

**Bay Area Council
California Outlook Conference Speech
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Good afternoon, and thank you Jim for that very kind introduction. It's an honor to be part of today's distinguished group of speakers.

Since coming to PG&E last fall, I've mentioned to a number of people that this move to the Bay Area has felt a little bit like "back to the future".

Forty years ago, I joined the Navy as a young college graduate. And as an officer in the nuclear submarine program, I was fortunate to spend a lot of time in places like Mare Island, San Francisco, and San Diego.

To a kid who'd grown up on the East Coast and gone to school in the Midwest, California was a magical place. I discovered there was a reason people talked about the California Dream.

Picture-perfect scenery. Incredible weather. Great food and wine. A diverse, thriving economy. World-class universities. You name it...California was a land of opportunity.

And one day – swept up by that spirit of opportunity – I finally worked up the courage to propose to my college sweetheart on the north overlook of the Golden Gate Bridge.

Luckily she said yes, and I really became convinced that in California, anything was possible.

So, California and the Bay Area have always been special to Sarah and me.

In fact, a number of times in my career when I was being recruited for other CEO positions, my standard answer was “don’t even call me unless it’s the PG&E job.”

Little did I know under what circumstances I’d get that call.

Moving back after 40 years, a lot of the things that attracted so many to the Golden State are still here. But like PG&E, there are also a lot of things we need to fix.

California’s fiscal challenges are well known, and prospects for the state’s manufacturing sector are pretty grim. Unemployment in some of the communities PG&E serves is shockingly high – even by the standards of someone who lived through the recession in Detroit.

Changing these facts will require the wisdom and the courage to do some critical things – some difficult things – to position California to thrive in the future.

And – with the possible exception of educating and investing in our young people – few things are as important as putting in place the foundations for a safe, reliable, and affordable energy future.

That means investing in clean energy and energy efficiency. It means investing to make the grid smarter. But at its most basic level, it means investing in core infrastructure.

Now, let me be the first to admit that energy infrastructure isn't something that typically fires the public imagination.

But the truth is, there is no asset that's more essential or more strategic for our future. That's true for California. And it's true for our nation.

Energy infrastructure is the platform for everything else.

It's one of the golden threads that keep the fabric of our economy strong.

It's a key ingredient in the competitiveness of every business.

And, it enables virtually everything that has come to define our quality of life.

That's why I think the National Academy of Engineering got it absolutely right when it called electrification the single greatest engineering achievement of the 20th century.

And all of this is only becoming more true as our lifestyle and our economy move further into the digital age.

Now – I'm sure you're thinking: "Well of course that's important ... that's a given."

But the reality is: it's not a given.

The reality is America faces a serious energy infrastructure challenge.

We urgently need to renew and revitalize our electric and gas networks – to stay ahead of the curve as assets reach the end of their lifespan; to take advantage of technologies that can provide better safety, reliability and efficiency; and to facilitate that move to a cleaner, more diverse energy supply.

Today, I want to focus on why this is so important. Why we have a great opportunity to get moving on it now. And also, how we might be able to turn it to our advantage to help fuel a longer term, robust economic recovery in our state and in our communities.

We're facing this challenge due to a number of factors.

One is simply age.

Half the country's power plants are 30 years old, half the electric distribution poles are between 30 and 50 years old, and other components are similarly well aged. Shockingly, by 2050, every single currently operating nuclear plant in the U.S. will be beyond its licensed lifespan. That's 20% of the country's power supply.

In fact much of America's energy infrastructure dates back to the post-WWII boom years and is reaching the end of its useful life.

Another factor is that relative to demand and economic growth, we've underinvested in our energy system for the past 20 years.

Electric usage is up by about 30 percent since the early nineties.

Yet, for a number of reasons – from cost, to deregulation, to increasingly cumbersome approval processes – the industry and regulators have opted for a minimalist approach to growth.

We've focused on running our systems smarter, which is a good thing. But at the same time, we've also run them harder and longer than many were originally designed for.

In a lot of cases, that means we've put additional stress on equipment.

Eventually, this strategy reaches a point of diminishing returns. It starts to come at a cost to reliability, and we pay a price.

Various studies – including one by the Lawrence Berkeley Lab – have estimated that power outages cost the U.S. economy as much as \$160 billion a year.

Over this past 20 years, we've also seen the introduction of new technologies, and the corresponding reliance on digital infrastructure.

We've now got access to a wealth of new hardware and software that can be integrated with the grid to improve safety, reliability, and efficiency.

But to take full advantage of these innovations, we have to upgrade and replace a lot of the underlying infrastructure.

A smart grid is terrific – but if the benefits are short-circuited by weak links in the core infrastructure, then we've missed the point.

Additionally, many businesses are becoming more sensitive to power quality. Twenty years ago, tiny fluctuations in the grid weren't an issue. Nowadays, at a biotech firm or another high-tech manufacturer, they can disrupt or shut down an entire production line.

And, finally, another factor is our need for a more diverse energy supply, incorporating a greater presence of renewables.

That's obviously spurring investment in new generation.

Some of that is distributed generation, which actually can help alleviate the infrastructure need.

But mostly, it's large solar and wind projects, and new natural gas fired plants – both of which require additional support and infrastructure development.

We're seeing the demand for new electric transmission to move renewable power from places like the Mojave Desert, where it is generated, to places like the Bay Area, where we actually use it. We also need more sophisticated control systems because renewable output is both unpredictable and uncontrollable.

And finally, we're also seeing the need for new gas pipelines, as many parts of the country focus on building new gas-fired power plants instead of new coal plants.

A few years ago, the Edison Foundation commissioned a study to look at these trends.

And it forecast that the U.S. needs to invest \$1.5 to \$2 trillion in its electric infrastructure by 2030.

And that's just in the electric sector.

Major investments also have to be made in the country's natural gas system.

The Interstate Natural Gas Association of America estimates that an average of 2,000 miles of new transmission pipeline will have to be built every year now through 2035 – for a total capital investment of over \$200 billion.

A lot of this is so the U.S. can take advantage of new domestic gas supplies, which deliver huge economic and energy security benefits.

But another big driver is going to be public safety.

Sixty percent of the nation's gas pipelines are over 40 years old. And, of course, that reality has been driven home by recent accidents in which age was one of the factors -- most tragically here in San Bruno.

Congress recently enacted new pipeline safety requirements -- and some states, including California are setting even higher standards, which PG&E fully supports.

The bottom line is, if we fail to make these investments, we're jeopardizing our economic productivity, our ability to compete, our ability to thrive -- and in some cases, our safety.

And we'll be doing this at a time when we need business to be generating the kind of sustained, broad-based growth that is essential to reversing current trends of unsustainable deficits and high unemployment.

However, there is some good news.

We have two things working in our favor right now that help create a window of opportunity to get working on this challenge.

One is that financing continues to be incredibly cheap. We can fund this growth much more affordably than we could have at other times. A few weeks ago, PG&E issued \$400 million of 30-year debt at a record-low interest rate.

The other factor working for us is that natural gas prices are at or near historic lows.

That means utilities and regulators have some additional breathing room within existing rates to fund at least a portion of these increased investments.

And maybe the best news, is that making these investments represents a major potential source of job creation.

One study estimates that modernizing and upgrading the electric transmission system alone could create an additional 150,000 to 200,000 jobs every year over the next two decades.

Another study projects that investments in gas transmission could support an annual average of 105,000 jobs.

And that's over and above the longer term economic benefits that accrue with better safety, reliability, and efficiency – all of which are critical to attracting other businesses and other jobs to California in the future.

But in spite of the clear need and the benefits, making these investments isn't a given. At least not on the scale, and with the speed, that we need to make them.

The huge cost, the competing priorities, the regulatory complexity ... all are daunting obstacles for utilities, policy makers, and regulators.

We can't dismiss them. But we can't be derailed by them.

Our sights have to be set on the long run. And we have to find pragmatic ways to move forward.

We're going to need the courage to commit to a long-term vision, so that we can plan effectively and know that these investments will be supported.

We're going to need to look closely at existing rate structures and be open to changes that help alleviate the impact of these costs on customers. My sense is there is a growing consensus that California's tiered rate structure needs an overhaul.

Similarly, we need to collaborate with policy makers at all levels to take a fresh look at the layers of requirements that have built up over the years -- and ask whether they all still make sense in the future. I strongly believe we can maintain all of the common-sense regulatory safeguards that we have now, but do it more efficiently and cost effectively.

Finally, I mentioned jobs. A few weeks ago, we helped cut the ribbon at a new manufacturing plant near Sacramento that just opened to build low-emission trucks for PG&E. That created 100 new jobs. An infrastructure investment plan would create thousands -- but we can't leave that to chance. To maximize the benefits, we need to coordinate public-private efforts that train local workers to gain the skills needed to be successful.

PG&E has been doing this successfully for several years now by working with local community colleges through our Power Pathway initiative. I'm confident we can find more opportunities like this, that provide benefits to both business and our communities.

I'll close with a thought from one of our speakers later in the day.

President Clinton said it well in a Harvard Business Review article, when he wrote "Even in this economic downturn, firms are well positioned to help people and communities...." And he called on companies to embrace this and apply it to our operations.

He also said, "Short-term thinking got us into this mess, and long-term investments that benefit the world around us can lead us out of it."

To which I'd just add... We need energy infrastructure. We need jobs. The markets are offering us great opportunities to finance it. All we need now is the will to work through the challenges and get it done.

PG&E and others in our industry are ready to make these investments. At PG&E we plan to invest over \$4 billion a year in new capital over the next several years.

We're ready to work with our communities to optimize the benefits and keep them close to home.

And we're ready to partner with policy makers and regulators on a long-term vision for the State's energy infrastructure.

This challenge may be daunting, but I believe we can get there by working together, and committing to change.

Thank you.

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