855	.471
2010	1474	3652	1579527	.432
2011	1471	5079	1644990	.324
2012	1477	6286	2466223	.392
2013	1494	6091	2464474	.405
2014	1494	6076	2405251	.396

EU2.1l

Total figures for this country

Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2009	6856	28100	1423990	.051
2010	7695	33164	1591160	.048
2011	7742	41203	1656793	.040
2012	7801	31670	2466223	.078
2013	7854	31548	2464474	.078
2014	7854	28929	2405251	.083

Further Information

Page: EU3. Renewable Electricity Sourcing Regulations

EU3.1

In certain countries, e.g. Italy, the UK, the USA, electricity suppliers are required by regulation to incorporate a certain amount of renewable electricity in their energy mix. Is your organization subject to such regulatory requirements?

Yes

EU3.1a

Please provide the scheme name, the regulatory obligation in terms of the percentage of renewable electricity sourced (both current and future obligations) and give your position in relation to meeting the required percentages

Scheme name	Current % obligation	Future % obligation	Date of future obligation	Position in relation to meeting obligations
USA state scheme – California	23%	33%	2020	PG&E was required to deliver an average of 20% of its electricity from Renewable Portfolio Standard-eligible resources over the 2011 to 2013 period. This increased to ~23% on average over the 2014 to 2016 period and ~30% on average over the 2017 to 2020 period. PG&E must then deliver at least 33% of its electricity from RPS-eligible resources each year after 2020. By the end of 2014, 27% of the electricity PG&E delivered to its customers came from RPS-eligible resources. The majority of this total came from contracts with third-party renewable energy companies.

Further Information

Page: EU4. Renewable Electricity Development

EU4.1

Please give the contribution of renewable electricity to your organization's EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) in the current reporting year in either monetary terms or as a percentage

Please give:	Monetary figure	%	Comment
Renewable electricity's contribution to EBITDA	293127031		Renewable electricity resources include PG&E-owned large hydroelectric and solar photovoltaic facilities. EBITDA calculated by subtracting operating expenses from total revenue requirement.

EU4.2

Please give the projected contribution of renewable electricity to your organization's EBITDA at a given point in the future in either monetary terms or as a percentage

Please give:	Monetary figure	%	Year ending	Comment
Renewable electricity's contribution to EBITDA	298307276		2015	Renewable electricity resources include PG&E-owned large hydroelectric and solar photovoltaic facilities. EBITDA calculated by subtracting operating expenses from total revenue requirement.

EU4.3

Please give the capital expenditure (capex) planned for the development of renewable electricity capacity in monetary terms and as a percentage of total capex planned for power generation in the current capex plan

Please give:	Monetary figure	%	End year of capex plan	Comment
Capex planned for renewable electricity development	294866029	51.00%	2015	Renewable electricity resources include PG&E-owned large hydroelectric and solar photovoltaic facilities. PG&E will continue to seek out viable, cost effective projects that benefit our customers, increase portfolio diversification, and demonstrate our commitment to environmental leadership.

Further Information