

**Remarks As Prepared**

**John W. Rowe, Chairman and CEO, Exelon Corporation  
“Fixing the Carbon Problem Without Breaking the Economy”  
Resources for the Future Policy Leadership Forum  
National Association of Home Builders, Washington, D.C.  
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Thank you, Phil.

I very much appreciate the invitation to appear here.

Resources for the Future is one of the best environmental policy organizations in the nation.

It provides incisive analysis on environment, energy, and natural resources issues.

But what distinguishes RFF is that it always keeps very close watch on the economics of its ideas.

As someone who has made his career at the nexus of law, regulation, and commerce, I believe we cannot have enough of this kind of insight.

As for Phil himself, he should be counted as one the wisest minds of the Washington energy mavens.

There are not many people who can claim:

Ten terms in the House of Representatives

Faculty positions at Ball State and Harvard

Positions with the National Academy of Sciences and the DOE's Blue Ribbon Commission on America's Nuclear Future

And a seat on the board of Duke Energy.

We should all be grateful he gives his time so generously, as well as for the sense of humor he brings.

I am here today to talk about climate change, and today is an auspicious day to speak on that topic.

I was invited to join Senators Kerry and Lieberman at their press conference today to announce their bill, but it conflicted with my commitment to be here.

Even though I was unable to attend the press conference, I want to congratulate Senators Kerry, Lieberman and Graham for their efforts to develop a reasonable solution.

I appreciate that the senators have recognized the importance of nuclear power as a low-carbon source of baseload power.

I am pleased that the bill includes a system of free allowances to local delivery companies, which means money in the pockets of customers.

And I hope that this effort will again become bipartisan – or tripartisan, as the case may be.

The climate issue is one I have been working on in some form or another for nearly two decades.

I testified before the House in 1992 in favor of a carbon tax, an idea that is economically sensible but has enduring political unpopularity.

Since 2002, I have been a co-chair of the National Commission on Energy Policy, another organization that benefits from Phil's participation.

In 2004, the Commission called for the adoption of a comprehensive, economy-wide cap-and-trade system.

That idea has its own political difficulties, though we have also made real progress in recent years.

Just over 18 months ago, both presidential candidates accepted the scientific consensus that the climate is changing, and both men endorsed cap-and-trade legislation.

Just a year ago, the House reached a series of critical compromises to enable passage of Waxman-Markey legislation.

But since that point, the momentum has dissipated.

Misbehavior by members of the UN's Intergovernmental Panel on Climate Change gave many people an opportunity to question the science.

Extensive research by the National Academy of Sciences confirms the scientific foundation underlying the claim that climate change is real.

NAS President Ralph Cicerone gives a very thorough presentation explaining all the ways in which NAS has unequivocally corroborated the findings of many other researchers.

My attempt to replicate it wouldn't have the same force.

But regardless of the scientific facts, the allegations behind the Climategate incident have served as fodder for those who don't want to deal with the problem.

Just three weeks ago, it seemed that Kerry, Graham, and Lieberman had reached a deal that had a chance of passing through the Senate.

That is farther than many thought they would get after the ill will generated by the health care debate.

But as we all know, their effort has been made more uncertain due to the immigration issue.

The biggest obstacle to passing climate legislation isn't immigration reform or even partisanship but rather fear of the economic impact.

Those who oppose action make many dire claims.

They claim it will be a job killer.

They claim it will result in a transfer of wealth from the Midwest to the East and West Coasts – or even to India and China.

They claim that it will impose costs so high that it will strangle the fragile economic recovery.

And as the CEO of a company whose financial prospects are heavily tied to the return of economic growth, those fears are not to be taken lightly.

Today, let me make the case that addressing the problem through legislation that puts a price on carbon is far better for our economy than our current course of action.

It is better for consumers, better for businesses, and better for the nation's long-term financial health.

And it is a solution that we will keep coming back to because the sexier options all are too expensive.

Fixing our carbon problem need not break the economic recovery, but our current patchwork approach and its unnecessary costs certainly could.

What does our economy look like if the Senate doesn't pass a climate bill this year?

Inaction is a vote for our current chaotic approach to climate change and energy security.

Over two dozen states have passed renewable portfolio standard laws to mandate that utilities buy a percentage of their power from renewable sources.

Congress has provided tax credits for wind, solar, and other renewable options since 1992.

New nuclear plants, along with other clean energy options, have access to federal loan guarantees, and there are proposals to expand the guarantee levels.

And the DOE proposes to invest over \$1 billion to build the FutureGen clean coal project in Illinois.

Last fall, I testified before the Senate Environment and Public Works Committee on climate change legislation.

Every member on the committee had their own proposal for how to build a lower carbon economy.

Some wanted more tax credits for renewables, others wanted more loan guarantees for new nuclear plants, others wanted more government funding for clean coal.

Not a single senator suggested that we do nothing.

And EPA has its own wide range of pending actions for command and control regulation of carbon-intensive coal power plants.

Just last week, EPA initiated regulation of coal ash.

All these things amount to putting a *de facto* price on carbon, but in the least transparent and least orderly fashion.

This hodge-podge approach is done in a fashion that hides the real costs of our actions and fails to incentivize the cheapest responses.

Those of you who have heard me speak on carbon in the past have heard me reference a poll by RFF from several years ago.

I apologize for being repetitive, but the results show the problem.

Most Americans agree that global warming is real.

They oppose a carbon tax because they know it will cost them money.

They oppose cap-and-trade because they rightly suspect it will cost them money.

But they support mandates to buy renewable energy because they think they are free.

Exelon has tried to separate what we think from what we know and to apply cold economic realities.

Exelon 2020 is our plan to eliminate our 2001 carbon footprint by 2020.

We announced it in summer 2008, and a year ago announced that we had achieved a third of the goal.

We have just completed our review of our 2009 carbon reduction efforts and by our accounting we are now halfway to the goal.

The heart of Exelon 2020 is the supply curve of carbon abatement opportunities.

**SEE EXELON'S 2008 SUPPLY CURVE AT BOTTOM OF DOCUMENT**

This is the original curve from 2008.

The width of each of these blocks represents the amount of carbon abated by a given electricity supply option.

The height of the bar represents the carbon price needed to make the investment break-even.

Our curve orders the carbon abatement options from cheapest to most expensive.

It indicates that energy efficiency and some nuclear uprates – capacity additions at our existing nuclear plants – were the cheapest options in 2008.

A new nuclear plant was far from the cheapest solution, but reasonable.

Wind looked very costly, and solar was off the charts.

The first annual update in 2009 changed these results.

This was largely due to lower prices for natural gas.

Energy efficiency remained a good bet, as did nuclear uprates.

But new nuclear plants started to look very expensive.

This analysis led us to slow our plans to build two reactors in Texas.

Wind began to look more attractive, in part on its merits and in part because other options became more expensive.

Solar got cheaper, but was still off the chart.

***SEE EXELON'S 2010 SUPPLY CURVE AT BOTTOM OF DOCUMENT***

We have just completed our latest update, and the change in the supply curve is dramatic.

Retiring inefficient coal plants has become the cheapest option.

This confirms the economic analysis behind our announcement last December that we would retire four of our Eisenhower era coal units in Pennsylvania.

We estimate that these moves will have present value financial savings of \$165M-\$200M.

Nuclear updates are very attractive.

Most energy efficiency programs still look to be good investments.

All of these things are below the long-run CO2 price projected by current climate legislation.

Then things begin to get very pricey.

Wind requires carbon prices of \$80 to \$120 per metric tonne to become break-even.

New nuclear plants require prices of \$100 per tonne to be break-even.

Solar's cost is two-thirds of that from a year ago but still \$450 per tonne.

And a proposed clean coal project we have seen in the market is now the most expensive option, requiring \$500 per tonne of CO2 to be economic.

What does this mean for consumers?

A good rule of thumb is that each \$10 per tonne of carbon is an incremental \$0.01 per kilowatt hour.

Today, customers in Chicago pay about \$0.11 per kilowatt hour and those in Philadelphia pay about \$0.14 per kilowatt hour.

So solving the problem with wind or nuclear could double that rate while doing it with clean coal could quintuple it.

What can we take from these charts?

First, no one else in our industry has a plan like this and no one else can easily create one.

Exelon is in a unique position to neutralize our carbon emissions because of our nuclear plants.

We can do it earlier and cheaper than most other companies in our industry.

Some very fine companies in our industry like Southern and Dominion would likely face much higher costs if they did this same analysis for their carbon footprint.

Since the formation of Exelon, I have believed that there is financial value in building the premier low-carbon utility company. The Exelon 2020 plan demonstrates that.

Second, cheap natural gas and low power demand dramatically increase the cost differential between the economically efficient options and the inefficient ones.

A lower price for power means an even higher carbon price is required to make an investment break-even.

Third, we must have a market-based solution to the problem.

Picking our favorite technologies in 2008 would have led to some good decisions, like energy efficiency and uprates and some very large, very expensive ones, like new nuclear plants and clean coal.

If we had chosen to solve our carbon problem with wind that we expected to cost \$45 dollars per tonne, we would find ourselves in a position where it costs \$80 per tonne today.

Fourth, these particular numbers work for one company for a few years.



The right conclusions will be different for other companies and at other times.

The shape of this curve has changed dramatically in just two years.

None of us is smart enough to predict how it will morph.

We need a price on carbon – represented by the red line – to focus us on the cheapest options first.

We need a system that rewards companies for reducing their carbon emissions in the cheapest way possible.

And we need a market-based solution to give us feedback as costs change.

What do Exelon 2020 and these curves have to do with our fledgling economic recovery?

Everyone in both political parties wants to throw money at their favorite bars on this chart.

Some propose to do it through subsidies.

But after the federal spending binge of the last decade, there simply is no money left for frivolous energy policies.

The subsidies needed to make some of these technologies economically attractive will only worsen that situation.

Some propose to throw money at these technologies through mandates to buy uneconomic power.

But there is no free lunch, and those costs will be paid by consumers through higher utility bills or higher prices for needed goods and services.

We need to invest in each of these options in modest amounts to ensure diversity in our energy supply, to keep our options open, and to frame a market.

Exelon has supported reasonable renewable standards, like those in the Waxman-Markey bill and Senator Bingaman's proposal that call for between 15% and 20% of national electricity supply from renewables or energy efficiency by 2020.

We are making a modest investment in the FutureGen Alliance to support important research and development on clean coal projects.

And we support loan guarantees to jump start new nuclear construction, which will be needed to diversify our generation mix and replace the current aging nuclear fleet.

But pricing carbon is the only long-term, economically rational solution.

It will force us to the lowest cost solutions for customers and businesses.

It will avoid worsening the debt situation.

It will give us a dynamic solution that will adjust to the most efficient solutions as prices and economic conditions change.

And it can include provisions like a price collar that can be structured to keep costs to consumers and businesses from rising too high.

The decision about what course of action Congress takes is momentous.

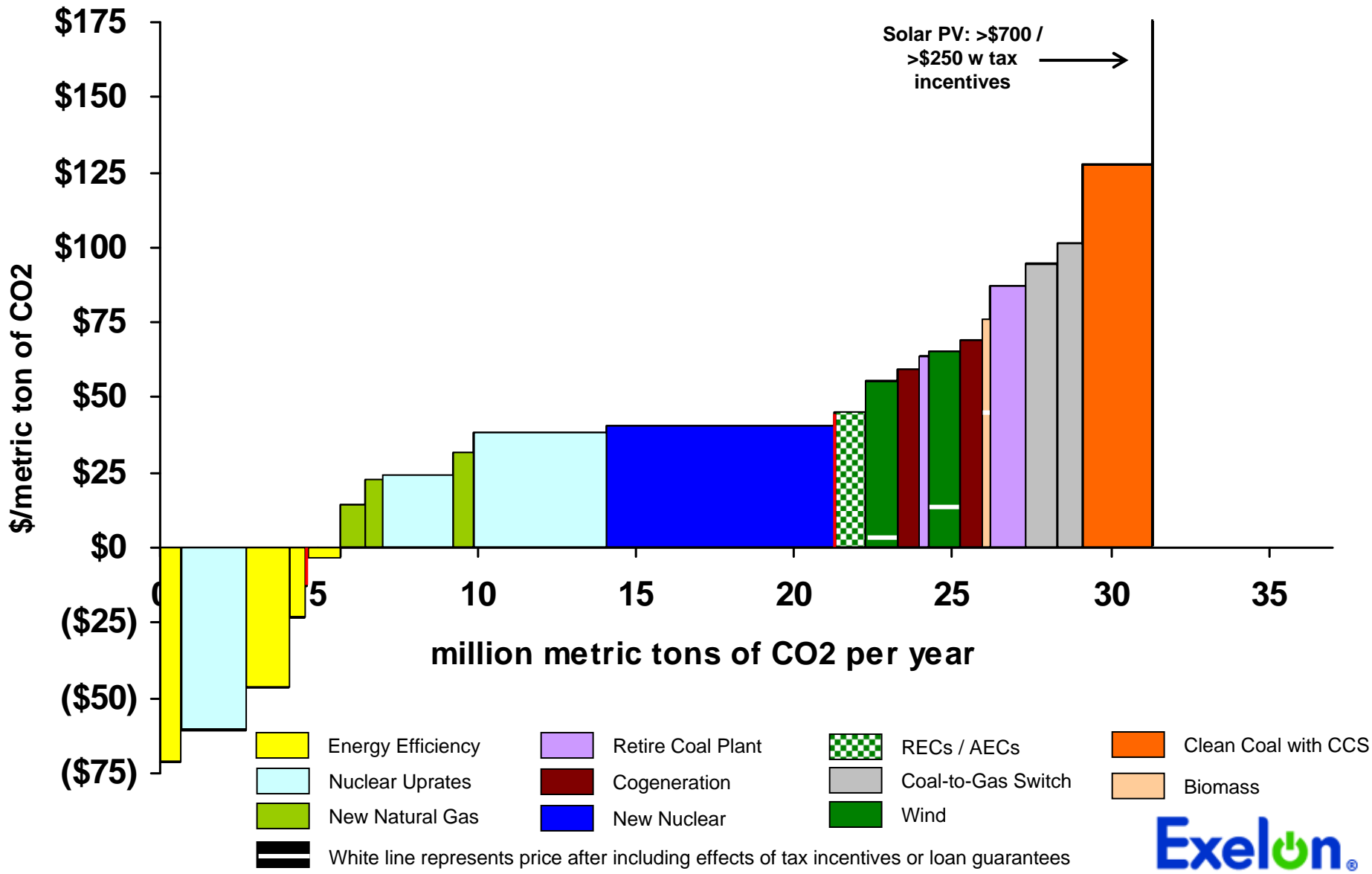
By implementing a market-based solution that puts a price on carbon emissions, we can take big steps toward a low-carbon economy for an incremental 3 to 5 cents per kilowatt hour.

If we just pick the technologies we think are most elegant, with no regard for cost, we could spend three times the cost the markets would give us, as much as 10 cents per kilowatt hour.

If we do that, our worst fears about stifling the economic recovery will surely come true.

The late Russell Long once said "There are more ways to kill a cat than by stuffing it with butter."

It is an adage worth remembering as we think about dealing with the carbon challenge.



# Exelon's View of Carbon Abatement Options - 2010

