



# PG&E Climate Strategy Report

June 2022





# Contents

Page	<b>1</b>	<b>Message from the CEO</b>
Page	<b>3</b>	<b>Introduction</b> About PG&E and Our Triple Bottom Line Urgent Need for Climate Action
Page	<b>5</b>	<b>Our Commitment: Helping to Heal the Planet</b> <b>2050:</b> Climate- and Nature-Positive Energy System <b>2040:</b> Net Zero Energy System <b>2030:</b> Climate Goals <b>A Clean Energy Future for All:</b> Leading an Equitable and Viable Transition
Page	<b>12</b>	<b>Measuring Progress Through 2030</b> <ul style="list-style-type: none"><li>• <i>Scope 1 &amp; 2 Goal:</i> 50% Reduction by 2030</li><li>• <i>Scope 3 Goal:</i> 25% Reduction by 2030</li><li>• <i>“Scope 4” Goals:</i> Enabling Emission Reductions in Other Sectors</li></ul>
Page	<b>15</b>	<b>Our Plan: 2030 Climate Goals</b> <ul style="list-style-type: none"><li>• <i>Scope 1 &amp; 2:</i> Reduce Our Operational Carbon Footprint</li><li>• <i>Scope 3 &amp; 4:</i> Enable Our Customers to Reduce their Carbon Footprint:<ul style="list-style-type: none"><li>- Continue to Green the Power Sector toward Delivering Decarbonized Electricity 24 x 7 x 365</li><li>- Accelerate Electrification of the Transportation Sector</li><li>- Enable Building Electrification in an Orderly Transition and Shape the Future Natural Gas Delivery System</li><li>- “Green” the Gas Supply for Hard-to-Electrify Customers</li></ul></li><li>• Reducing Supply Chain Emissions</li><li>• Building Career Pathways</li></ul>
Page	<b>30</b>	<b>Supporting California’s Clean Energy Vision</b> Key California Climate and Clean Energy Milestones Scenario Analysis: Statewide Carbon Neutrality PG&E’s Climate Policy Principles
Page	<b>33</b>	<b>Mitigating Physical Climate Risk Today</b> A “New Normal” of Climate Impacts Our Approach to Building Climate Resilience Measuring and Mitigating Physical Climate Risk Today Scenario Analysis: Understanding Future Physical Climate Risk
Page	<b>41</b>	<b>Governing and Managing Climate-Related Risks</b> Governance of Climate-Related Policies and Programs Management of Climate-Related Risks and Opportunities
Page	<b>43</b>	<b>Looking Forward</b>

# Message from the CEO



**Patti Poppe**  
CEO, PG&E Corporation

## **Sustainability and climate action have long been part of PG&E's DNA.**

We were the first company in our industry to take the stand that climate change is real, and it was time to take action.

That was a bold step for an energy company in 2006.

Sixteen years later, we've made good on that commitment.

Today, the electricity that we deliver to the 16 million people we serve is among the cleanest in the world, with 93 percent from greenhouse gas-free sources in 2021. We're also leading in key areas of clean energy adoption, including rooftop solar installations, electric vehicle adoption and grid-level energy storage, such as our leading-edge battery installation near Monterey Bay. And in our gas business, we are a national leader in leak reduction, which has driven down our overall emissions.

Yet for all the progress that we've made, we know that it won't be enough. We need to do more, and we need to do it faster.

As recent events have made clear, California is not just on the forefront of acting on climate change, but also of its destructive effects. We can no longer be content with merely adapting to those harms. We must slow them down. We need to put the climate machine into reverse and begin undoing the damage.

It's time for PG&E to take another bold step, in pursuit of a new, breakthrough vision.

This Climate Strategy Report is our guiding document and action plan for what comes next.

It presents a roadmap for an energy system that's net zero by 2040, five years ahead of California's already aggressive carbon neutrality goal.

But we're not stopping there.

We're committing to be "climate positive"—actively removing more greenhouse gases than we emit—by the year 2050.

Along the way, we've set specific milestones, including accelerating the adoption of renewable energy, unleashing the full potential of electric vehicles, and reducing emissions across the energy economy. We're pledging to reach these targets by 2030—just eight years from now.

We also recognize that, in order to be viable, these goals must be affordable for our customers, and we're committed to executing these goals in a cost-effective manner with minimal impact to customer bills and in a way that's consistent with our long-term affordability commitments.

In the pages that follow, you can read more about our goals, and how we plan to work with our customers to reach their own clean-energy ambitions.

Together, we can take aim at the next objective on our climate-action agenda—not only protecting the planet, but helping it begin to heal.

That's a stand that I—and all of my co-workers at PG&E—am proud to take.

Patti Poppe



## About the Report

PG&E Corporation developed this *Climate Strategy Report* as part of our long-standing commitment to lead the way on addressing climate change. This document is designed for our customers, policymakers, investors, and other stakeholders and shares our goals, actions, and progress to address climate change.

This report provides information on PG&E's strategy and the steps we are taking to meet the challenge of climate change on behalf of the more than 16 million Californians who rely on PG&E to deliver their energy. The report describes the risks and opportunities PG&E faces from a changing energy landscape—along with the potential physical impacts of a changing climate and associated weather patterns. It also describes how PG&E governs climate-related issues and manages climate-related risks.

The report aligns with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). Throughout this report, when we refer to "PG&E," we are discussing all of PG&E Corporation and its subsidiaries, including Pacific Gas and Electric Company.

# Introduction

## About PG&E and Our Triple Bottom Line

Pacific Gas and Electric Company, a subsidiary of PG&E Corporation, is a combined natural gas and electric utility serving more than 16 million people across 70,000 square miles in Northern and Central California.

Map of PG&E's Service Area



### Coworkers

- 26,000 employees

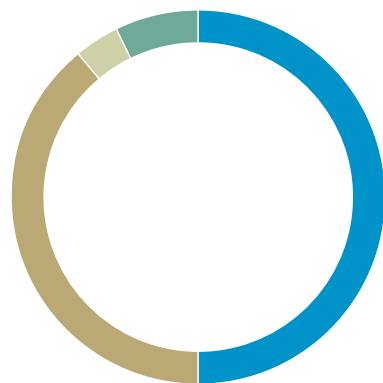
### Customer Accounts

- 5.6 million electric distribution
- 4.5 million natural gas distribution

### System

- 7,652 MW of owned hydroelectric, nuclear, natural gas, and solar generation
- Nation's largest investor-owned hydroelectric system
- 108,000 circuit miles of electric distribution lines and 18,000 circuit miles of electric transmission lines
- 43,800 miles of gas distribution pipelines, 6,200 miles of backbone and local gas transmission pipelines, and various gas storage facilities
- 3.3+ GW of energy storage under contract

## 2021 Electric Power Mix\*



50% ● Renewable<sup>†</sup>

39% ● Nuclear<sup>†</sup>

4% ● Large Hydro<sup>†</sup>

7% ● Natural Gas

<sup>†</sup> These resources are greenhouse gas-free and/or renewable.

PG&E delivers some of the nation's cleanest electricity to customers, with 93% from greenhouse gas-free resources in 2021. The associated emissions rate is nearly 90% cleaner than the latest national average among energy providers.

\* Refers to estimated total net deliveries of electricity to customers; data is sourced from PG&E Corporation's and Pacific Gas and Electric Company's 2021 Annual Report on Form 10-K.



## PG&E's Triple Bottom Line

PG&E's responsibilities as an energy provider go far beyond our core mission of providing safe, reliable, affordable, and clean energy to our 16 million customers. We also have a responsibility to build a better future for everyone whose lives we touch.

This means delivering for our hometowns, serving our planet, and leading with love. It means making it right and making it safe. It means helping drive clean energy technologies, while also ensuring that their benefits are accessible to all. And it means helping communities build resilience against climate change today—as well as tackling climate change—in ways that leave no one behind.

We approach this work through the “triple bottom line” framework of serving people, the planet, and California's prosperity—supported by strong operational performance.

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## Urgent Need for Climate Action

**From extreme weather to rising tides, California—like the rest of the planet—is experiencing the significant and increasing effects of a changing climate.** The latest report from the Intergovernmental Panel on Climate Change has been called a “code red for humanity.” With the growing threat of climate change comes the urgent need for action to stabilize the climate.

**California has long recognized this challenge and has been at the forefront of national and global efforts to protect our planet.** In keeping with that commitment, California set an ambitious goal: to achieve carbon neutrality by 2045 and net negative emissions thereafter. Achieving this goal will require transformative changes across all sectors of the economy, including the energy sector.

**As a state, we've made significant progress decarbonizing the electric system—**scaling renewable energy, rooftop solar installations, electric vehicle adoption, and battery energy storage to among the highest levels in the nation.

**To rise to the challenge, we must build on this progress in other sectors—**while also achieving deeper penetration of renewable energy combined with investments in the grid and energy storage, dramatic improvements in energy efficiency, and evolving the natural gas system to integrate cleaner fuels and accommodate a massive shift to electrifying vehicles and buildings.

**The commitments outlined in this report reflect our plan** to bring about a clean energy future in partnership with our customers and others. It will be our guiding document and our action plan for the years ahead.

**At the same time, we'll need to build a more climate-resilient energy network, as California and the world continue to experience the impacts of climate change.**



# Our Commitment: Helping to Heal the Planet

**As the state’s largest energy provider, we embrace our foundational role in transitioning California to a decarbonized and more climate-resilient economy.** There are many ways that we can be a force for change, and our size and scale enable PG&E to be a vital part of the solution.

We have a proven performance record on clean energy, delivering electricity to our customers in 2021 that was 93% greenhouse gas emissions-free. Today, one in every five solar rooftops in the country is in PG&E’s service area, and one in six electric vehicles in the nation plugs into PG&E’s grid.

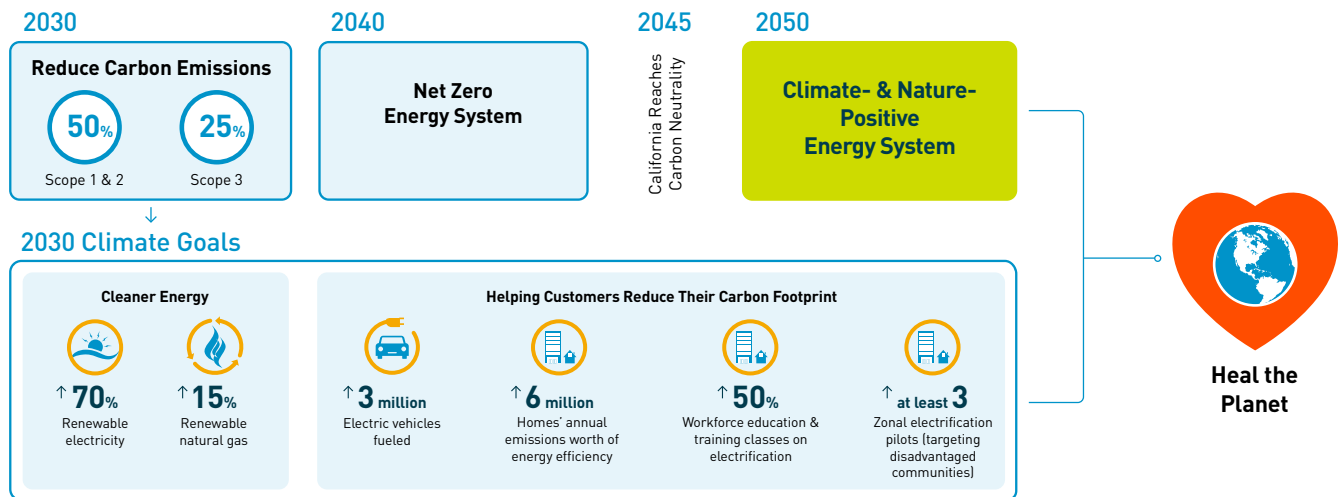
We believe clean energy should be affordable for and inclusive of all economic and social backgrounds—and we’re excited about the growth opportunities that a cleaner future presents for PG&E and our customers.

**PG&E is committed to helping to heal the planet by achieving:**

- A climate- and nature-positive energy system by 2050.
- A net zero energy system in 2040—five years ahead of California’s current carbon neutrality goal.
- A series of 2030 climate goals to reduce PG&E’s operational carbon footprint and enable our customers and communities to reduce their carbon footprints:
  - Reduce Scope 1 and 2 emissions by 50% from 2015 levels
  - Reduce Scope 3 emissions by 25% from 2015 levels
  - Achieve “Scope 4” goals to enable customer emission reductions

## Our Commitment: Helping to Heal the Planet

Leading an equitable and viable transition that leaves no one behind



**Notes:**

Scope 1: *Direct* emissions from PG&E’s operations.

Scope 2: *Indirect* emissions from facility electricity use and electric line losses.

Scope 3: Emissions resulting from *value chain activities* not owned or controlled by PG&E but that can be *indirectly* impacted by PG&E actions.

“Scope 4”: An emerging term for categorizing emission reductions enabled by a company. PG&E can make a significant contribution by enabling these emission reductions in our service area.

# 2050: A Climate- and Nature-Positive Energy System

**As recent events have made clear, California is not just on the front line for acting on climate change, we're also on the front line of its destructive effects.**

That's why we're declaring a bold, breakthrough vision for PG&E and the growing number of innovative partners who share our sense of urgency.

**Our commitment to becoming "climate positive" by 2050 will take us further than net zero carbon emissions**—meaning that PG&E will work to reduce and remove more greenhouse gases than we emit and help enable our customers and hometowns to shrink their carbon footprint, as well. We're excited about the opportunities to co-create this future together with our many stakeholders.

**We're also renewing our focus on biodiversity through a long-term commitment to be "nature positive" as a company.** This means going beyond avoiding impacts and having no net impact on the natural environment—instead, it requires investing in projects, environmental initiatives and research, and partnerships to restore biodiversity across ecosystems and habitats.

Importantly, we're committed to making this transition through specific initiatives—land, air, water, and habitat—that are cost-responsible and prioritize collaboration. Work on these goals is underway—and we plan to announce our environmental stewardship goals next year.





# 2040: Net Zero Energy System

**We're committed to reaching a net zero energy system in 2040**—five years ahead of California's carbon neutrality goal. What this means is that, by 2040, we aim to substantially reduce our Scope 1, 2, and 3 greenhouse gas emissions—and then neutralize any remaining residual emissions in 2040 and thereafter. In essence, we plan to remove as many greenhouse gas emissions from the atmosphere as we produce.

Our commitment goes beyond reducing our own emissions and includes achieving substantial "Scope 4" reductions by enabling the customers and communities we serve to reduce their carbon footprints, as well. To track progress, we will continue our rigorous effort to complete a comprehensive, verified greenhouse gas emissions inventory each year across our Scope 1, 2, and 3 emissions.

## Leveraging a Diverse Mix of Resources

**To meet our longer-term climate goals, PG&E plans to significantly scale our efforts to decarbonize the electric system**—to accommodate a game-changing shift to vehicle electrification, integrate a proliferation of distributed energy resources, and achieve next-level penetration of renewable energy combined with investments in the grid and energy storage.

**We also plan to transition to cleaner fuels, increasingly target gas delivery for hard-to-electrify customer sectors, and support efforts to ramp up building electrification.** Our objective is to do so in an orderly manner to achieve a positive customer and community experience, while reducing gas system investments in targeted electrified communities.

**We envision a net zero energy system in 2040 made possible and affordable by:**

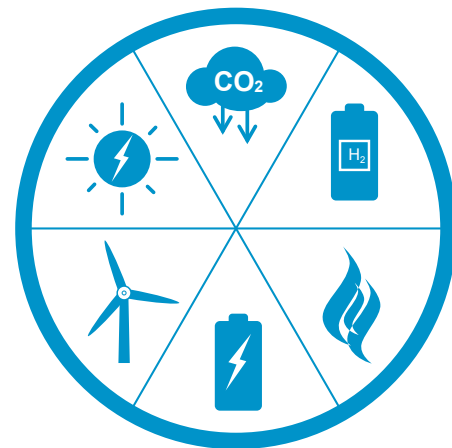
- A combination of maturing technologies.
- Updated infrastructure to enable a diverse supply of cleaner fuels.
- Regulatory and financing innovations geared towards reducing unnecessary new costs for the energy system and recovering necessary costs in a sustainable, equitable, and affordable manner.

**To make the transition, we expect a diverse mix of resources to be available**—from broad electrification to

cleaner fuels such as RNG and hydrogen to nature-based solutions and carbon capture, storage, and utilization.

**Over the next two decades, innovations in technology and markets will inform the most beneficial balance of these resources to meet the evolving needs of our customers.** Fundamentally, we believe it's a matter of "how much" of each resource will be deployed versus "if" we will use a diversity of resources. How much will be driven by factors such as customer acceptance, technology maturity, and cost.

## Clean and Diverse Energy Mix



## Shaping the Future Energy Delivery System

**Achieving a net zero energy system by 2040 will have significant implications for PG&E's energy delivery system over the coming decades. As the operator of a dual-commodity energy system, PG&E is uniquely positioned to lead this transition and shape the future—all with a continued focus on helping our customers and hometowns prosper.**

For the last century, we've managed a changing energy system, which we are making cleaner by investing in technology and infrastructure to integrate more low-carbon and resilient energy sources. We're also gaining greater visibility into the system to improve operational performance.

**PG&E's gas strategy focuses on a diversity of win-win options that will be needed to meet our climate goals—and those of California.** Our vision is to evolve the gas system to be an affordable, safe, and reliable net zero energy delivery platform. While we are planning and investing for the system to evolve—to deliver cleaner fuels to meet gradually declining customer demand—over the coming decades, our gas system infrastructure will continue to play a vital role for our customers and the state as a storage, reliability, and resiliency resource.

To achieve this vision, we're focused on strategies that will reduce our carbon footprint, while also reducing costs, identifying alternative revenue sources, and leveraging innovative financial mechanisms.

**With the electric system, we embrace the role we will play in enabling and scaling a decarbonized grid.** Customers with EVs and electric heating and cooling systems use about

double the annual electricity of households without—driving unprecedented growth in electrification.

**To enable this dramatic growth, our vision is to make the electric grid smarter, more dynamic, and more flexible—**incorporating new energy technologies and giving our customers increased flexibility, choice, and value. We recognize the need to reimagine the grid to meet varying and evolving needs—from accelerating renewable energy integration and decarbonization to adapting our system to mitigate growing wildfire and other physical climate risks.

**During this energy transition, as a provider of electricity and natural gas to millions of Californians, we are uniquely positioned to:**



- **Optimize overall household energy costs** over time (including transportation) by balancing the decarbonization solutions we offer customers across electricity, natural gas, and transportation.



- **Work with policymakers** to deliver smart policies that allow for timely recovery of energy system costs, while mitigating rate impacts—necessary focus areas to ensure safe and affordable outcomes for all customers as we transition the electric and natural gas systems over the coming decades.

### California's Energy System in Transition

PG&E is actively participating in a number of CPUC proceedings on the future of the gas and electric systems:

#### Electric System:

- **Integrated Resource Planning** proceeding to plan the state's electricity supply resources across all load-serving entities and meet electricity sector greenhouse gas emission targets.
- **High Distributed Energy Resources (DER) Future OIR** to modernize the state's electric grid to integrate a high number of DERs, including EV charging.
- **Transportation Electrification Framework** to develop a holistic planning process for investor-owned utility transportation electrification investment.

#### Gas System:

- **Building Decarbonization OIR** to develop a plan to assess the feasibility of significantly reducing greenhouse gas emissions from buildings.
- **Gas System Planning OIR** to address system reliability standards, market structure and regulations, gas infrastructure, gas revenues and rate design, and workforce issues.

PG&E is also participating in a California Energy Commission (CEC)-led Gas Working Group with state-wide stakeholders and a CEC-funded project to identify strategic pathways for tactical decommissioning of portions of gas infrastructure in our service area.

Note: OIR refers to Order Instituting Rulemaking.

# 2030 Climate Goals

**This decade is a critical time for meaningful climate change action**—and to make collective progress towards stabilizing the climate.

**We are committed to doing our part**—and to sharing what we learn and learning from others on the path to achieving net zero energy and beyond. We approach this work through the “triple bottom line” framework of serving people, the planet, and California’s prosperity—underpinned by strong operational performance.

**Our strategy is to reduce emissions from the energy delivered through our wires and pipelines and increase electrification technologies and value for our customers with support from a localized, diverse workforce.**

## Reduce Our Operational Carbon Footprint:







- Reduce Scope 1 & 2 emissions by 50% from 2015 (Emission reductions: 51% electric & 46% natural gas operations)

## Enable Customers to Reduce their Carbon Footprint:

- Reduce Scope 3 emissions by 25% from 2015 (Emission reductions: 40% electricity & 20% natural gas supply)
- “Scope 4” goals to enable customer emission reductions

## 2030 Climate Goals: Scope 1 and 2 Emissions

PG&E is deploying different strategies to reduce our Scope 1 and 2 emissions by 50% from 2015 levels:

Strategic Focus Area	2030 Goal
Reduce methane emissions from the gas system	 <b>Reduce methane emissions by 45%</b> from 2015 by further detecting and repairing leaks, replacing targeted pipeline segments and equipment, and improving our operations to avoid and reduce “blowdowns” where natural gas is released to the atmosphere.
Reduce sulfur hexafluoride (SF <sub>6</sub> ) emissions from the electric system <sup>1</sup>	 <b>Accelerate the installation of SF<sub>6</sub>-free equipment</b> ahead of California’s stringent requirements. <b>Actively reduce emissions</b> from SF <sub>6</sub> -filled equipment.
Electrify PG&E’s vehicle fleet	 <b>100%</b> of light-duty fleet <b>50%</b> of medium-duty fleet <b>20%</b> of heavy-duty fleet
Reduce emissions from buildings and facilities	 <b>Reduce emissions by 10%</b> from 2015 through LED lighting retrofits, lighting control upgrades, PV solar installations (paired with battery storage), and electrifying space and heating equipment.
Reduce emissions from our owned natural gas generation resources	 <b>Reduce output and emissions from PG&amp;E’s owned natural gas plants by 40%</b> from 2015 to accommodate greater penetration of renewable energy resources and energy storage on the grid.
Reduce emissions from our gas compressor stations	 <b>Retire our Tionesta compressor station</b> in 2025. <b>Explore replacing our Los Medanos storage compressor unit</b> in 2026 with an electric motor-driven unit.

1. PG&E’s SF<sub>6</sub> emissions are projected to increase, largely due to electric load growth, and generation and energy storage interconnections, which increase the inventory of SF<sub>6</sub>-filled equipment on the electric system.



## 2030 Climate Goals: Scope 3 and “Scope 4” Emissions

PG&E is taking a strategic, collaborative approach to reduce our Scope 3 and “Scope 4”<sup>1</sup> customer emissions:

**Continue to Green the Power Sector toward Delivering Decarbonized Electricity 24 x 7 x 365**



**Deliver 70% Renewables Portfolio Standard (RPS) clean electricity**, which is above the RPS compliance obligation of 60%.

**Facilitate the use of Diablo Canyon Power Plant transmission infrastructure to support new carbon-free generation.**

**Manage energy demand as a reliable, cost-effective alternative to traditional power generation solutions** in a way that enables broad reach, minimal impact to the daily lives of our customers, and bill savings.

**Accelerate Electrification of the Transportation Sector**



**Be the global model in the industry by fueling at least 3 million EVs in our service area—leading to a cumulative reduction of 58+ MMT of carbon emissions:<sup>2</sup>**

- **Proactively prepare the grid for 12,000 GWh of EV-related electric load and improve processes** to enable rapid, safe EV energization and interconnection.
- **Enable 2 million EVs to participate in vehicle-grid integration applications**, allowing EVs to be a cornerstone of reliability and resilience, while unlocking additional revenue streams for PG&E customers to lower the lifetime and household cost of EV ownership. We will target hard-to-reach customers while building a balanced portfolio of program offerings that is innovative and affordable for customers.
- **Repurpose at least 500 MWh of second-life batteries for grid-connected energy storage**, providing a low-cost flexible resource to PG&E and enabling customers to maximize the value of their EV.

**Enable Building Electrification in an Orderly Transition and Shape the Future Natural Gas Delivery System**



**Achieve 48 MMT of lifecycle carbon emission reductions through comprehensive energy efficiency and decarbonization strategies, with an increasing focus on building electrification:**

- Align customer building electrification programs with the timing, scope, and goals of PG&E’s targeted gas system transition.
- Aim for 50% of the topics in PG&E’s Workforce Education and Training programs to focus on building knowledge and skills for electrification—with a continued commitment that 60% of the participants will be from disadvantaged communities.
- Take a proactive, policy leadership position in developing and publicly advocating for federal, state, and local electrification codes and standards for buildings and appliances.

**Execute zonal electrification and create a repeatable model on how to best perform it:**

- Evaluate gas capital projects for electrification as an alternative to the planned gas projects and pursue electrification for the projects evaluated as feasible and cost-effective.
- Commit to a new program that seeks to zonally electrify three to five communities, with a specific focus on the decarbonization of vulnerable communities.

**“Green” the Gas Supply for Hard-to-Electrify Customers**



**Reduce cumulative carbon emissions by 2.5 MMT by proactively converting industrial and large commercial customers unable to electrify from dirtier burning fuels to natural gas**, prioritizing sites in or adjacent to disadvantaged communities.

**Deliver 15% Renewable Natural Gas (RNG)** in PG&E’s core gas throughput.<sup>3</sup>

**Maximize readiness for hydrogen blending:**

- Operationalize a hydrogen pilot project by 2024 using different vintage gas pipes in a stand-alone system so we can test different hydrogen blends in pipes used in our system—and help inform a safe level of hydrogen we can blend into the existing system by 2030.

**Pledge \$25M toward sustainable uses for woody biomass in collaboration with other partners:**

- R&D on converting wood waste to RNG and biomass carbon removal and other byproducts.

1. “Scope 4” is an emerging term for categorizing emission reductions enabled by a company.

2. “MMT” refers to million metric tons, and “carbon emissions” refers to carbon dioxide equivalent (CO<sub>2</sub>-e) emissions.

3. Represents a minimum volume of approximately 27 billion cubic feet per year.

# A Clean Energy Future for All: Leading an Equitable and Viable Transition

**Climate change impacts the life of all Californians, but it's been shown time and time again that the worst effects often fall upon those least able to prepare and respond.**

**Heat waves, wildfires, and other climate-driven events have all had an outsized impact on disadvantaged and vulnerable communities,** and many of the solutions to combat climate change, like electric vehicles or programmable technologies, remain financially out of reach for these groups.

**As PG&E works to heal our planet, we remain committed to ensuring an equitable transition,** and delivering on our stand that a healthy environment and carbon neutral energy system shall be a reality for all Californians.

We recognize that creating an equitable transition can't be done alone.

**To ensure we're hearing the right voices in the larger conversation on climate action, PG&E is committed to partnering with a broad spectrum of stakeholders,**

including our customers, coworkers, and community organizations, to co-create plans that will help ensure equity as we move toward a climate-and nature-positive energy system in 2050.

**We recognize that, to deliver on our stand, our actions to address climate change must be affordable for all of our customers.** In setting these goals, we have kept affordability in mind, and we're committing to executing our climate goals in a cost-effective way and with minimal incremental impact to customer bills.

**Our plan is for the climate goals outlined in this report to not only help curb the devastating impacts of climate change felt by disadvantaged communities, but to also provide a pathway to a more equitable and affordable energy future.**



# Measuring Progress Through 2030

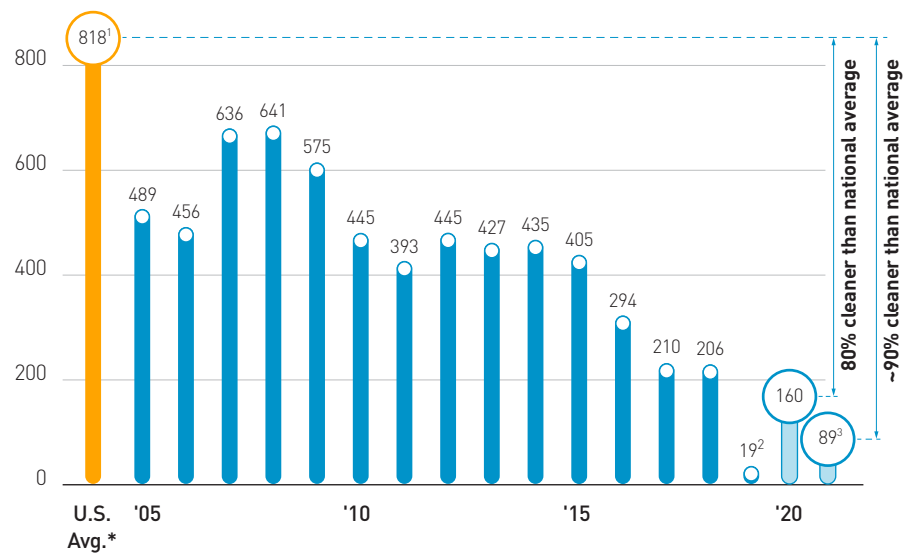
**PG&E has a long history of measuring, independently verifying, and publicly reporting our Scope 1, 2, and 3 greenhouse gas emissions.** Under mandatory reporting requirements, PG&E reports certain greenhouse gas emissions to the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (EPA) on an annual basis. On a voluntary basis, PG&E reports our annual corporate greenhouse gas emissions inventory with The Climate Registry, a nonprofit organization.

## Progress to Date

**PG&E delivers some of the nation's cleanest energy.** In 2020, the carbon dioxide (CO<sub>2</sub>) emission rate for PG&E's delivered electricity was **160 pounds of CO<sub>2</sub> per megawatt-hour**, which is about **80% cleaner than the latest national average among energy providers**. This is PG&E's most recent third-party verified emission rate. **And our preliminary 2021 CO<sub>2</sub> emissions rate is nearly 90% cleaner than the national average.**

## Benchmarking PG&E's Emissions For Delivered Electricity

Pounds CO<sub>2</sub> per MWh



1. Source: U.S. Environmental Protection Agency eGRID 2020.
2. Beginning with our 2019 emissions reporting, PG&E used the CEC's Power Source Disclosure program methodology to calculate the CO<sub>2</sub> emission rate associated with the electricity delivered to retail customers. This methodology differed from prior reporting years and may result in lower emissions rates.
3. Source: PG&E's Power Source Disclosure Report, filed with the California Energy Commission on June 1, 2022. This figure is preliminary and is subject to an independent audit and verification for regulatory compliance. Additionally, the figure is pending verification as part of PG&E's 2021 voluntary corporate greenhouse gas emissions inventory with The Climate Registry.

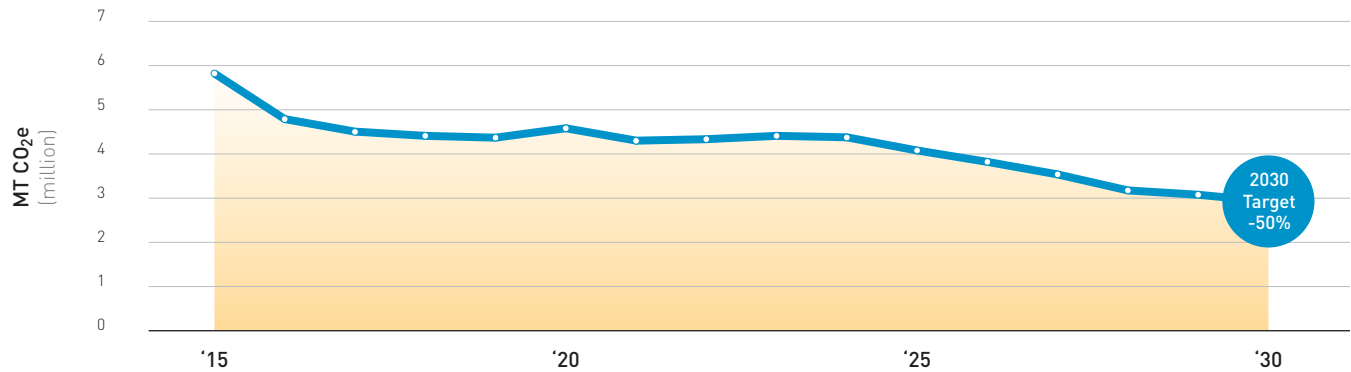


## Looking Forward: PG&E's 2030 Climate Goals

### PG&E's Scope 1 and 2 Goal: Reduce emissions by 50% from 2015 levels<sup>1</sup> by 2030

#### PG&E's Scope 1 and 2 Emissions Reductions

- Scope 1: *Direct* emissions from PG&E's operations
- Scope 2: *Indirect* emissions from facility electricity use and electric line losses



#### More than 90% of the reductions in Scope 1 and 2 emissions are projected to come from three categories:

- Owned natural gas generation
- Methane emissions from the natural gas system
- Electric transmission and distribution line losses

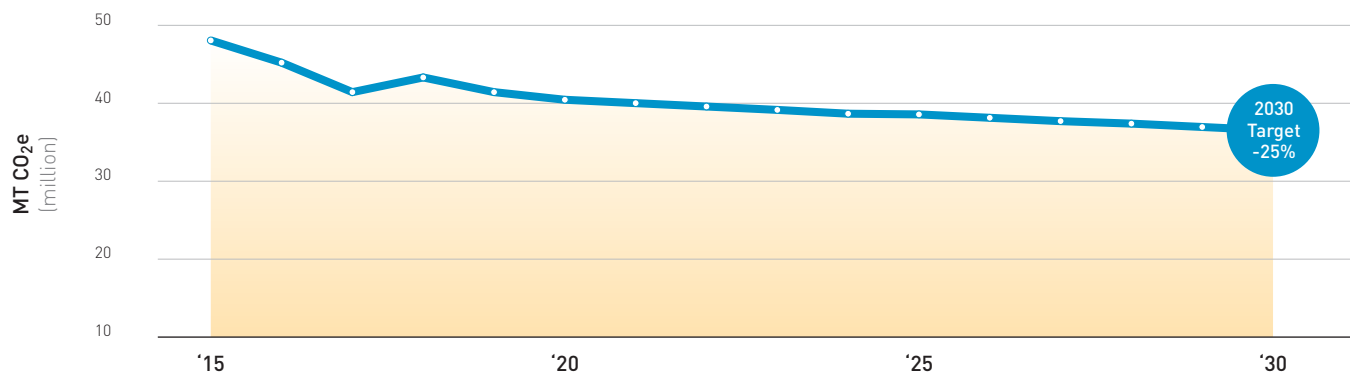
#### Other areas of focus include:

- Gas compressor stations
- Vehicle fleet emissions
- SF<sub>6</sub> emissions from electrical equipment
- Facility electricity and natural gas usage

### PG&E's Scope 3 Goal: Reduce emissions by 25% from 2015 levels<sup>1</sup> by 2030

#### PG&E's Scope 3 Emissions Reductions

- Scope 3: Emissions resulting from *value chain activities* not owned or controlled by PG&E but that can be *indirectly* impacted by PG&E actions



#### More than 99% of the Scope 3 emissions reductions are projected to come from two categories:

- Natural gas supplied to PG&E customers
- Electricity purchased on behalf of PG&E customers

#### Other areas of focus include:

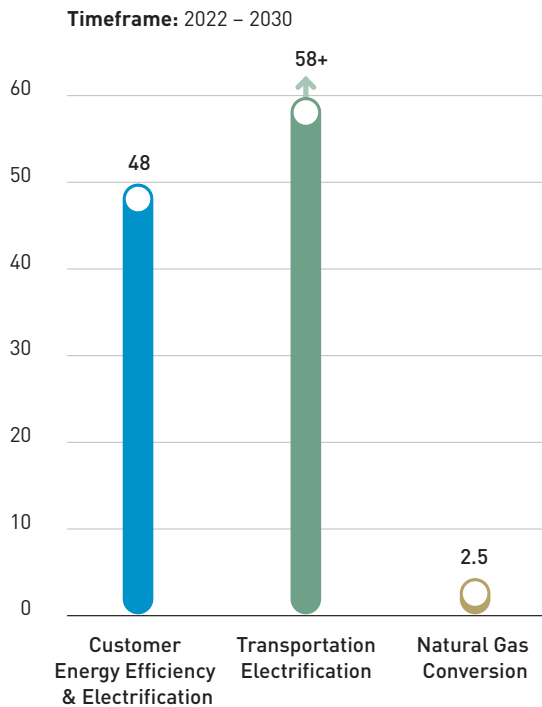
- Business air travel
- Employee commuting
- Waste emissions

1. PG&E set 2015 as the baseline year to align with mandatory methane emissions reporting to the CPUC, achieve a better comparison given improved emissions accounting methods in recent years, and meet the Science-Based Target Initiative (SBTi) guidance, which stipulates that the baseline year must be 2015 or more recent.

## “Scope 4” Goals: Enabling Emission Reductions in Other Sectors

PG&E has also set goals to enable further emission reductions—and support the state’s climate goals—by supporting customers through:

- Offering energy efficiency and electrification programs
- Unleashing the full potential of electric vehicles
- Converting industrial and large customers from high carbon-intensity fuels to natural gas



### Customer Energy Efficiency and Electrification

**48 million metric tons CO<sub>2</sub>-e**

Lifecycle emission reductions through comprehensive customer energy efficiency and decarbonization strategies, with an increasing focus on electrification

### Transportation Electrification<sup>1</sup>

**58+ million metric tons CO<sub>2</sub>-e**

Cumulative annual emission reductions from fueling at least 3 million EVs within PG&E’s service area

### Industrial Conversion to Natural Gas

**2.5 million metric tons CO<sub>2</sub>-e**

Cumulative avoided emission reductions by proactively converting customers unable to electrify from higher carbon-intensity fuels to natural gas

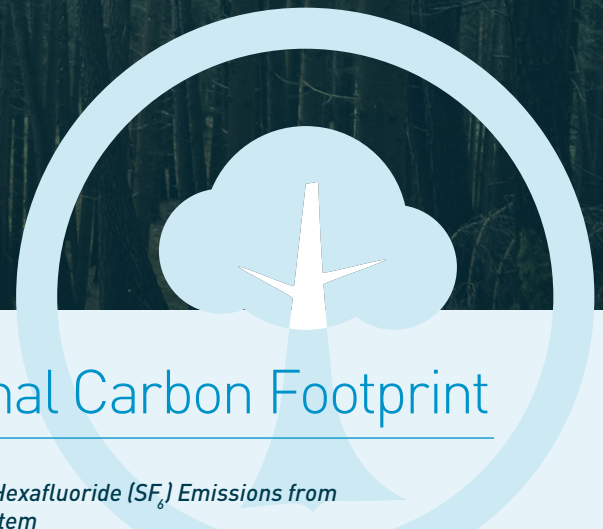
1. The overall emissions impact could be significantly higher if a greenhouse gas accounting methodology was used that is more similar to customer energy efficiency. This is an important topic for future consideration.



## PG&E Supports a Growing Number of School Districts Adopting Electric Buses

Through our EV Fleet program, PG&E is helping school districts in our service area as they transition to electric buses, supporting cleaner air, lower maintenance costs, and quieter rides. The program aims to support the adoption of 6,500 medium- and heavy-duty electric vehicles, including school buses.

# Our Plan: 2030 Climate Goals



## Scope 1 & 2: Reduce Our Operational Carbon Footprint

To meet the climate challenge, PG&E recognizes the need to reduce our own operational carbon footprint and achieve more sustainable operations. We need to raise the bar for ourselves and find new and innovative ways to reduce greenhouse gas emissions from our operations.

**PG&E's goal is to reduce our Scope 1 and 2 emissions by 50% from 2015 levels by 2030.** We're excited about the opportunities this presents to engage our coworkers in pursuit of this goal, along with our suppliers, as we step up efforts to source more sustainable goods and services.

### Scope 1 and 2: Our Approach

We are taking a broad-based approach to reducing our operational carbon footprint.

#### Reduce Methane Emissions from the Gas System

When there's a leak on our natural gas system or we release gas for operational activities, methane is released into the atmosphere, contributing to climate change. PG&E is taking a variety of steps to reduce methane emissions by 45% by 2030:

- Finding and fixing methane leaks on our system—leveraging technologies, including mobile systems, drones, and advanced leak survey strategies to focus our efforts and maximize results.
- Replacing targeted pipeline segments and equipment.
- Implementing drafting, cross compression, flaring, and project bundling—separately and in combination—to reduce “blowdowns” or the amount of natural gas released to the atmosphere during construction and repair projects on our gas transmission system.

We can drive additional emission reductions through further leak detection and repair and improvements in operations to avoid and reduce blowdowns. Beyond these strategies, we will also focus on improving methods to measure the emission reductions.

#### Reduce Sulfur Hexafluoride (SF<sub>6</sub>) Emissions from the Electric System

Sulfur hexafluoride—or SF<sub>6</sub>—is commonly used by PG&E and other energy companies as an electrical insulating material in high-voltage circuit breakers and gas-insulated switchgear. But if it escapes to the atmosphere, it is a potent greenhouse gas.

PG&E is taking a multi-pronged approach to tackle SF<sub>6</sub>: repairing the highest leaking circuit breakers, implementing SF<sub>6</sub> cylinder best management practices, and accelerating the installation of SF<sub>6</sub>-free equipment ahead of California's stringent requirements. This includes installing equipment such as the industry's first 123 kV circuit breakers with clean-air vacuum technology, which arrived at PG&E in 2021.

#### Electrify PG&E's Vehicle Fleet

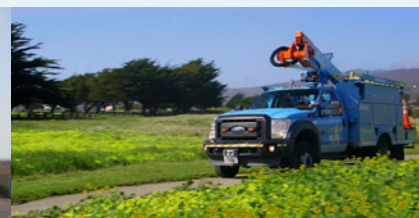
PG&E operates one of the cleanest transportation fleets in the energy industry, with over 1,250 alternative fuel vehicles that range from hybrid-electric bucket trucks to fully electric vehicles. As part of our broader commitment to accelerating EV adoption, PG&E commits to further electrify our vehicle fleet by 2030:

- 100% of light-duty fleet
- 50% of medium-duty fleet
- 20% of heavy-duty fleet

#### Types of Fleet Vehicles

Light-Duty	Medium-Duty	Heavy-Duty
<ul style="list-style-type: none"> <li>• Passenger vehicles</li> <li>• SUVs</li> <li>• Pickup trucks</li> </ul>	<ul style="list-style-type: none"> <li>• Trouble trucks</li> <li>• Gas service &amp; field metering trucks</li> <li>• Pickup trucks</li> </ul>	<ul style="list-style-type: none"> <li>• Large bucket trucks</li> <li>• Digger derricks</li> <li>• Dump trucks</li> </ul>

To expand our portfolio of low-emission vehicles, we are integrating the latest available technologies and partnering with automakers to meet needs unique to our fleet operations and reduce emissions and operating costs. For vehicles





## Scope 1 & 2: Reduce Our Operational Carbon Footprint

that cannot be electrified, PG&E will continue to use renewable diesel and RNG over standard fuels, and explore opportunities for hydrogen vehicles as the market develops.

### *Reduce Emissions from Buildings and Facilities*

We're continually working to reduce the carbon footprint of our buildings and facilities through sustainable design, increasing the efficiency of our energy usage, and engaging our coworkers in reducing energy waste. We've also expanded our use of on-site renewable energy by installing solar photovoltaic systems at seven large sites, giving PG&E a total of 2.7 million kWh of solar electric capacity in 2021. To date, we've earned LEED certifications for 21 facilities.

To meet our 10% emissions reduction goal, we are building on this progress and upgrading building automation and technology, participating in load shedding programs, and adjusting HVAC set points at our facilities. We're also building out an expanded portfolio of PV solar installations potentially paired with battery storage, helping to drive down grid electricity usage. Future opportunities also include LED lighting retrofits, lighting control upgrades, and electrifying facility space and water heating.

### *Reduce Emissions from Our Owned Natural Gas Generation Resources*

PG&E owns and operates three natural gas-fired power plants totaling 1,400 MW with best-in-class emissions levels. These highly efficient facilities provide safe and reliable energy, as well as the operational flexibility required to augment variable renewable energy sources and ensure we can meet the current and future energy needs of our customers.

As flexible combined-cycle power plants, the Colusa and Gateway Generating Stations are an essential part of PG&E's efforts to successfully integrate more renewable resources into the energy grid. When wind or solar production varies during the day, these facilities can ramp up quickly to meet customers' electricity demand. Our Humboldt Bay Generating Station is located in a relatively isolated section

of California's north coast region and provides a significant majority of the area's electrical capacity, with operational flexibility and low emissions.

Looking ahead, the dynamics of California's energy landscape continue to evolve as policy and market forces drive greater penetration of renewable energy resources and energy storage technologies onto the grid. With these changes, we project a roughly 40% decline in output and emissions from our natural gas-fired facilities by 2030, relative to a 2015 baseline.

While we anticipate the facilities will run less frequently throughout the year, we expect they will remain available to serve local and system peak demand when needed. We plan for these facilities to continue to provide safe, reliable, and low-cost electricity to our customers during the clean energy transition.

### *Reduce Emissions from Our Gas Compressor Stations*

PG&E's integrated natural gas system includes a fleet of 41 compressor units, across multiple compressor stations located on our gas transmission pipeline system and at various underground gas storage facilities. These facilities receive and move natural gas through our pipeline network.

Through recent system planning assessments of compression demands on the gas transmission system, we identified the Tionesta compressor station unit for retirement. Doing so is part of our strategy to remove facilities (whether gas or electric) that are no longer required for safe and reliable system operations and that will result in more efficient operation of the energy system.

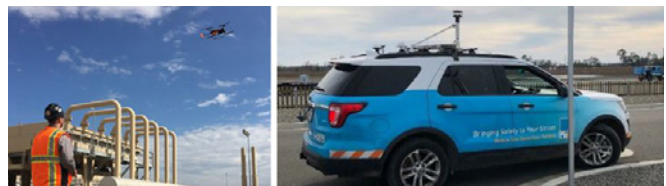
Retiring the Tionesta compressor station in 2025 is expected to reduce emissions while also generating future cost savings as the units will no longer need to be maintained or replaced. We also plan to replace our Los Medanos storage compressor unit in 2026. With Los Medanos, we will explore the potential to replace the unit with an electric motor versus a natural gas-fired engine, which would further reduce emissions.

#### **Progress to Date:**

#### **Addressing Our Own Carbon Footprint**

PG&E's **Million Ton Challenge** is a voluntary five-year carbon reduction goal to avoid one million tons of cumulative greenhouse gas emissions from our operations from 2018 through 2022.

After four years, we've already exceeded one million tons—and are pursuing additional reductions in the final year by reducing methane emissions from natural gas operations, deploying clean fleet vehicles, promoting energy-efficient and more sustainable facilities, and adopting environmentally responsible products and services, with a focus on SF<sub>6</sub>-free substation equipment.



PG&E is finding and fixing methane leaks on our system—leveraging technologies, including mobile systems, drones, and advanced leak survey strategies to focus our efforts and maximize results.

# Scope 3 & 4: Enable Our Customers to Reduce their Carbon Footprint



## Continue to Green the Power Sector toward Delivering Decarbonized Electricity 24 x 7 x 365

**Today, electricity represents about 14% of the state’s carbon emissions—and when it comes to renewable energy, California continues to demonstrate leadership.** California’s Renewables Portfolio Standard (RPS) target is 60% by the end of 2030 and the state requires 100% of retail sales to come from eligible renewables or zero-carbon resources by the end of 2045.

**In recent years, the dynamics of California’s energy landscape have changed,** highlighted by the expansion of retail customer choice, advancing energy storage technologies, declining use of conventional power plants, and the growth of distributed generation, such as private rooftop solar. Utility-scale renewable energy has also flourished.

**Currently, there are times during the middle of the day when California’s renewable resources can generate more electricity than customers need.** It’s a challenge that requires a system-level solution, including energy storage which allows PG&E and other utilities to store excess solar or wind power for use later.

**In the coming decades, a confluence of anticipated changes means that California will need the right energy resources, in the right places, at the right times to attain a clean and reliable energy future.** These needs are not simply for sheer capacity on the bulk power system. They include more flexible resources to accommodate greater amounts of renewables, more distributed resources at the right locations on the electric grid, and a cost-effective pathway to implementing these changes.

**Importantly, customers must be part of the solution—and we’re committed to serving them with clean and reliable energy.** As we integrate more intermittent, renewable resources onto the electric grid, *when* customers use energy increasingly drives electric system emissions and costs. This is because the system’s greenhouse gas emissions and energy prices can vary significantly across hours in the day, across days, and even across seasons.

**The ability for customers to easily and automatically shift their energy usage to lower-cost and less greenhouse**

## 2030 Climate Goals

**Deliver 70% Renewables Portfolio Standard (RPS) clean electricity,** which is above the RPS compliance obligation of 60%.

**Facilitate the use of Diablo Canyon Power Plant transmission infrastructure to support new carbon-free generation.**

**Manage energy demand as a reliable, cost-effective alternative to traditional power generation solutions** in a way that enables broad reach, minimal impact to the daily lives of our customers, and bill savings.





Photo of PG&E's Elkhorn Battery in Monterey County, a 182.5 MW battery energy storage system that is one of the largest utility-owned, lithium-ion battery energy storage systems in the world.

**gas-intensive times is particularly important as Californians switch from fossil-fuel based technologies—such as gasoline-powered vehicles or older, inefficient heating systems—to higher efficiency and electric alternatives.**

### Our Approach

**Working with our customers, communities, and other partners, we are transforming California's energy landscape**—and have created a robust renewable energy market and reduced greenhouse gas emissions across the state.

**As a result of the changing energy landscape, PG&E will increasingly rely on a diversity of resources**, including distributed energy resources, out-of-state resources, and more energy storage for our power mix. Adding energy storage will enable higher penetrations of renewables on the electric grid, paving the way to a healthier environment and a more reliable, net zero energy system for customers.

**In addition, a major focus will be providing customers the opportunity to take an active role in reducing their carbon footprint and their electricity bill with minimal impacts to their daily lives.** Our vision is that managing customer energy demand becomes a reliable, cost-effective alternative to traditional power generation solutions as capacity needs arise.

**Our strategy involves leveraging dynamic pricing, distributed energy resources, and emerging technologies to help customers lower their energy bills by aligning their electricity usage with the hours and days that have lower-cost and lower-emitting electricity:**

- We plan to use rates to send signals to devices that will automatically enable customers to use more electricity during hours when we might otherwise “curtail” or export

excess solar energy and to use less electricity during hours when the highest emitting natural gas plants would otherwise operate.

- We will dispatch behind-the-meter resources, which when paired with storage can reduce demand on the electric grid and reliance on natural gas.
- We plan to automatically program new technologies to time home cooling and heating, water heating, and electric vehicle charging to save our customers money and reduce emissions—all without inconveniencing the customer.

**As we develop rate options and pilot new technologies, PG&E will share what we learn and continue to learn** from others. In this way, our customers will not only reduce their carbon footprint and bills, but also inform innovative energy management strategies outside of California.



PG&E strongly supports California's clean energy policies, renewable goals, and vision for a sustainable energy future. We also stand ready to ensure the clean energy future is reliable and have a strong conviction we can do both. Today, PG&E's mix of electricity sources remains among the cleanest in the nation and, based on current forecasts, we're on track to meet and planning to exceed the state's renewable and carbon-free requirements under Senate Bill (SB) 100, including delivering 70% of our electricity from eligible renewable resources by 2030.



**Among the market reforms needed, we advocate for enhanced integration of the Western grid to accommodate shifts in demand and supply-side energy.** A strong regional interconnection will help lower costs and increase flexibility and energy reliability, especially as climate conditions become more extreme.

**Looking ahead, we expect our greenhouse gas-free energy supply mix of renewable, large hydroelectric, and nuclear generation resources to remain elevated** while Diablo Canyon—our utility-owned nuclear power plant—continues to operate. Once Diablo Canyon ceases operations,

we expect our percentage of greenhouse gas-free electricity to decrease before rebounding as we bring more renewable energy online.

The CPUC coordinates the planning of supply resources through the Integrated Resource Planning (IRP) proceeding and has determined that replacing the power generated by Diablo Canyon is the responsibility of all load-serving entities within the CAISO. PG&E plans to procure greenhouse gas-free resources to satisfy our share of this responsibility, increasing our clean energy supply to meet California's IRP targets and exceed California's RPS target.

**Progress to Date:** *Clean Energy, Battery Energy Storage Helping to Build a Climate-Resilient Grid*

## Clean Energy

**We have a proven performance record on clean energy, exceeding California's RPS goal** for each utility to deliver 33% renewable energy by the end of 2020. In 2021, about 50% of our customers' electricity came from specified eligible-renewable resources—including biopower, geothermal, small hydroelectric, solar, and wind power—and, overall, 93% came from greenhouse gas-free resources.

At 54% of the total renewable energy power, large-scale solar energy accounted for the largest portion of PG&E's total renewable energy power mix. We have over 250 RPS-eligible power purchase contracts, totaling over 6,500 MW of renewable energy nameplate capacity. Of that, about two-thirds is solar energy. PG&E also owns 438 MW of eligible-renewable generation, including 13 solar power plants, which are mainly located in California's Central Valley and generate up to 152 MW of clean power.

**Additionally, PG&E has connected more than 600,000 customers with rooftop solar to the electric grid.**

## Batteries: The New Frontier

**PG&E continues to invest in battery energy storage, which enhances overall grid reliability, integrates renewables, and helps customers save energy and money.** We have contracts for battery energy storage projects totaling more than 3,300 MW (13,200 MWh) of nameplate capacity to be deployed through 2024.

To date, 955.5 MW of battery storage nameplate capacity has been connected to California's electric grid, including PG&E's Elkhorn Battery in Monterey County, a 182.5 MW battery energy storage system.

## Customer Battery Energy Storage

**In addition to large, grid-scale battery storage, PG&E is leading in residential, behind-the-meter battery storage capacity deployment,** and connects more new systems to the grid each month. More than 33,000 PG&E residential and business customers have installed and connected behind-the-meter battery storage systems to the grid in PG&E's service area, totaling more than 360 MW of capacity. These customers can, on average, rely on over 10 hours of critical backup power using their storage system.

A portion of these systems are funded through California's Self-Generation Incentive Program (SGIP), through which PG&E provides financial incentives for business and residential customers installing new, qualifying equipment for generating and storing energy. This is one way that customers can be prepared for extreme weather events and possible Public Safety Power Shutoff events due to the rapidly changing environmental conditions in California.

PG&E has connected more than 600,000 customers with rooftop solar to the electric grid, and supports customers with resources before, during, and after they go solar. One in every five solar rooftops in the country is in PG&E's service area.



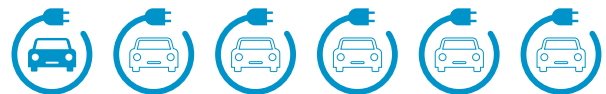
## Accelerate Electrification of the Transportation Sector

The transportation sector is California’s largest source of greenhouse gas emissions, contributing to over 40% of the state’s overall emissions. Powering vehicles with electricity that is increasingly sourced from zero-emission resources is one of the most impactful measures California can take to reduce greenhouse gas emissions and other pollutants. Doing so will also promote healthy communities by reducing air pollution from transportation—which disproportionately impacts lower-income communities.

Electric vehicles (EVs) represent an industry-changing inflection point, with the potential to provide increased reliability and resilience for a changing climate on a scale we have never experienced—providing grid resiliency benefits through vehicle-grid integration applications and enabling customers to use their EVs to power their home during a grid outage.

We’re excited about the potential for customers to lower their household’s overall energy costs by switching from gasoline to EVs, which are less costly to maintain and operate. Customers will also have the potential to save money by charging their EVs at lower-cost, “off-peak” periods, like overnight and during the day when the grid is powered by clean renewable energy, and then use their EVs to power their household during “peak” times of high energy demand on the grid.

We also advocate for improving the energy efficiency of EVs as the market evolves, which can significantly reduce emissions further. Improving the average fuel efficiency of EVs will build upon the decades of success advancing energy efficiency in buildings and appliances.



Today, about one in six of all EVs in the U.S. can be found in PG&E’s service area. This equated to approximately 330,000 EVs connected to PG&E’s grid at the end of 2021. But there is still more to do.

### California’s Goals<sup>1</sup>

- 100% sales of light-duty ZEV by 2035
- 100% medium- and heavy-duty ZEVs in operation by 2045
- 100% off-road ZEVs and equipment in operation by 2035

1. As laid out in Executive Order N-79-20 and reinforced in the state’s latest plan to achieve carbon neutrality by 2045; ZEV refers to zero emission vehicles.

## 2030 Climate Goals

Be the global model in the industry by fueling at least 3 million EVs in our service area—leading to a cumulative reduction of 58+ MMT of carbon emissions<sup>1</sup>:

Proactively prepare the grid for 12,000 GWh of EV-related electric load and improve processes to enable rapid, safe EV energization and interconnection.

Enable 2 million EVs to participate in vehicle-grid integration applications, allowing EVs to be a cornerstone of reliability and resilience, while unlocking additional revenue streams for PG&E customers to lower the lifetime and

household cost of EV ownership. We will target hard-to-reach customers while building a balanced portfolio of program offerings that is affordable for customers.

Repurpose at least 500 MWh of second-life batteries for grid-connected energy storage, providing a low-cost flexible resource to PG&E and enabling customers to maximize the value of their EV.

1. Covers the period from 2022 to 2030.



## Our Approach

**We're committed to providing clean transportation programs and incentives that are easy to use and affordable—and that help redefine the energy landscape to support California's clean air and greenhouse gas emission reduction goals and collective action on climate change.**

**Our core focus is on the customer experience** by proactively preparing the grid, increasing access to EV infrastructure, and supporting EV adoption through rates, rebates, tools, and education.

**To unleash the full potential of EVs for our customers,** we're focused on accelerating equitable EV adoption by:

- **Prioritizing grid readiness and proactively building grid capacity to accommodate new EV demand** through a multi-year grid investment plan. We believe novel regulatory approaches may be needed to underpin this investment.
- **Rapidly accelerating EV-enabling technology** by partnering to explore and scale low-cost grid and infrastructure solutions, vehicle-grid integration technology, second-life battery programs, autonomous EVs, and other technologies that enable a clean energy future.
- **Partnering with innovators across the entire EV value chain** to build the large-scale electric infrastructure needed to incorporate EV charging systems into the energy grid and enable customers to use their EVs to power their homes and communities.

**We're deploying cost-efficient, targeted customer programs** to accelerate equitable EV adoption with the aim to:

- **Increase access to EV infrastructure,** by deploying chargers to support all of PG&E's customers and setting aside budgets in each program for underserved communities.
- **Reduce the total cost of EV ownership for customers** through innovative rate structures, like PG&E's real-time EV rate for business customers.
- **Increase EV customer awareness** by partnering with community organizations to understand local education needs and tailoring tools and materials to drive EV adoption.
- **Seamlessly integrate EVs with the grid,** enabling vehicle-grid integration, EV market participation, and grid support.

**We're excited to collaborate with the broader EV ecosystem** of vehicle OEMs, EV supply equipment providers, and others to create robust marketplaces where many can thrive. This includes an MOU with industry, government, and labor leaders to accelerate "vehicle-to-everything" technologies. We embrace engaging with coalitions to advocate for policy and regulatory positions that enable accelerated and equitable EV adoption, market integration, and customer affordability.

**To be successful, our efforts depend upon:**

- Ongoing state and federal policy support and funding;
- Approval of customer programs, grid readiness initiatives, and the ongoing ability to invest in EV infrastructure;
- Continued EV market acceleration and innovation; and
- Collaboration on next generation technology R&D and deployment.

### Progress to Date:

### Accelerating EV Adoption

**With more than 330,000 EVs on the road today, we're well into our journey to prepare the grid for growing electrification.**

**We're partnering with industry leaders to advance innovation at scale** and have announced EV charging technology partnerships with both Ford and GM. We're working with a growing number of OEMs to reimagine the use of EVs as backup power sources for customers:

- Piloting the use of GM EVs as on-demand power sources for homes.
- Exploring how Ford's new F-150 Lightning EV can interact with the electric grid and provide electric reliability benefits to PG&E's customers.

**We also continue to implement a suite of EV charging programs, dedicating resources for underserved communities:**

- We installed nearly 5,000 Level 2 charging ports at workplaces and multi-family dwellings through our

**EV Charge Network program,** with 39% of the chargers located in disadvantaged communities (DACs).

- **EV Fleet** aims to support the adoption of 6,500 medium- and heavy-duty EVs, investing at least 25% of the infrastructure budget in DACs.
- **EV Fast Charge** aims to install between 30 and 40 plazas for direct-current (DC) fast charging in corridor and urban sites, with at least 25% of the sites in or adjacent to DACs.
- We proposed **EV Charge 2** to install 16,000 Level 2 and DC fast charging ports to support multi-family housing residents with onsite, workplace, and public-destination charging.



PG&E will test bidirectional charging technology in a variety of settings.



## Enable Building Electrification in an Orderly Transition and Shape the Future Natural Gas Delivery System

**Today, residential and commercial buildings represent about 14% of California's greenhouse gas emissions.**

Electrification of the building sector is one of California's key strategies to reach its ambitious climate goals—and doing so has important implications for our customers, both in terms of potential costs and the customer experience of the transition. We approach this transition in a strategic and collaborative manner—and in a way that coordinates closely with the evolution of the natural gas system.

**As part of our engagement on the future natural gas delivery system, PG&E actively participated in California's Gas System in Transition, a stakeholder process facilitated by the non-profit Gridworks.** The initiative identified a long-term trend towards decreased natural gas throughput, driven by increased climate temperatures, improved efficiency of gas appliances, increased building electrification, and reduced demand for natural gas to generate electricity.

At the same time, it's expected that capital investment and ongoing maintenance costs of the gas delivery system will increase. To combat this, PG&E has been working diligently since early 2020 to identify and execute cost reduction strategies to minimize potential long-term gaps between revenues collected and the revenue requirement for maintaining the remaining gas system.

### Our Approach

**PG&E is developing energy efficiency strategies and aligning our gas business with California's decarbonization and carbon neutrality goals.** This includes delivering customer programs and advocating for federal, state, and local support for decarbonization. It also includes exploring strategic alternatives to significant new investments that are not otherwise needed for safety and reliable system operations.

## 2030 Climate Goals

**Achieve 48 MMT of lifecycle carbon emission reductions through comprehensive energy efficiency and decarbonization strategies, with an increasing focus on building electrification<sup>1</sup>:**

- Align customer building electrification programs with the timing, scope, and goals of PG&E's targeted gas system transition.
- Aim for 50% of PG&E's Workforce Education and Training programs to focus on building knowledge and skills for electrification—with a continued commitment that 60% of the participants will be from disadvantaged communities.
- Take a proactive, policy leadership position in developing and publicly advocating for federal, state, and local electrification codes and standards for buildings and appliances.

**Execute zonal electrification and create a repeatable model on how to best perform it:**

- Evaluate gas capital projects for electrification as an alternative to the planned gas projects and pursue

electrification for the projects evaluated as feasible and cost-effective.

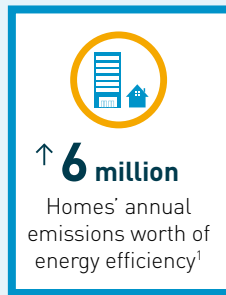
- Commit to a new program that seeks to zonally electrify three to five communities, with a specific focus on the decarbonization of vulnerable communities.

1. Covers the period from 2022 to 2030.



## Delivering for Customers and Supporting Decarbonization

**PG&E is leading on strategies to broaden access to energy efficiency programs, improve customer affordability, and continue supporting a carbon-neutral energy transition.** The primary focus of all our initiatives is to better serve our customers.



We're focused on delivering excellent customer experiences by providing a broad array of energy- and money-saving solutions to help meet the diverse needs of our customers across all sectors. Our plan makes it easier for customers to participate in energy efficiency programs and drives increased engagement in these solutions through more personalized customer experiences.

**PG&E aims to achieve 48 MMT of lifecycle carbon emission reductions by 2030 through comprehensive energy efficiency and decarbonization strategies, with an increasing focus on electrification.** PG&E's plan supports our customers through the transition to electrification, ensures equity for all customers, and advocates for critical changes to federal, state, and local building codes and appliance standards.

## Electrification in Disadvantaged Communities

PG&E is implementing an electrification pilot in the San Joaquin Valley. The effort is designed to reduce pollution and lower overall energy costs by eliminating the use of propane and wood burning appliances in several disadvantaged communities without access to natural gas.



1. This equivalency converts the 48 MMT emissions reduction total to the CO<sub>2</sub> emissions from powering 6 million homes for a single year using national averages. Source: U.S. EPA Greenhouse Gas Equivalencies Calculator.

**We plan to align our customer electrification programs with the timing, scope, and goals of PG&E's targeted gas system transition.** This will include implementing new programs for commercial building electrification that target locations that reduce gas system transition costs—and for residential customers targeting disadvantaged communities.

**We will help enable the workforce of tomorrow by aiming for 50% of PG&E's Workforce Education and Training programs to focus on building knowledge and skills for electrification—** helping to prepare for the transition necessary to reach California's climate goals and covering topics such as induction cooking, heat pump technologies, EVs, and energy storage. This will be an increase from today's total of 20%. In addition, we will maintain an ongoing commitment that 60% of the participants will be from disadvantaged communities.

**We will also take a proactive, policy leadership position in developing and publicly advocating for federal, state, and local pro-electrification codes and standards for buildings and appliances.** This will continue our decades-long work in this area and focus PG&E's technical research, customer outreach, and public advocacy towards supporting state and local objectives.

This includes:

- Support to cities, counties, and state agencies that employ policy tools, including local ordinances and the Energy Code to reach goals that will impact both newly constructed buildings and retrofits for existing homes and businesses.
- Support for state and federal appliance standards rulemakings that require performance levels in alignment with California's decarbonization objectives.

## Zonal and Targeted Electrification

**Electrifying "zones" to eliminate the need for natural gas infrastructure benefits our customers by allowing for a coordinated approach to electrification that minimizes customer disruptions. It also has the potential to reduce gas system operating costs and allow PG&E to decommission gas pipelines or downrate local transmission lines.**

At a small scale, PG&E has been conducting targeted electrification projects since 2018 with a focus on the customer experience and to avoid gas capital expenditures or reduce operating costs of the gas system. PG&E's 2030 commitment related to zonal and targeted electrification revolves around ensuring that electric alternatives are always considered within PG&E's gas planning process, and that PG&E actively pursues all electrification projects that are feasible and cost-effective, taking into account ratepayer, impacted customer, and non-traditional funding.

To help contribute to the solution, PG&E will seek to zonally electrify three to five communities, with a specific focus on the decarbonization of vulnerable communities. This pilot program will help PG&E better understand the costs

associated with these types of projects and gain insight into the planning and technical challenges to help inform improvements for future projects.

PG&E plans to identify high-potential zonal electrification candidates using a range of data related to the gas system, customer propensity, policy, and other factors. However, identifying high-potential locations is only the first step in successful zonal electrification; other challenging barriers exist to decommissioning pipelines at a larger scale:

- Customer acceptance
- PG&E's regulatory obligation to serve both gas and electricity to customers
- Cost of zonal electrification projects and the availability of funding sources other than customer bills
- Many different local decommissioning regulations

### Advancing Building Electrification

PG&E recognizes the value of building electrification as an important tool in meeting California's climate goals, and we have begun to incentivize low-carbon solutions in the building sector. For PG&E, our primary objectives with building electrification are to reduce greenhouse gas emissions and customer costs, while creating a positive customer experience.

We have been pleased to lend our support for local efforts to promote all-electric new construction as a way to help reach our climate goals, partner with communities, and reduce future gas system costs, and we have offered letters of support for all-electric new construction codes or ordinances to dozens of cities and counties.

Electrification of existing buildings comes with its own set of challenges. Decarbonizing California's existing building stock has the potential to impact the affordability of energy service for remaining natural gas customers if not properly managed. By adopting a strategic, proactive approach focused on zonal electrification and whole-building electrification retrofits, PG&E can reduce or

avoid future gas system costs; reduce the costs of needed system upgrades, installations, and removals by efficiently coordinating and planning work; and help to stabilize gas rates.

In addition to mitigating potential overall cost increases, a strategic, proactive approach to building electrification can also provide more equitable solutions. As Energy and Environmental Economics, Inc. (E3) highlights in their report *The Challenge of Retail Gas in California's Low-Carbon Future*, declining throughput on the gas distribution system could lead to "unsustainable increases in gas rates and customer energy bills...after 2030, negatively affecting customers who are least able to switch away from gas, including renters and low-income residents." A targeted approach to building electrification can help avoid disproportionate cost increases for our most vulnerable customers.

PG&E recognizes the importance of co-creating the building decarbonization future with local, state, and federal partners to achieve meaningful outcomes for customers based on shared building decarbonization goals.





## “Green” the Gas Supply for Hard-to-Electrify Customers

Today, California’s industrial sector, which largely relies upon natural gas, represents about 24% of the state’s greenhouse gas emissions; residential and commercial buildings, which also use natural gas, represent another 14%.

**Using cleaner fuels is a key strategy to decarbonize California’s natural gas system and reduce emissions for these customers.** Doing so will reduce reliance on fossil-based natural gas, while taking advantage of the state’s extensive natural gas infrastructure system.

**RNG is a renewable energy resource that is produced from organic matter** like agricultural crop waste, forestry waste, wooden construction waste, and manure. Major sources of RNG are dairies, non-hazardous landfills, wastewater treatment plants, and other organic sources.

**Woody biomass has also become a major challenge in California due to an ongoing extended period of drought and bark beetle infestations in California forests,** as well as the wildfires that increasingly result from these conditions. Finding ways to use the excess wood material as a source of RNG aligns with our future decarbonization goals.

**Longer-term, “green” hydrogen has the potential to support our decarbonized future.** Produced from a renewable source, green hydrogen has several potential applications, including as fuel for the transportation market—especially in heavy-duty vehicles, marine, and rail—and as long-duration energy storage.

## 2030 Climate Goals

**Reduce cumulative carbon emissions by 2.5 MMT by proactively converting industrial and large commercial customers unable to electrify from dirtier burning fuels to natural gas<sup>1</sup>,** prioritizing sites in or adjacent to disadvantaged communities.

**Deliver 15% RNG** in PG&E’s core gas throughput.<sup>2</sup>

**Maximize readiness for hydrogen blending:**

- Operationalize a hydrogen pilot project by 2024 using different vintage gas pipes in a stand-alone system so we can test different hydrogen blends in pipes used in our system—and help inform a safe level of hydrogen we can blend into the existing system by 2030.

**Pledge \$25M toward sustainable uses for woody biomass in collaboration with other partners:**

- R&D on converting wood waste to RNG and biomass carbon removal and other byproducts.

1. Covers the period from 2022 to 2030.

2. Represents a minimum volume of approximately 27 billion cubic feet per year.



## Our Approach

**PG&E is actively working to transition the gas system to transport and deliver cleaner fuels** such as RNG and hydrogen to help decarbonize PG&E’s operations and the energy used by our customers.

### Renewable Natural Gas

**PG&E is committed to increasing the percentage of RNG supplied to our core gas customers to 15% by 2030**, which will also enable PG&E to meet new requirements for California utilities.

Injecting RNG into our gas pipelines displaces fossil natural gas, resulting in a cleaner natural gas supply for customers. It can also serve customers interested in converting their vehicle fleets from diesel to cleaner burning compressed natural gas (CNG), reducing emissions from the transportation sector.

### Decarbonizing Large Gas Customers

**PG&E is working with industrial and large commercial customers that will not be able to electrify—setting a goal to reduce cumulative carbon emissions by 2.5 MMT by converting these customers from dirtier burning fuels to natural gas.** We also recognize the clean air benefits of this work to the surrounding communities. That’s why, as we do this work, we will continue to prioritize sites that are in or adjacent to disadvantaged communities.

We’re helping customers move from emission-intensive fuels to cleaner burning natural gas. Doing so enables emissions reductions in other sectors in support of California’s longer-term drive towards carbon neutrality. Many of these customers need natural gas for their production processes and we can leverage portions of the gas system to reduce emissions from these facilities, while sustaining important economic activity that provides jobs for Californians.

### R&D Toward Sustainable Uses for Woody Biomass

**We also pledge a commitment of \$25 million through 2030 in R&D toward sustainable uses for woody biomass**, working in collaboration with other partners to build upon and ramp up PG&E activities.

**One promising area is the opportunity to convert woody biomass to a source of RNG.** In fact, the CPUC recently required PG&E to file an application for at least one pilot project converting woody biomass from forest, agricultural, and/or urban sources to RNG. To date, PG&E has funded several of these types of R&D projects at a small scale with a focus on economic analyses and proof of concept physical demonstration projects. Additional R&D funding will enable PG&E to more proactively help advance these demonstration projects into full scale pilots.

**Further research is also needed to explore other sustainable uses for woody biomass**, such as biomass carbon removal. We plan for this effort to build upon

**Progress to Date:** *PG&E Helps Advance Renewable Natural Gas Sources for Customers*

**PG&E is working to add RNG to the gas pipeline system in a way that is both safe and helps California address climate change.**

Under a partnership between PG&E, Maas Energy Works, and California Energy Exchange, PG&E completed a first-of-its-kind interconnection that bridges RNG-producing dairies and PG&E pipelines, removing the historic barrier between producers and customers. This was one of two projects resulting from the state’s SB 1383 Dairy Biomethane

Pilot Program, designed to demonstrate the collection of biomethane from dairy digesters and its injection into natural gas pipelines.

PG&E anticipates we will have six RNG projects connected to our system by the end of 2022, and several more in the next few years. In total, projects with anticipated operational dates in 2022 or 2023 are expected to provide over 60,000 million cubic feet of gas per day, which represents about 3% of daily system throughput.



Scope 3 & 4: Enable Our Customers to Reduce their Carbon Footprint

current research being funded through the EPIC 3.47 program, where PG&E is embarking on a new R&D project to demonstrate technology innovations for woody biomass. PG&E is requesting proposals in 2022 for projects related to small-scale mobile torrefaction (densifying and pre-processing biomass for other value-added conversion), wood baling, and other promising solutions.

**Hydrogen**

**PG&E has launched the nation’s most comprehensive end-to-end hydrogen study and demonstration facility to prepare for the hydrogen future and gain experience in different aspects of handling hydrogen.**

The centerpiece of the study, known as **Hydrogen to Infinity (H2∞)**, is a large-scale project designed to blend hydrogen and natural gas in a stand-alone transmission pipeline system. Partners include Northern California Power Agency, Siemens Energy, the City of Lodi, GHD Inc, and the University of California at Riverside.

Through the pilot project, we plan to study different levels of hydrogen blends in a multi-feed, multi-directional natural gas pipeline system that is independent from our current natural gas transmission system.

H2∞ will also include plans for a new 130-acre facility located in Lodi, California, that will serve as a study laboratory that incorporates production, pipeline transportation, storage, and combustion.

**Potential California Hydrogen Hub**

PG&E is contemplating the new demonstration facility in Lodi being an integral piece of a potential California Hydrogen Hub.





# Reducing Supply Chain Emissions

For many years, PG&E has worked to embed environmental sustainability into our sourcing processes and align these efforts with PG&E's commitment to serving people, the planet, and California's prosperity.

## Progress to Date

Since 2007, PG&E has worked to reduce the environmental impact of the products and services we purchase. We monitor supplier sustainability performance through requests for proposals, by reviewing supplier scorecards, and by engaging suppliers in an annual sustainability assessment. We use the assessment as part of our supplier scorecard process and to develop tools and training to help suppliers improve environmental performance.

We also continue to partner with industry peers through the Electric Utility Industry Sustainable Supply Chain Alliance (Alliance), a consortium of 24 electric energy providers that we cofounded to advance sustainable business practices among utilities and industry suppliers.

## Focusing on Greenhouse Gas Hotspots

We partnered with the Alliance to perform a greenhouse gas hotspot assessment of our non-energy related

purchased goods and services. We learned that our suppliers in the construction services, vegetation management, and manufacturing industries represent over 60% of these Scope 3 upstream emissions.

To further reduce emissions in our supply chain, we're focused on partnering with these suppliers through our annual assessment and by offering them in-depth greenhouse gas emissions training to help measure their carbon footprint.

## Roadmap for 2030

Looking ahead, we've established a roadmap through 2030 that focuses on engaging with suppliers in the construction services, vegetation management, and manufacturing industries to measure their Scope 1 and 2 greenhouse gas emissions and establish reduction goals.

## Key aspects of the roadmap include:

- Our plan to require these targeted suppliers to share their emissions data and reduction goals with PG&E starting in 2025.
- Our 2030 goal to have 100% of these supplier partners establish a science-based target or a longer-term net zero goal.



## California, PG&E Lead Transition to Greenhouse-Gas Free Electrical Equipment at Substations

PG&E is working with suppliers to integrate innovative SF<sub>6</sub>-free equipment into our system ahead of California's stringent requirements. This includes installing the industry's first 123 kV circuit breakers with clean-air vacuum technology.

# Building Career Pathways

**PG&E is focused on developing a workforce with the skills and expertise to operate our business safely, while also meeting the evolving needs of our customers**—amidst an energy industry that is undergoing a rapid transformation. We're excited about the opportunities to partner with our coworkers, communities, and others to optimize the workforce transition to a net zero energy system.

Through our talent identification efforts, robust training offerings, and targeted efforts at building workforce pipelines such as PowerPathway™, PG&E remains poised to have the talent needed to achieve a decarbonized future.

**We're helping coworkers grow in their careers and offering leadership development programs to prepare leaders for the challenges of an ever-changing utility industry.** We're also working to localize and diversify our workforce, building a workforce that is further reflective of the communities we serve.

**Through our PowerPathway™ program, we continue to partner with local workforce development organizations to develop local diverse talent invested in our communities.** Created in 2008, PowerPathway™ targets those who are out of work or under-employed and has a strong focus on enhancing opportunities for women and those who have served in the military. Students enrolled in the program receive industry-specific training that addresses the academic, vocational, and physical abilities students will need to enter the energy industry workforce.

**PG&E also made local hiring commitments as part of recent settlement agreements** related to the 2019 Kincade Fire and 2021 Dixie Fire. We will hire roughly 200 employees in designated counties for wildfire or other operations-related work over the next five years, which will reinforce our hometown-oriented workforce. We will also support local community college partnerships for both a fire technology training program and a vegetation management training program.



## Workforce Development on Tribal Lands

PG&E partnered on a pilot to train Native American tribal members on vegetation management—leveraging traditional and cultural learnings—through a four-week course held on the ancestral lands of Robinson Rancheria. This effort is part of our broader effort to strengthen relationships and partnerships with Native American tribal governments and communities.

**As we look to the future, we're working to better understand the workforce implications of a net zero energy system**—and the anticipated changes to PG&E's workforce composition and skillsets over the coming decade and beyond. We look forward to partnering with our coworkers and other stakeholders to meet the workforce needs, challenges, and opportunities ahead and incorporate these workforce considerations into our longer-term business strategy.

## PowerPathway™ By the Numbers



**Graduated  
1,000+ people**



**83% hired by  
PG&E or within the  
utility industry**



**Nearly 50% are  
veterans**



**More than 10%  
are female**



**68% are people  
of color**

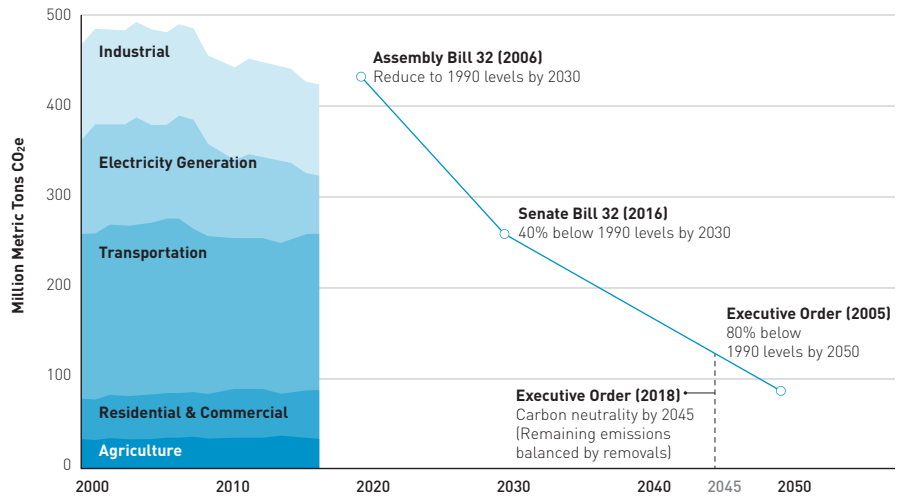
# Supporting California's Clean Energy Vision

**PG&E is committed to California's vision of a sustainable energy future.** This commitment includes our support for the state's implementation of SB 100 and carbon neutrality by 2045 in a reliable and cost-effective manner for our customers. SB 100 includes increased Renewables Portfolio Standard (RPS) objectives and clean energy goals, and Executive Order B-55-18 sets a statewide goal to achieve economy-wide carbon neutrality no later than 2045.

## California's 2019 Greenhouse Gas Emissions



- 24% ● Industrial
- 14% ● Electricity Generation
- 41% ● Transportation
- 14% ● Residential & Commercial
- 7% ● Agriculture



California's cap-and-trade program sets a declining cap on greenhouse gas emissions covering three-quarters of California's emissions, including most greenhouse gas emissions from PG&E's electric and natural gas businesses. The program requires covered entities such as PG&E to hold compliance instruments (i.e., allowances and offsets) equal to their covered greenhouse gas emissions and establishes markets for these compliance instruments through which a price on carbon emerges.

PG&E is actively participating in CARB's process to update the plan for how the state will achieve its short- and long-term greenhouse gas emission reduction targets.

## Key California Climate and Clean Energy Milestones

2020

- 33% renewable electricity (SB 2X1)
- Economy-wide carbon emissions below the 1990 level (AB 32)

2030

- 5 million zero emissions vehicles on the road (EO-B-55-18)
- 60% renewable electricity (SB 100)
- Double energy efficiency in existing buildings (SB 350)
- Economy-wide carbon emissions 40% below the 1990 level (SB 32)

2035

- End the sale of new gasoline-powered passenger cars and light-duty trucks (EO N-79-20)

2045

- 100% carbon-free electricity (SB 100)
- Transition 100% of medium- and heavy-duty fleet to zero emission vehicles, where feasible (EO-N-79-20)
- Economy-wide carbon neutrality (EO B-55-18)


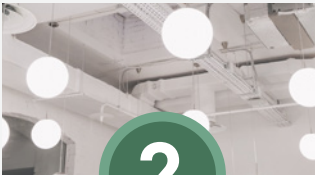




## Scenario Analysis: Statewide Carbon Neutrality

As an input to developing our own climate strategy for our customers and communities in Northern and Central California, PG&E commissioned a study to identify pathways to achieving statewide carbon neutrality by 2045. This study evaluated numerous scenarios and portfolios for effectiveness and cost. The results generally align with other studies to date conducted within and beyond the state of California.

## Four Pillars to 100% California Carbon Neutrality by 2045

The study identified four pillars for how California can achieve carbon neutrality at the lowest cost to society by 2045.

 <b>1</b>	 <b>2</b>	 <b>3</b>	 <b>4</b>
<b>Decarbonize Electricity Supply</b> <ul style="list-style-type: none"><li>• Accelerate investment in solar, wind, and energy storage technologies—and in the electric transmission that will be needed.</li><li>• Scale up hydrogen production over the longer-term as an energy storage solution and as a means to decarbonize key sectors.</li><li>• Invest in state-of-the-art clean, emission-free thermal technologies to help maintain reliable electric service.</li></ul>	<b>Adopt Energy Efficient Products and Technologies</b> <ul style="list-style-type: none"><li>• Cut economy-wide energy demand by investing in—and adopting—energy efficient products and technologies for homes, businesses, and vehicles.</li></ul>	<b>Electrify Vehicles and Buildings</b> <ul style="list-style-type: none"><li>• Convert vehicles and buildings from fossil fuels to zero-carbon energy and fuels, with a primary focus on electrification.</li><li>• Shift customer energy use away from periods of low renewable energy generation and towards periods of high renewable energy generation.</li><li>• Make the necessary electric grid and gas system upgrades and enhancements to support growing electricity demand, maintain reliable electric service, and integrate hydrogen technologies.</li></ul>	<b>Scale Up Carbon Capture, Utilization and Sequestration</b> <ul style="list-style-type: none"><li>• Capture remaining carbon emissions from the economy for other end uses or sequester emissions through underground storage.</li><li>• Use direct air capture technology to remove carbon from the atmosphere.</li></ul>

## Key Insights

The study provided greater clarity on what needs to happen over the next several decades to decarbonize California's economy—and the general sequence and timing of changes necessary to do so at the lowest cost to society. At the same time, it will be important to remain flexible to different pathways, processes, and technologies that could emerge.

### The study identified that:

- **Transportation electrification is key** to enabling California's decarbonization goals between now and 2035 because transportation makes up about 40% of the state's carbon emissions.
- **The transition to a carbon neutral economy will require substantial investment** in renewable generation, electric transmission and distribution, carbon capture, and electrification of vehicles and buildings.
- With increasing electricity demand from buildings and transportation, **California must also substantially invest**

**in thermal generation with clean fuels and/or carbon capture and storage to maintain reliability.**

- **New, cross-sectoral partnerships will be needed**, including the **potential for hydrogen to be produced from electrolysis powered by surplus renewable energy** on the grid.

**Distributed energy resources (DERs)**, such as rooftop solar and behind-the-meter energy storage, will also contribute to reaching carbon neutrality.

## PG&E's Climate Policy Principles

### These Climate Policy Principles guide us on the path to achieving our climate goals.

Meeting the challenge of climate change is central to PG&E's ability to deliver on our "triple bottom line" approach of serving people, the planet, and California's prosperity—underpinned by strong operational performance.

Consistent with this framework, PG&E works to reduce greenhouse gas emissions and environmental impacts from our operations and acts as a valuable partner and enabler to do so with our customers, the State of California, and beyond. PG&E also builds climate resilience by adapting to and preparing for a changing climate and associated weather patterns that could affect our assets, infrastructure, operations, coworkers, and customers.

#### PG&E is committed to achieving more sustainable operations and enabling our customers to reduce greenhouse gas emissions by:

- Making our facilities more energy efficient and sustainable, increasing clean vehicles and fuels in our fleet, and adopting environmentally responsible products and services.
- Reducing emissions of methane, a potent greenhouse gas released from the operation of natural gas infrastructure, by implementing SB 1371 and 1383, which address leak abatement and short-lived climate pollutants, respectively.
- Evolving the natural gas system by supporting emerging renewable gas technologies to decarbonize the gas system coupled with critical low-carbon thermal generation to supply electricity during peak electric demand.
- Supporting all-electric building codes and standards for new construction and identifying opportunities for strategic electrification.
- Engaging with our customers to help them use less energy and better manage their energy footprint through solutions that include energy efficiency and demand response; clean and renewable energy and fuels; storage; and low-carbon transportation fuels and fueling infrastructure.
- Integrating climate science into PG&E's decision-making and asset planning to mitigate climate risks and build resilience to long term climate-driven impacts.

#### PG&E advocates for policies that:

- Position California to achieve economy-wide carbon neutrality by 2045 and support nation-wide decarbonization efforts consistent with science-based emissions reduction targets to achieve carbon neutrality by 2050 or sooner.
- Support cost-effective achievement of greenhouse gas emission-reduction goals through clean energy and technology-neutral and flexible strategies that foster

innovation and technology, including California's Low Carbon Fuel Standard.

- Support well-designed carbon pricing mechanisms, including California's cap-and-trade program, with environmental integrity, cost containment, and recognition of early actions.
- Support disadvantaged and vulnerable communities and the workforce in an equitable and just transition to a carbon neutral future.
- Support strategies that also lead to community-level local air quality improvements.
- Promote research and development of natural climate solutions and new technologies needed to enable decarbonization, including hydrogen production, carbon capture, energy storage, renewable natural gas, and other power-to-gas/liquids technology.
- Support policies that will enable the unprecedented infrastructure build rates and the associated transmission system that will be necessary to decarbonize the economy.
- Support PG&E's ability to invest in and adaptively manage a modern and resilient energy system that can better withstand climate-related impacts and enable PG&E to continue providing safe, reliable, affordable, and clean energy in the face of a changing climate.
- Support market reforms and changes to the regulatory structure that enable deep decarbonization, including building codes and appliance standards, policies to address gas and electric system affordability, and enhanced integration of the Western grid to accommodate demand and supply-side shifts in energy.
- Promote and support customer incentives that do not unduly shift costs to other customers, including energy efficiency, building electrification, and zero emission vehicle adoption and fueling infrastructure installation.

#### PG&E aligns and allocates its resources by:

- Supporting candidates who are committed to the environment.
- Providing charitable resources to organizations dedicated to improving our environment and addressing the climate crisis.
- Engaging in coalitions and trade associations in support of our policy principles.

# Mitigating Physical Climate Risk Today

## A “New Normal” of Climate Impacts







According to California’s Fourth Climate Change Assessment, the science is highly certain that California and the world will continue to warm and experience greater impacts from climate change in the future.

PG&E’s infrastructure spans more than 70,000 square miles and is already facing a variety of physical hazards worsened by a changing climate, including heat waves, more frequent and extreme storms and wildfires, drought, subsidence, and rising sea levels, as well as compounding and cascading impacts of these hazards.

PG&E refers to the projected increase in the frequency and intensity of climate-driven hazards as physical climate risk.

Record-breaking extreme heat and heat waves are increasingly a regular occurrence throughout California. In the past two decades, PG&E’s electric distribution system has experienced multiple, major outage-causing events associated with heat waves and peak loads on the system. These issues are projected to increase with rising temperatures due to direct impacts of ambient temperatures on equipment and direct impacts on electricity demand driven by rising air conditioning installation and usage.

Climate change will continue to intensify the potential for wildfires throughout California. Additionally, PG&E’s assets on the coast and in or near watersheds face potential increased exposures to coastal, riverine, and precipitation-related flooding because of climate-driven changes in precipitation and sea-level rise. Encroaching salt water may also increase corrosion of coastal equipment.

	CLIMATE IMPACT	DIRECTION	SCIENTIFIC CONFIDENCE FOR FUTURE CHANGE
	TEMPERATURE	WARMING ↗	Very High
	SEA LEVELS	RISING ↗	Very High
	SNOWPACK	DECLINING ↘	Very High
	HEAVY PRECIPITATION EVENTS	INCREASING ↗	Medium-High
	DROUGHT	INCREASING ↗	Medium-High
	AREA BURNED BY WILDFIRE	INCREASING ↗	Medium-High

Effectively managing physical climate risk will become increasingly critical to the success of PG&E’s mission as the physical impacts of climate change become increasingly severe over the coming years in California.

Source: California’s Fourth Climate Change Assessment, August 2018 ([www.climateassessment.ca.gov](http://www.climateassessment.ca.gov)).



## Our Approach to Building Climate Resilience

At PG&E, our stand is that everyone and everything is always safe. For this to be true, PG&E must be resilient to the physical impacts of climate change, which have the potential to threaten the safety and reliability of the energy system, as well as the safety of our customers.

Climate resilience is often defined as the ability to anticipate, absorb, recover, and learn from climate-driven hazard events that disrupt the normal functioning of a system or community. In practice, at PG&E, becoming climate resilient means that we systematically account for the physical risks of climate change in how we plan, invest in, and operate the energy system on behalf of the communities we serve.

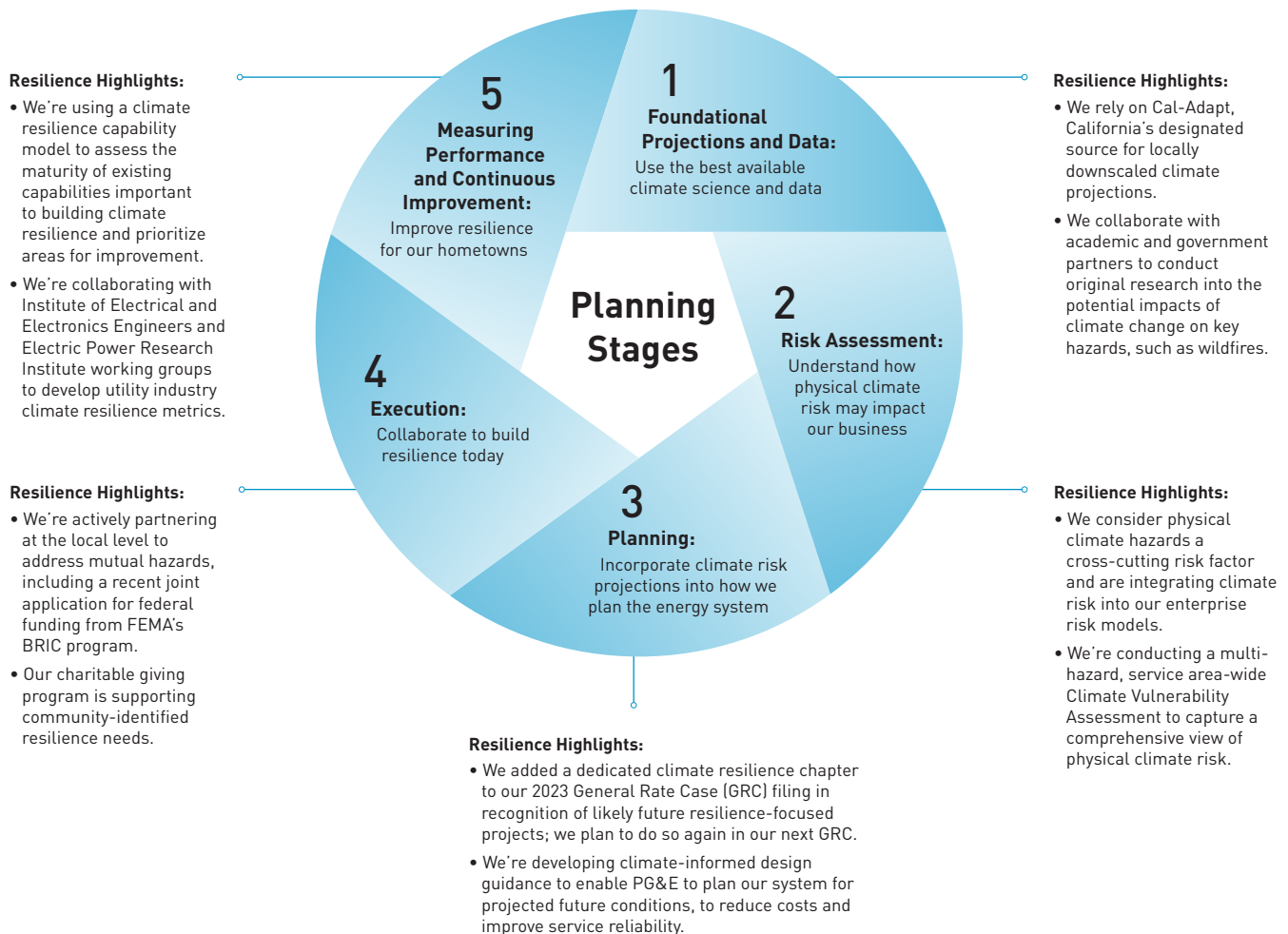
Given the pressing realities of climate-driven natural hazards in California, we are actively working to integrate climate resilience

into PG&E's strategy to prepare our energy system for the future in a way that delivers energy safely for all of our hometowns.

The physical hazards exacerbated by climate change are mostly familiar. PG&E has over a century of experience with storms, floods, wildfires, and many other natural hazards endemic to Northern and Central California. However, climate change impacts these hazards in varying and uncertain ways that make effective planning more challenging, especially as many hazards become more frequent and severe.

Through PG&E's climate resilience program, we are working to ensure that all relevant decision-making is informed by the best available climate science. Our climate resilience team is responsible for implementing PG&E's program and acts as a support and catalyst to enable PG&E's energy system engineers and operators to systematically account for physical climate risk in their work. We are integrating PG&E's climate resilience program with our risk management and strategic planning processes to foster continuous improvement.

### Building Climate Resilience Within PG&E



## Measuring and Mitigating Physical Climate Risk Today

**Quantifying the physical risks driven by climate change is a key part of PG&E's portfolio of climate resilience actions.**

PG&E considers physical climate risk a cross-cutting factor that influences our enterprise risk models. Adequately accounting for physical climate risk in our risk assessment efforts is foundational to effective, resilient utility planning and investment going forward.

On a regular basis, PG&E files a Risk Assessment and Mitigation Phase (RAMP) report with the CPUC to provide greater visibility and stakeholder engagement around plans for mitigating top safety risks. The RAMP process and required methodologies are applicable to all of California's investor-owned utilities. PG&E will file our third RAMP report in 2024.

Each filing is an opportunity to further develop our base risk models and integrate the climate risk cross-cutting factor.

In our 2020 RAMP filing, PG&E accounted for climate change in our wildfire risk model by incorporating the overall increase in wildfire risk due to climate change and how climate-driven changes may impact the risk of ignition and the spread and intensity of future wildfires. PG&E also factored the impact of changing climate conditions into the risk that natural hazards—such as extreme heat events, major rain events, and extreme wind—may cause electric distribution overhead assets to fail.

Effectively integrating physical climate risk into our enterprise risk models is a complex task. Marrying climate hazard projections with risk models requires a robust understanding of both dynamics and is an area of continuous improvement at PG&E.

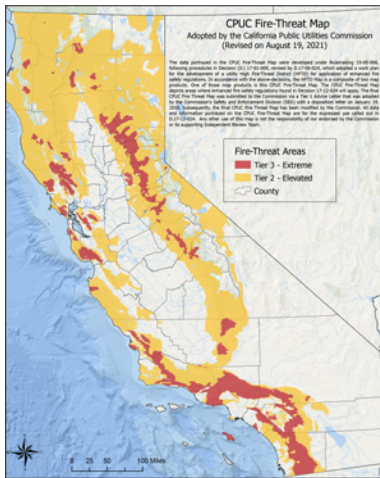


Photo of PG&E's Ravenswood substation, which is at risk of flooding from sea-level rise due to climate change. To address this challenge, PG&E partnered with the City of Menlo Park, the San Francisco Joint Powers Authority, and Meta, to submit a grant application to FEMA's Building Resilient Infrastructure and Communities program. This grant—the Menlo Park SAFER Bay project—seeks to protect the substation and surrounding communities from flooding associated with sea-level rise.

## Increasing Wildfire Risk

**California continues to experience an increase in wildfire risk and a longer wildfire season.** The risk posed by wildfires has increased in PG&E's service area as a result of an ongoing extended period of drought, bark beetle infestations in the California forest, wildfire fuel increases due to rising temperatures and record rainfall following drought conditions, and strong wind events, among other environmental factors.

High winds can cause tree branches and debris to contact energized electric lines, damage our equipment, and cause a wildfire. Today, more than half of our service area is in a High Fire-Threat District (HFTD), as designated by the CPUC.



Source: CPUC High Fire-Threat District Map

### CPUC Fire-Threat Map

The Fire-Threat Map identifies areas across California that have the highest likelihood of a wildfire impacting people and property, and where additional action may be necessary to reduce wildfire risk:

- **Tier 3 areas** are at extreme risk for wildfire
- **Tier 2 areas** are at elevated risk for wildfire

## PG&E's Community Wildfire Safety Program

**We all need to work together—PG&E, our government, and all Californians—to adapt our electric system to the growing threat of wildfires, while also helping our customers prepare for and mitigate service interruptions.**

We all rely on electricity every day, and we will continue to work with our customers on solutions that minimize risks to our infrastructure during times of high fire-threat.

For the safety of our customers and communities, we may need to turn off power during severe weather to help prevent wildfires. This is called a Public Safety Power Shutoff or PSPS and it continues to be a necessary tool as a last resort.

We have also unveiled two new initiatives to further reduce the risk of wildfires: Undergrounding and Enhanced Powerline Safety Settings.

**PG&E's Community Wildfire Safety Program includes short-, medium-, and long-term plans to reduce wildfire risk and keep our customers and communities safe.** Key areas include:

- Supporting customers and communities before, during, and after PSPS events by providing more resources and working year-round and nonstop to improve our PSPS Program.
- Meeting and exceeding state vegetation standards with our Enhanced Vegetation Management Program to manage trees and other vegetation located near power lines that could cause a wildfire or power outage.
- Continuing to build a safer and more resilient system by hardening lines and installing sectionalizing devices that help to reduce the size of PSPS events.
- Testing and using new tools and technologies to pinpoint how to best prevent and respond to the risk of wildfires.

## Undergrounding 10,000 Miles

**PG&E is undertaking a major new initiative to underground approximately 10,000 miles of powerlines in high fire risk areas.** This commitment represents the largest effort in the United States to underground powerlines to reduce wildfire risk. Benefits are expected to include:

- *Safety* by reducing the risk of wildfires.
- *Dependability* by reducing the need for PSPS and Enhanced Powerline Safety Settings outages and improving service reliability.
- *Resilience* to a changing climate.
- *Sustainability* by saving trees and beautifying our hometowns.

We plan to underground approximately 3,600 miles between 2022 and 2026 as the work scales from 175 targeted miles in 2022 up to 1,200 miles in 2026. At the same time, the increased scope, gained efficiencies, and integrated best practices are projected to decrease the cost per mile for undergrounding from \$3.75 million per mile in 2022 to \$2.5 million per mile in 2026.

## Enhanced Powerline Safety Settings (EPSS)

**Starting in July 2021, to help prevent wildfires during the hot and dry season, we started adjusting the sensitivity settings on some of our circuits in high fire threat areas to turn off power quickly and automatically if the system detects a problem.**

We saw immediate impacts. With the new safety measures in place in 2021, CPUC-reportable ignitions were down approximately 40% across all 800 circuits (~25,000 miles) traversing HFTDs versus the past three-year average and down approximately 80% on the 169 EPSS-enabled circuits (~11,000 miles) versus the past three-year average.<sup>1</sup>

For 2022, we have enabled the EPSS setting on all circuits in high fire risk areas.

1. Refers to the three-year average for the period of July 28 through October 20.



## Scenario Analysis: Understanding Future Physical Climate Risk

PG&E is conducting a multi-year, service area-wide **Climate Vulnerability Assessment**, using the best available climate projections for California to evaluate climate hazards and risks to PG&E’s assets, operations, and services. We are doing so in compliance with the CPUC’s first proceeding focused specifically on climate adaptation and resilience. PG&E expects to file the results of the assessment with the CPUC in 2024.

**Importantly, PG&E will engage with disadvantaged and vulnerable communities throughout this process.** Starting in 2021 and continuing through 2023, PG&E is conducting regionalized community engagement campaigns throughout our service area to understand how some of the most vulnerable communities we serve think about climate hazards and adaptation. This critical information will help PG&E plan adaptive climate action informed by customer and community perspectives.

PG&E’s Climate Vulnerability Assessment will identify and help us prioritize climate-driven physical hazards projected to threaten PG&E’s ability to deliver safe, affordable, reliable, and increasingly clean energy to customers.

By comparing today’s energy network with the environmental conditions projected for 2050, the assessment is evaluating where and what type of assets are most vulnerable to climate hazards, providing an outline for the magnitude and type of adaptation measures that may be required.

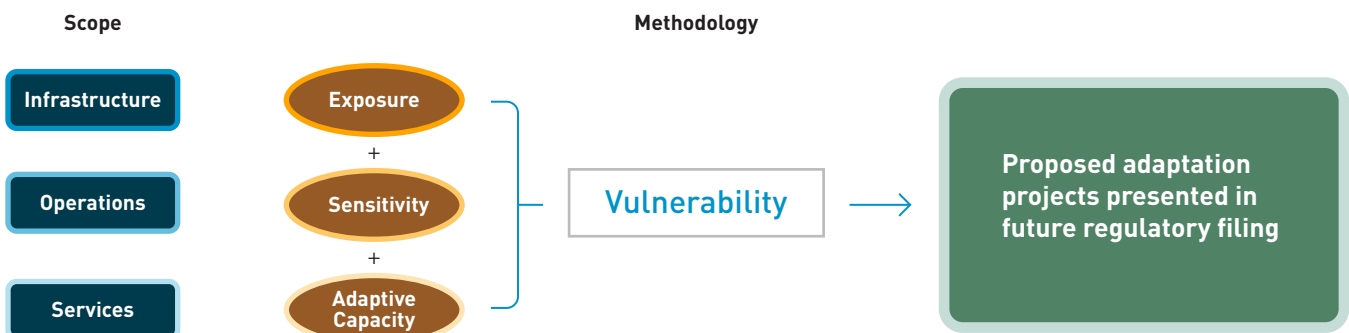
**This section includes examples of PG&E’s ongoing assessment of the climate hazards and risks to our electric and gas infrastructure** related to wildfires, sea-level rise and coastal flooding, rising ambient temperatures and extreme heat events, and drought-driven subsidence.



As part of this assessment, PG&E is reviewing our critical operations and services to understand how future climate conditions may impact PG&E’s ability to deliver energy to customers.

### PG&E’s Climate Vulnerability Assessment

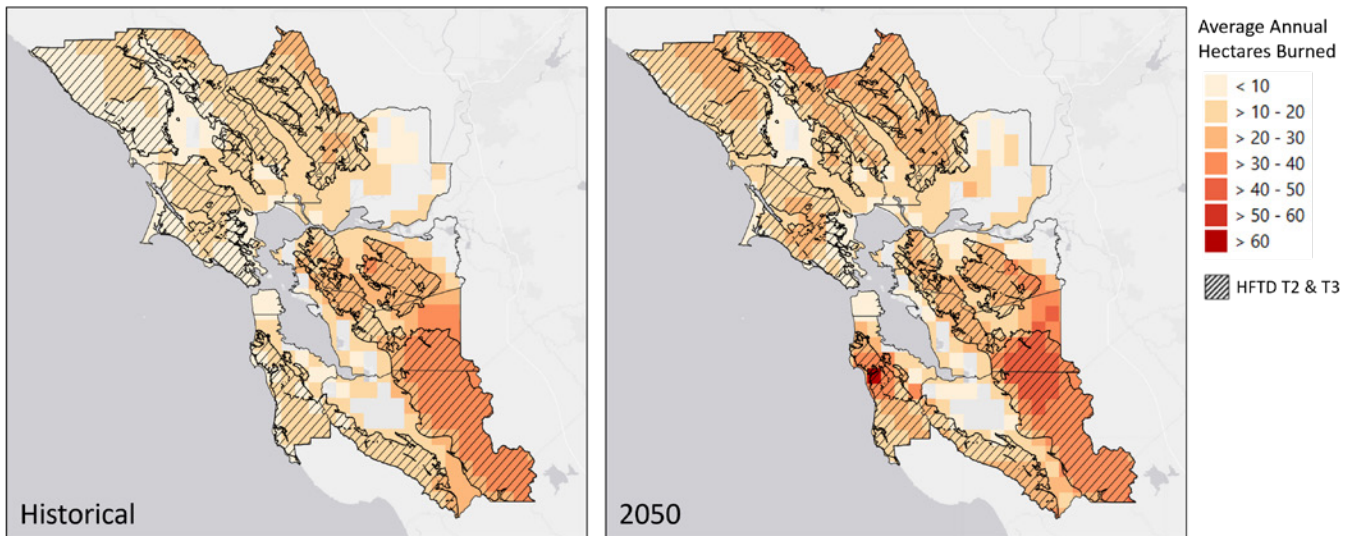
PG&E is conducting a multi-year, service area-wide climate change vulnerability assessment and will engage with disadvantaged and vulnerable communities throughout the process, so that proposed adaptation options include the perspectives of the communities we serve.



## Wildfires

PG&E relies on the CPUC's HFTD maps as the basis for wildfire mitigation activities. To inform future planning, we are evaluating the projected change in wildfire acreage burned in 2050 relative to present day HFTD-designated areas.

This will enable PG&E to factor future conditions into both our near- and longer-term planning.

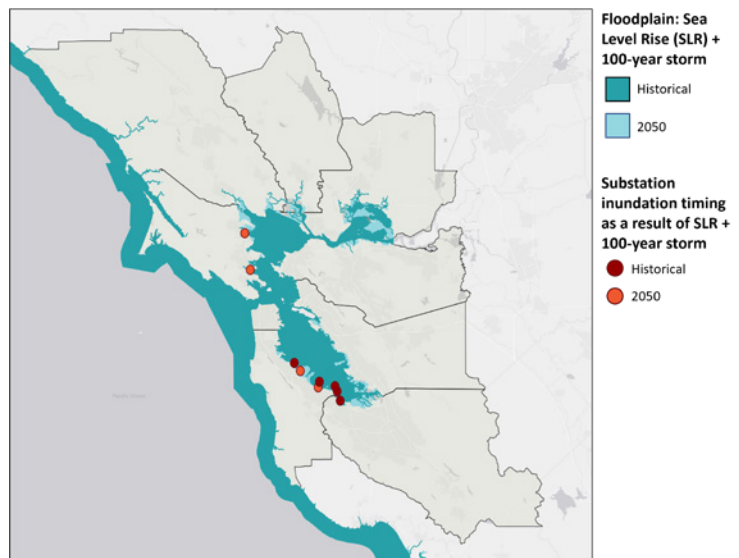


In the San Francisco Bay Area, the number of acres burned by wildfire is projected to increase in 2050 both inside Tier 2 (T2) and Tier 3 (T3) HFTDs (hashed areas), as well as outside these areas.<sup>1</sup>

## Sea-Level Rise and Coastal Flooding

The San Francisco Bay Area is the most densely populated region within PG&E's service area. With climate change, the same coastal flooding hazards that threaten the area's vibrant communities also threaten the assets PG&E relies upon to serve these communities. With the projected sea-level rise by 2050, coastal flooding will pose an increasing hazard in the decades to come.

Given the Bay Area's population density, relocating substations exposed to coastal flooding would be a prohibitively expensive adaptive option. Rather, PG&E is actively partnering with public and private local stakeholders to address the shared threat of coastal flooding, allowing for electric service reliability and supporting community plans to sustainably manage coastal flooding.



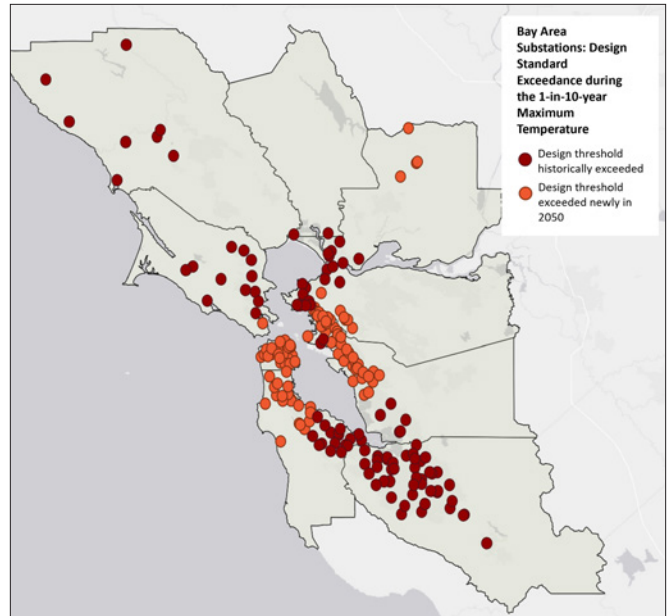
The number of PG&E substations along the San Francisco Bay coastline that are exposed to flooding during a 100-year storm is projected to increase over time due to sea-level rise. This figure shows these substation locations overlaid on the projected extent of coastal inundation over time.<sup>1</sup>

1. The figures assume a high climate change scenario.

## Rising Ambient Temperatures and Extreme Heat Events

There is broad agreement that average temperatures will rise in the coming decades and that extreme heat events will become more frequent. Given the sensitivity of many electric grid assets to high temperatures, it's critical to consider these temperature changes in the integrated grid planning process.

In the coming years, PG&E plans to replace aging equipment with assets rated for future temperature conditions. To that end, PG&E is developing climate-informed design guidance to support energy system engineers in updating equipment standards so that the grid becomes sufficiently resilient.



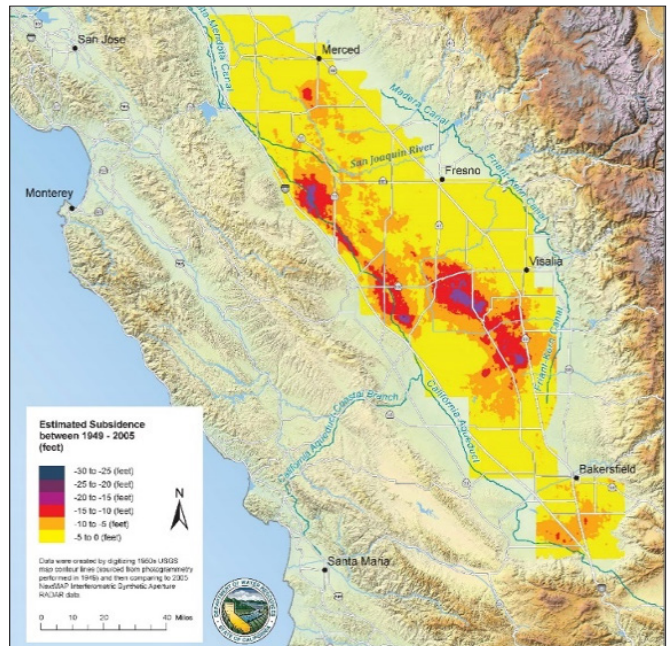
This figure shows PG&E substations in the San Francisco Bay Area. PG&E uses an ambient temperature design assumption for substations. The number of substations that will be exposed to temperatures greater than this design assumption will increase over time.<sup>1</sup>

1. The figures assume a high climate change scenario.

## Drought-Driven Subsidence

Drought conditions can impact the energy network in a number of ways, including from land subsidence. As droughts continue, we project that increasing amounts of groundwater will be pumped out of natural underground storage aquifers. Over time, if the need for pumping persists and the aquifers are not restored by long periods without drought, the ground itself may subside.

PG&E's underground gas pipeline assets are sensitive to major geological shifts. Areas of greatest subsidence concern are in California's Central Valley. PG&E's geosciences and climate resilience teams are partnering to adequately assess and manage this hazard.



This figure shows the estimated subsidence in California's Central Valley (1949-2005) from the California Department of Water Resources.



## Collaborating on Resilience Solutions

### PG&E Helps Lead Multi-Year Climate Resilience Effort

**PG&E has joined with other utilities to sponsor Climate READi: Power, a three-year initiative of the Electric Power Research Institute (EPRI) aimed at addressing power system climate resilience and adaptation as extreme weather events continue to increase.**

The program brings together global energy companies, climate scientists, regulators, and other stakeholders to proactively analyze and apply climate data, allowing for the planning, design, and operation of resilient energy systems of the future.

This initiative will facilitate strong collaboration across sectors and will allow for convening global thought leaders and industry representatives to develop a common

framework to address this challenge. Ultimately, this effort will embody one of the most comprehensive, integrated approaches to physical climate risk assessment to date.



### Resilience Grants for Communities

Through the Better Together Resilient Communities grant program, The PG&E Corporation Foundation supports local climate resilience initiatives, with a particular focus on disadvantaged, vulnerable, and historically underserved communities. In 2021, the program awarded four grants to support wildfire prevention, disaster response preparation, and local emergency cooling for extreme heat events:

- **Tribal EcoRestoration Alliance's** project to build capacity and provide Native American tribal members with relevant firefighting certifications to participate in prescribed burns, purchase equipment, and share traditional tribal knowledge and techniques.
- **Blue Lake Rancheria's** project to fund 12-months of rapid start-up activities for the recently formed Humboldt County COAD network, designed to help local non-governmental organizations prepare and coordinate for disaster response.
- **Yurok Tribe's** project to use prescribed and cultural burns to collect scientific data on the impacts and serve as a framework for future studies and wildfire mitigation plans. The project will also support food security by creating a traditional foods calendar to plan for climate-driven changes in seasonality.

- **City of Richmond's** project to increase access to cooling centers by installing cooling misters and canopies in local parks or community centers. Unsheltered residents will be trained and hired to staff the cooling centers and do outreach, along with a broader public education effort.



The Better Together Resilient Communities grant program provided \$2 million over five years to support local initiatives to build greater climate resilience.

# Governing and Managing Climate-Related Risks

**PG&E has robust governance, operational, and strategic structures in place to manage the transition to a lower carbon economy and build climate resilience.**

## Governance of Climate-Related Policies and Programs

At PG&E, climate-related policies and programs are overseen by the Boards of Directors of PG&E Corporation and Pacific Gas and Electric Company (together, the “Boards”) and senior management, facilitated by interdisciplinary teams, and implemented by each functional group.

### Boards of Directors

**The Sustainability and Governance Committee of the PG&E Corporation Board of Directors has primary oversight over matters related to environmental, social, and governance (ESG) issues, including climate change and climate resilience planning.** This includes oversight of climate-related policies and programs, PG&E’s disclosure on ESG practices and performance, as well as an annual review of PG&E’s ESG practices and performance and climate risk. The committee is comprised entirely of independent directors.

**The Safety and Nuclear Oversight Committees of the Boards oversee risks arising from operations,** including wildfire, employee and public safety, electric, gas and generation operations, other risks associated with facilities, emergency response, and cybersecurity. This includes oversight of the risks associated with the impact of climate change on operations, assets and facilities, and planned mitigations.

In addition, the CPUC requires that members of the PG&E Corporation Board of Directors oversee climate adaptation planning for infrastructure, operations, and services.

### Executive Leadership

**PG&E Corporation’s Chief Executive Officer (CEO) has the overall responsibility for climate change issues for PG&E.**

**Reporting to the CEO is PG&E Corporation’s Executive Vice President of Corporate Affairs and Chief Sustainability Officer,** who is responsible for developing and implementing strategies for all aspects of corporate affairs, including climate change-related regulatory, government relations, public policy, and charitable giving. This individual co-chairs PG&E’s internal Sustainability Leadership Council, a cross-departmental committee focused on reducing the greenhouse gas footprint of PG&E’s operations.

PG&E’s Chief Sustainability Officer also convenes an external Sustainability Advisory Council to seek ongoing feedback and guidance on issues that span our business, including climate change and clean energy. Established in 2016, the diverse group is made up of recognized leaders, including environmental and sustainability advocates, energy policy experts, and industry authorities and meets regularly with PG&E leaders to share insights and feedback.

**Pacific Gas and Electric Company’s Executive Vice President of Engineering, Planning, and Strategy is responsible for PG&E’s near-term engineering priorities and long-term planning,** including oversight of the utility’s gas system and electric infrastructure. This work includes oversight of PG&E’s climate resilience objectives and work to ensure the continued safe, reliable, and affordable operation of PG&E’s system in the face of a changing climate.

## Management of Climate-Related Risks and Opportunities

### Leveraging the Lean Operating Model

**PG&E is employing a Lean operating model to drive more effective and responsive decision-making by improving visibility, control, and predictability across our work.** This model is fundamental to our ability to manage climate-related risks and opportunities by helping us identify gaps and quickly develop plans to support the teams performing the work.

PG&E is transitioning to the Lean operating system, which includes four basic “plays”: visual management, operating reviews, problem solving, and standard work. PG&E implemented the first two plays in 2021 and expects to roll out the second two plays in 2022. Visual management allows teams to see how they are performing against their most important metrics using real-time data. PG&E holds over 2,000 daily operating reviews, beginning with crews closest to the work and cascading up to senior leadership. For example, this system helped us identify patterns in the conditions of wildfire ignitions and led to the implementation of EPSS.

PG&E’s climate-related risk management is also driven by an increased focus on alignment on shared outcomes among our leadership and within the organization.

**PG&E has also implemented the Regional Service Model to bring operational leadership closer to our customers.**

The Regional Vice Presidents lead cross-functional local teams across each PG&E region to address local issues and incorporate the needs and concerns of our customers

into operating decisions. Working with our centralized functions, these leaders assist with customer and community projects, including decarbonization activities.

## Risk Management Program Implementation

**At PG&E, risk management processes—including those related to climate risk—are facilitated by a central group, implemented by each functional group, and overseen by senior management and the Boards.** Functional groups also manage climate-related opportunities through the strategic business planning process, including for customer energy solutions and transportation electrification.

**The full Boards' oversight of risk management programs ensures that programs are designed and implemented by management appropriately, and are functioning as intended.** Oversight begins with the Audit Committees, which review the full spectrum of key enterprise risks on an annual basis. The Audit Committees allocate responsibility for an in-depth review of each enterprise risk to various Board committees, based on the scope of each Committee's charter. The specific allocation of Board-level risk oversight was most recently reviewed by the Audit Committees in December 2021.

Management provides regular reports to the Committees on the effectiveness of risk mitigations for each risk, including looking ahead and planning for future conditions. Each committee provides a report of its activities to the Boards.

**Within management, the Executive Vice President and Chief Risk Officer (CRO) of PG&E Corporation and Pacific Gas and Electric Company oversees the Enterprise and Operational Risk Management (EORM) program;** the CRO reports directly to the PG&E Corporation CEO. Senior management categorizes enterprise risks and recommends the most serious risks for Board-level review at least once every 12 months. The EORM program, including enterprise risks, is overseen by senior management and the Boards of Directors.

With guidance from a central program office, PG&E maintains a risk register of event-based and cross-cutting risks. We follow a consistent enterprise-wide approach to identify, evaluate, respond to, and monitor risks. With our evaluation methodology, PG&E calculates a baseline risk score and evaluates different mitigation strategies on their ability to reduce this score. This evaluation methodology prioritizes the highest safety risks while also accounting for energy system reliability and financial risk.

The risk of PG&E assets or activities initiating a catastrophic wildfire represents the risk with the highest baseline risk score. PG&E's annual Wildfire Mitigation Plan and our PSPS, EPSS, and undergrounding programs are intended to reduce the risk of wildfires to infrastructure, property, communities, and the environment.



Our Hazard Awareness and Warning Center (HAWC) supports wildfire prevention and response and readiness for a variety of potential natural disasters and emergencies.

We track risk mitigations throughout the year, and refresh risk assessments periodically to capture the impact of mitigation strategies and to reflect changes to the operating environment. This risk management program provides risk reduction transparency and accountability. Risk and compliance committees, which include senior leaders, are an important element of PG&E's risk management program and provide leadership, strategic guidance, and oversight for each functional group.

## Climate Adaptation and Resilience:

**On an ongoing basis, PG&E assesses the potential physical risks of climate change to our system.** PG&E's cross-functional climate resilience team is headed by the Executive Vice President of Engineering, Planning, and Strategy and coordinates work across enterprise risk management; internal culture, integration, and planning; and external engagement.

PG&E maintains emergency response plans and procedures to address a range of near-term risks and uses our risk-assessment process to prioritize infrastructure investments for longer-term risks associated with climate change.

## Assessment:

We proactively track and evaluate climate-related risks. In 2020, PG&E launched a multi-year Climate Vulnerability Assessment, the results of which are designed to help PG&E target investments to infrastructure that is most vulnerable to climate impacts and that could significantly impact customers in the event of service disruption.

As part of this effort, in 2021, PG&E's climate resilience team began a multi-year effort to engage on the technical analysis of the assessment with disadvantaged and vulnerable communities region by region. PG&E will continue this process as we work towards a submittal to the CPUC by 2024.

As part of this assessment, PG&E is reviewing our critical operations and services to understand how future climate conditions may impact PG&E's ability to deliver energy to customers. This will also include an assessment of critical non-energy assets and is designed to cover the level of risk, adaptive capacity, and hazards to physical assets and employee health and safety.



# Looking Forward

**We stand ready to do our part to meet California’s evolving clean energy policies and standards. We also stand ready to ensure the clean energy future is reliable and have a strong conviction we can do both.**

With a longer-term goal of a climate- and nature-positive energy system, we’re committed to reducing our own carbon footprint and helping to enable our customers and hometowns to reduce their climate impacts. Rooted in the triple bottom line, this means working towards a clean energy future in partnership with others—and in a way that grows California’s economy, while keeping energy service safe and affordable for customers.

We’re excited about the opportunities to engage in broad-based climate actions to decarbonize California’s economy—from deploying clean energy technologies, to shaping the future natural gas delivery system, to actively supporting the state’s goals for distributed energy resources, zero emission vehicles, and battery storage.

All of this work will be done in the context of the “new normal” of climate impacts projected for California, necessitating broad steps to ensure an energy system that is increasingly resilient to the physical impacts of a changing climate.



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Throughout this report, when we refer to “PG&E,” we are discussing all of PG&E Corporation and its subsidiaries, including Pacific Gas and Electric Company. When we refer to the “Utility,” we are discussing Pacific Gas and Electric Company.

This Climate Strategy Report contains forward-looking statements that do not relate strictly to historical or current facts. These forward-looking statements relate to, among other matters, our plans, goals, and strategies with respect to sustainability and environmental matters, improvements in operating procedures and technology, and potential benefits to us therefrom; our efforts to enable our customers to achieve their own ESG goals; demand for our services; competition; government regulation; and other matters. These statements are also identified by words such as “assume,” “expect,” “intend,” “forecast,” “plan,” “project,” “believe,” “estimate,” “predict,” “anticipate,” “may,” “should,” “would,” “could,” “potential” and similar expressions, or by discussions of our guidance, priorities, strategy, goals, vision, mission, opportunities, projections, intentions, or expectations.

These statements reflect management’s judgment and opinions that are based on current estimates, expectations, and projections about future events and assumptions regarding these events, and management’s knowledge of facts as of the date of this report. These statements are based on current expectations and assumptions, which management believes are reasonable, but are necessarily subject to various risks and uncertainties, the realization or resolution of which may be outside of management’s control. Actual results could differ materially from those expressed or implied in the forward-looking statements, or from historical results. PG&E Corporation and the Utility are not able to predict all the factors that may affect future results. For a discussion of some of the factors that could cause actual results to differ materially, please see PG&E Corporation and the Utility’s reports filed with the Securities and Exchange Commission (SEC), including their joint annual report on Form 10-K for the year ended December 31, 2021, their joint quarterly report on Form 10-Q for the period ended March 31, 2022, and their subsequent reports filed with the SEC, which are available on PG&E Corporation’s website at [www.pgecorp.com](http://www.pgecorp.com) and on the SEC website at [www.sec.gov](http://www.sec.gov). Unless otherwise noted, statements in this report are made as of June 8, 2022. PG&E Corporation and the Utility undertake no obligation to publicly update or revise any forward-looking statements, whether due to new information, future events, or otherwise, except to the extent required by law.