

**Testimony of Peter A. Darbee.
Chairman, CEO and President
PG&E Corporation**

Before the

**Committee on Environment and Public Works
United States Senate**

Hearing on the U.S. Climate Action Partnership Report

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Chairman Boxer, Ranking Member Inhofe, and Members of the Committee, I am pleased and honored to appear before you this morning representing both my company, PG&E Corporation, and the U.S. Climate Action Partnership (U.S. CAP).

PG&E Corporation is an energy holding company headquartered in San Francisco, California and is the parent company of Pacific Gas and Electric Company. Pacific Gas and Electric Company is California's largest utility, providing electric and natural gas service to more than 15 million people throughout northern and central California. PG&E is a recognized leader in energy efficiency and has among the cleanest electric delivery mix of any utility in the country.

The U.S. Climate Action Partnership, also known as U.S. CAP, is a coalition of leading businesses and environmental non-governmental organizations (NGOs), including Alcoa, BP America, Inc., Caterpillar Inc., Duke Energy, DuPont, Environmental Defense, FPL Group, General Electric, Lehman Brothers, Natural Resources Defense Council, Pew Center on Global Climate Change, PG&E Corporation, PNM Resources, and World Resources Institute. U.S. CAP has come together based on a shared understanding that climate change is an urgent issue, and that the United States both has a responsibility and opportunity to act now, act aggressively, and enact policies to stabilize and reduce greenhouse gas emissions, enhance energy security, and create economic opportunity by developing and deploying new technologies.

U.S. CAP has recommended a set of public policy principles and a legislative framework for Congress and the Administration, which will accomplish these goals. We developed this framework and these recommendations by putting the tough issues on the table. We challenged each other with hard questions. We debated. And we came together to move forward in those areas of common ground. This is difficult to do. It takes tenacity. And most of all, it takes mutual respect, humility, patience, compromise and a willingness to take the long-term view.

The members of U.S. CAP are committed to working with Congress and the Administration to do the same. On behalf of PG&E, I want to thank Chairman Boxer and the other Members of this Committee for hearing from the business and environmental communities and other stakeholders on this important issue. I believe that this dialogue will help to forge the kind of understanding needed to tackle this challenging issue.

The Challenge

As the head of a major energy company -- and also as an American and a great believer in our nation's unique place in the world -- I believe the United States has a responsibility to be at the forefront of addressing global climate change.

If you look at U.S. greenhouse gas emissions compared with other nations, the level of emissions from sources in the U.S. is vastly disproportionate to our population. Our emissions are higher than those of China and India combined, where the population is more than 2.5 billion people.

If you look at our wealth and prosperity relative to other nations, it's clear that we can afford to make a difference.

And, if you look at our tremendous capacity for innovation, it's clear that we have the human capital to develop the solutions. By signaling to the market that we're serious

about making progress on clean energy, we can stimulate investment and engage our best and brightest minds in this effort.

The longer we wait, the costlier the solutions will likely become. On the other hand, by acting now, we preserve valuable response options. We narrow the uncertainties. And we avoid the economic and social dislocation of drastic changes later.

Developing a Response

So, in the face of this challenge, where do we start? U.S. CAP has provided a roadmap for developing the kind of comprehensive approach that will be necessary to address global warming. At the core of the recommendations is a national, mandatory, market-based approach to reducing greenhouse gas emissions – a so-called ‘cap and trade’ program – that establishes clear short-, medium-, and long-term goals and unleashes the power of the market to get the job done. In addition, U.S. CAP identifies action that should be pursued aggressively in advance of the implementation of a national cap-and-trade program, including a full court press on energy efficiency.

Taking this approach will create clarity for business; create consistency, by avoiding a state-by-state patchwork of emissions trading markets; create focus for a comprehensive national energy strategy; and allow us to begin to change the U.S. emissions trajectory today.

Overview of U.S. CAP Recommendations

U.S. CAP provides recommendations on all the major components of legislation that could be developed to address this challenge, and many of these recommendations are focused on making the U.S. economy more energy efficient than it is today. In brief, these recommendations include the following:

- Policies and measures to facilitate the development and deployment of advanced transportation, power generation, and energy efficient technologies;
- Cost control measures, including the use of greenhouse gas emissions offsets, banking, borrowing, a strategic allowance reserve, and preferred allowance allocations;
- Inventory and registry so that we can identify both the most energy-intensive parts of our economy and where the most cost-effective reductions can be achieved;
- Credit for early action, to both recognize actions already taken and encourage others to step up today; and
- Sector-specific policies and measures that complement an economically sound cap-and-trade system and create additional incentives to invest in low-GHG approaches in key sectors, including energy efficiency. These measures will be particularly necessary where near-term price signals are insufficient to deploy existing energy-efficient technologies or other market and regulatory barriers exist that impede their introduction or utilization.

In addition to outlining these major recommendations from U.S. CAP, I would also like to spend a little time addressing three key elements that provide the foundation for many of the recommendations – the importance of improving energy efficiency, the need to develop a “smart grid” for delivery of electric power to consumers, and the important role that decisions on electric power generation and fuel diversity play in the climate change equation.

Energy Efficiency

A recent McKinsey study said that, through energy-efficiency, we could reduce the growth rate of worldwide energy consumption by more than 50 percent over the next 15 years. And McKinsey said we can do this using the technology we have available today.

A major step toward unleashing this opportunity in the U.S. would be federal action making it easier for utilities to actively advocate energy efficiency. PG&E has been doing

this for three decades. Our energy efficiency programs, both electric and natural gas, have already prevented 125 million tons of greenhouse gas emissions. These programs also helped California escape the need to build 24 additional large power plants, and they've saved customers more than \$9 billion.

And we are doing even more. Between 2006 and the end of 2008, we will invest an additional \$1 billion in energy efficiency, avoid the need for another 600 megawatts (MW) of electric power, and save customers another \$1 billion. In fact, in 2006, we exceeded our targets and saved more than 160 MW of power and 10 million therms of natural gas.

The reason we can do this is that, under state law, our revenues are set at a fixed level by regulators. We collect what we need to run the business and provide a fair return to investors. Any overruns go back to customers. Any shortfalls are recovered later. This is known as "decoupling," and it means our financial health doesn't depend on selling more energy. It eliminates the financial disincentives that otherwise stand in the way of encouraging customers to use less of our products. Experience shows that this empowers utilities to become some of the most effective advocates for energy efficiency. This is especially true when you package this policy with incentives for utilities. Utilities should be provided an opportunity to earn a return on investments that save energy, just as they do when they invest in a new power plant, and that earnings opportunity should be tied directly to how well utilities help customers reduce their bills.

A number of states are already moving in this direction. U.S. CAP recommends that Congress bring all 50 states on board by either incorporating this policy into federal law or taking steps to strongly encourage states to do so. We also need stronger energy efficiency codes for whole buildings, equipment and appliances. PG&E has worked for decades to help both state and federal authorities set better energy efficiency standards. Progress at the federal level has lagged recently, however, and we urgently need to reinvigorate it. And finally, it may be necessary to provide incentives for entities to go even further to seek energy savings.

Aggressive standards and incentive programs are a big reason that *per capita* energy usage in California has remained flat over the past 30 years, while the rest of the nation has increased its *per capita* usage by 50 percent. During this time, California's economy has continued to grow at a rate that is equal to or has outpaced the U.S., and was the epicenter of the hi-tech and bio-tech revolutions – with many of the market leaders being energy efficiency pioneers themselves. Raising the bar at the national level will lead to new investment in next-generation energy efficient technologies and spark growth opportunities in other sectors

For example, recognizing the intense and persistent energy use of computing equipment, airflow management, and power conditioning systems in data centers, PG&E worked with Sun Microsystems to develop an incentive program for energy-efficient servers, garnering attention from a growing number of other major computing equipment manufacturers, who are also qualifying their premium performance equipment for incentive programs.

PG&E also announced the first-ever utility financial incentive program to support virtualization projects in data centers. Virtualization technology enables customers to consolidate their data centers and thereby significantly reduce their energy use. One major software firm, for example, was able to consolidate workloads from 230 servers onto just 13, representing an energy cost savings of more than \$100,000 per year. This same company is now creating a new product based on this approach.

Many regions across the U.S. are experiencing new demands for electric infrastructure as data center operators construct new facilities. Data centers can use up to 100 times the energy per square foot of typical office space, so efficiency opportunities are significant. We are now working to expand the gains we've made, by leading a coalition of U.S. utilities to capture energy efficiency in data centers. Participants include the Northwest Energy Efficiency Alliance, TXU Energy, the New York State Energy Research and Development Authority, and NSTAR.

Our efforts do not stop in the U.S. We recognize that climate change is a global problem requiring a global solution. And, while we do not believe that U.S. action should be contingent upon global action, we do recognize that in order to make progress, all major emitting economies will need to contribute equitably. That is why PG&E is working cooperatively with the Natural Resources Defense Council, the State of California, and others as part of the U.S.-China Energy Efficiency Alliance. The Alliance works to exchange information and facilitate technology deployment, ultimately helping China reduce the energy intensity of its economy and providing economic opportunity and advantage to those that supply these energy efficient technologies and facilitate best-practice programs. A climate program therefore must build off of efforts like this and the Asia-Pacific Partnership in the near term, and create additional international linkages going forward.

And, finally, we are supporting the development and deployment of new energy efficient technologies and call on Congress to do the same. We implemented several emerging technologies projects in 2006, including integrated daylighting in schools and automated demand response controls. These projects set the stage for significant energy savings in the future and for creating economic opportunities for manufacturers and vendors.

In our state and for our company, energy efficiency is the “first energy resource.” That is, before we look to add generation, we see what we can do to reduce demand. I believe the U.S. should make energy efficiency the nation’s first resource as well, and U.S. CAP’s recommendations will go a long way toward achieving that.

Smart Grid

Maximizing the potential for energy efficiency, as well as distributed generation and some advanced transportation technologies, will require a “smarter” energy grid, one that provides for two-way communication between energy consumers and energy providers. PG&E is installing 10 million Smart Meters™ throughout our service area to provide the

infrastructure that will eventually support these technologies and offer new capabilities. Tax incentives and reform measures will be needed to advance these efforts nationally.

One example of a technology which would benefit from a “smart” grid is plug-in hybrid vehicles (PHEVs). Vehicle-to-grid technologies have the benefit of reducing oil use, enhancing the power grid, and reducing greenhouse gas emissions. For example, when the cars are not in use, energy from the batteries could be uploaded back to the system, reducing the need for peak power generation. This is important, because peak power often comes from the least efficient and least clean resources on the grid. And, PHEVs facilitate more efficient use of the electric grid, as these vehicles will mainly charge at night, when demand is otherwise low. And, in our state, this is also when some of our lowest emitting resources are powering the electric system.

Power Generation and Fuel Diversity

In addition to using energy more efficiently, reducing demand, and implementing “smart grid” strategies, a significant emphasis and focus of any greenhouse gas reduction program must be on ensuring an affordable, reliable, and diverse supply of electricity from low-greenhouse gas (GHG) emitting sources. As with energy efficiency, the latest research suggests we can be doing a lot more with what we have available today.

For example, currently, the U.S. is getting about 9 percent of its electricity from renewable sources. Excluding hydroelectricity, that figure is a little more than 2 percent. A number of states have set targets for increasing the supply of renewable energy. In California, our target is to deliver 20 percent of our energy from renewable sources by the year 2010, excluding large hydroelectric sources. PG&E is on track to meet this goal.

But the federal government can make a tremendous contribution here. I believe one major positive step would be the extension of production and investment tax incentives for renewable energy sources for more than one year at a time. This would provide

much-needed certainty for investors, reduce the cost of technology development, and encourage fuller deployment.

Washington can also play a leading role in researching and developing next-generation renewable power sources. I'm particularly intrigued by solar thermal technology. PG&E is also exploring the possibility of tidal and wave power off the coast of California. And, the sooner we can develop a good understanding of their viability, and their relative costs and benefits, the sooner we will be in a position to move forward.

It's also critical that we implement policies and initiatives to facilitate the development and deployment of lower GHG- emitting conventional power sources. A strong place to start would be increasing the efficiency of natural gas fired turbines. And, I personally believe we need to facilitate development of both new supplies and new infrastructure. For example, biogas from methane digesters is an opportunity we are pursuing to supplement natural gas supplies for our customers. Again, federal investment and policies that support efforts in these areas would be very positive.

We are also hearing the beginnings of a national conversation about the future of nuclear power in our country. The advantages of nuclear power in a carbon-constrained world are considerable and must be acknowledged. But nuclear power also faces considerable challenges that must be addressed. It is an option that should be on the table.

Finally, we must address the issues surrounding the use of coal. About 40 states rely heavily on coal for their electric power and, nationally, the electricity mix is currently more than 50 percent coal. So, it is critical that we accelerate efforts to deploy advanced coal technologies that have the capability to cost-effectively capture and store carbon dioxide. Right now, carbon capture and storage technology is expensive, and questions remain. I am cautiously optimistic that the challenges facing this important fuel source can be addressed. And the federal government can help us get the answers we need more quickly and help drive down cost. Policy makers should fund at least three large-scale development and demonstration programs, to account for a diversity of locations, coal

types, and storage formations. The U.S. should also establish the rules as soon as possible for how carbon dioxide must be captured, transported and stored. Without these rules, it will be difficult for investments to be made on the scale necessary to achieve our GHG reduction targets.

The Time Is Now

Our country has a historic opportunity to change the way we produce and use energy in ways that will lower the threat of climate change and improve our environment. The optimist in me is certain that we're going to achieve this goal over the course of the next generation. But the realist in me knows that we can't take this outcome for granted. Achieving it will be a very substantial challenge. And that is why we have to come together as pragmatic, responsible participants in this effort.

On behalf of PG&E and U.S CAP, I want to thank you for the opportunity provided today. I appreciate the commitment of this Committee to addressing this critical issue and I pledge my cooperation and support as this Committee and Congress moves forward.

Thank you.

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