

Remarks As Prepared

**John W. Rowe, CEO and Chairman, Exelon
What Do We Know About Energy and Climate Policy?
MIT Energy Conference
Sheraton Hotel, Boston
8:30 AM, March 6, 2010**

Thank you, Richard.

I am fond of Boston both as a fan of history and because several decades ago I was the CEO of the New England Electric System, just to the west of here.

I am also fond of MIT.

Home of Dick Schmalensee, one of our nation's best regulatory economists.

Former home of Paul Joskow, another fine scholar of regulation and a member of my board of directors, until he moved on to run the Sloan Foundation.

And home of Richard, Ernest Moniz, and many others who have made great contributions to the study of nuclear power.

I am honored to join Senator Jeff Bingaman on the agenda.

When it comes to issues of energy and climate, Senator Bingaman is one of the most knowledgeable and practical lawmakers in Washington.

I am here to talk about a real problem – climate change – that requires a prudent and practical response.

I am the CEO of the largest company in a sector responsible for 40% of greenhouse gas emissions.

First testified before Congress in 1992 about the need to control carbon emissions.

Since 2002, I have co-chaired the National Commission on Energy Policy, where Dick Schmalensee is a fellow commissioner.

In 2004, NCEP released a bipartisan report calling for comprehensive, economy-wide cap-and-trade legislation.

Exelon has been preparing for a low-carbon future for the last decade.

Sold or closed most of our inefficient fossil fuel plants.

Invested billions in our fleet of 17 zero-emission nuclear reactors.

In summer 2008, released Exelon 2020, our plan to reduce, offset, or displace 15 million metric tons of greenhouse gas emissions per year, equal to our 2001 carbon footprint, by 2020.

We are one-third of the way to our goal, and have a tangible plan to accomplish the rest.

Eighteen months ago, it looked like our nation had figured it out.

Both presidential candidates accepted a scientific consensus on the need to act and endorsed cap-and-trade legislation.

The Democrats, who had scolded the Bush Administration for its failure to lead on climate policy, were poised to increase their numbers in the House and Senate.

Since then, comprehensive climate and energy legislation passed the House in the form of the Waxman-Markey legislation.

Senator Lindsey Graham is working hard, along with Senators Kerry and Lieberman, to craft a bipartisan compromise on reducing greenhouse gas emissions and issues such as oil and gas drilling and expansion of nuclear power.

Yet today, we seem to be no closer to a solution.

The Democrats have lost their filibuster proof majority and, except for the hard work of Senator Graham, most Republicans seem to be drifting toward a more negative position.

The attention of the Senate seems solely focused on health care.

And we are entering that time every two years where lawmakers start to focus on re-election at the expense of policymaking.

So amidst all this uncertainty, let me ask: what do we know about our energy and climate needs?

We know we need cleaner forms of energy.

Everyone agrees on this, though they argue about whether it should be renewables, zero-emissions nuclear power, or cleaner coal.

We know we need greater energy security.

No one argues that we need to become less dependent on the oil- and gas-rich but politically unstable parts of the world and more dependent on the energy sources available to us here at home.

We know we need a policy that gives us durable, sustainable jobs.

And we know we need to do all these things at the lowest possible cost to avoid harm to the economy.

We know a lot about what we want.

There are many uncertainties about how we get there.

Let me offer today that a cap-and-trade system or a carbon tax are the only policy frameworks that achieve all of these outcomes.

But before I talk about the proposed solution, let me address the growing idea that there may in fact be no problem.

Our first challenging question is: What do we know about whether the climate is changing?

Let me say that I am a farmboy from Wisconsin who became a lawyer and then a utility CEO.

I am not a meteorologist or atmospheric chemist.

I, like many of us, must rely on the educated judgment of scientists here at MIT and elsewhere in those and other fields.

For many years, the most definitive conclusions that the warming of the earth is due to human activity came from the UN's Intergovernmental Panel on Climate Change.

Its work formed the impetus for the Kyoto Protocol and other international efforts.

Recently, though, it has come under great scrutiny for the methods and behavior of some of its researchers.

And it appears that some wrongdoing has occurred through arrogance, carelessness, or some combination of both.

But IPCC is not the only body reaching these conclusions.

In the United States, the National Academies of Sciences has researched it extensively.

The NAS has sterling credentials and seems largely free from the politics that seem to swirl around the IPCC report.

Conclusions of the National Academies are very strong and independently confirm many of the statements of the IPCC.

Other international research bodies concur.

For instance, the International Polar Year survey found that the Arctic sea ice was smallest in size in the past 30 years and lost half of its thickness.

We should keep testing the science, and we must not ignore it.

But we must make our best judgments based on the preponderance of the evidence and must not wait indefinitely for unanimity that we will never achieve.

I would be interested to know from those of you trained in the science where the preponderance of the evidence points.

This brings me to my second challenging question: What do we know about where our national energy policy needs to take us? Do we have a coherent notion?

Our policy needs to encompass the four things I mentioned in the opening: cleaner energy, greater security, more jobs, and lowest cost.

But what I see is a series of disjointed, piecemeal approaches that will not yield the optimal solution.

I testified before the Senate last fall about cap-and-trade legislation.

All the senators advocated one kind of action or another.

Some backed increased subsidies for renewable power.

Still others wanted to build 100 new nuclear plants and new coal plants with carbon sequestration.

We know that governments are already acting to make us a lower-carbon economy regardless of what happens with cap-and-trade.

Twenty-nine states and the District of Columbia mandate that utilities buy some percentage of its energy supply from renewable sources.

Congress will still spend money on tax credits for wind and renewables.

The government will still support new nuclear plants through the loan guarantee program and state and local incentives.

The federal government intends to invest over \$1 billion to build the FutureGen clean coal demonstration project in downstate Illinois.

And EPA regulation of both greenhouse gases and more conventional pollutants is looming.

SEE EPA REGULATORY TIMELINE AT THE BOTTOM OF THIS DOCUMENT

This chart shows 27 separate regulatory actions in seven major areas – each represented by a different color – that the EPA expects to take in the next seven years.

These regulations include matters the EPA has regulated for years under Democratic and Republican administrations, including nitrous oxide, sulfur dioxide, and mercury.

It includes matters like New Source Review.

And it includes emerging concerns like coal ash, 1.1 billion gallons of which spilled from a pond near a plant in Tennessee in December 2008 and covered 300 acres of land in up to six feet of sludge.

And only one box on this chart deals with CO2 emissions, which the Supreme Court has told the EPA it has the authority to regulate under the Clean Air Act.

Some of my colleagues in the industry have taken to calling this the “train wreck” chart, for obvious reasons.

You can think of each of the seven colors on this chart as a car on the train – and each one could cost the utility industry billions to implement.

One analyst has estimated that new regulations of coal ash alone could force 12% to 19% of coal generation in the Midwest to retire and raise electricity prices by 20%.

As a whole, these regulations do not generally seek to reduce carbon emissions.

But they all disproportionately impact carbon-intensive coal-fired generation.

And they will force us as a society away from the traditional, cheap-but-dirty method of getting power from coal.

So we know that whether we realize it or not, we are moving inexorably toward a low-carbon society but in unproductive and uneconomic fits and starts.

This brings me to our third challenging question: What is the best way to encourage low-carbon investments and discourage high-carbon investments?

Legislation that places a price on carbon emissions is the critical first step.

Nothing else will efficiently encourage low-carbon investments and discourage high-carbon investments.

Nothing else will incentivize companies like mine to build new generation to replace what is caught in the train wreck.

And nothing else will ensure that we become lower-carbon by doing the cheapest things first.

Perfectly illustrated by a poll by Resources for the Future.

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 it is free.

We learned through creating our Exelon 2020 plan that the exact opposite is true.

SEE EXELON 2020 COST CURVE AT THE BOTTOM OF THIS DOCUMENT

As part of Exelon 2020, we analyzed all the options for reducing our GHG emissions.

Determined the price per metric ton of CO₂ (on the y-axis) needed to make each option economic and rank ordered them (along the x-axis) to form a supply curve based on their economic merit.

Size of each block is the amount of CO₂ emissions avoided by the method.

The red line is the long-run carbon price that would come from federal legislation like Waxman-Markey.

Our analysis shows the most economic items are generally improvements in energy efficiency, some of which are economic even without a price on carbon.

Nuclear uprates – capacity expansions at our existing plants – are economic at carbon prices of less than \$10 per metric ton.

New natural gas plants become economic at carbon prices of \$20 to \$45 per metric ton.

Wind generation costs between \$45 and \$80 per metric ton.

New nuclear plants are economic at prices of \$75 per metric ton of carbon.

Coal with carbon sequestration costs over \$150 per metric ton.

Some consider this number to be high, but I do not believe the case for the lower estimates has been proven.

And solar remains very expensive – at nearly \$700 per metric ton – though we see those costs decreasing rapidly.

The rule of thumb I use is that a \$10 per ton increase in the carbon price translates into a \$0.01 per kWh incremental increase in the price of electricity.

This analysis starkly illustrates the potential impact on consumers.

Some options add a penny per kWh to rates, while others add a dime or more.

Exelon uses supply curve to rationalize and order our choices about how to reduce our carbon emissions based on what is cheapest.

Passage of a federal cap-and-trade system will compel every company to do a similar analysis.

We must have a system that forces us to do the cheapest things first, like energy efficiency and nuclear uprates, and the other items in merit order.

We must have a system that uses the discipline of the market to control costs.

Prices may rise, but they will rise less than they would with cruder tools.

Unfortunately, our ad hoc responses to the climate issue have tended to subsidize the expensive solutions.

The favorite choices of the senators I testified to – and many of my fellow CEOs – are all more expensive than the long-run carbon price from cap-and-trade legislation.

So now that we know the costs, the fourth challenging question is: what effect will cap-and-trade have on our recovering and fragile economy? Can we afford the cost of this bill?

I believe the answer is clearly yes.

The legislation in the House and Senate includes a provision to allocate emissions allowances to local delivery companies for free.

This is a key consumer protection.

Utilities like NSTAR and National Grid will either use the free allowances to comply with the emissions caps or sell them to others who must.

In either case, state regulators will mandate that the proceeds be used to mitigate rate increases.

Exelon also supports the development of a price cap or collar on emission allowances.

A collar can put a ceiling and floor on the price of emissions.

It will ensure that the price increases in the early years are modest but move incrementally in the direction we need to encourage low-carbon investments.

Some say that cap-and-trade legislation will be a job killer.

On the contrary, I believe that harnessing the power of markets to find the most efficient solutions is how our economy has created jobs for decades.

And they aren't public works jobs that exist only as long as the subsidies flow – they are lasting jobs that will be here in the long-run.

A 2009 study by the University of California, Berkeley estimates that a comprehensive climate policy stressing energy efficiency, renewables, and other low carbon investments could create between 900,000 and 1.9 million jobs by 2020.

The best way to create jobs is by searching for the lowest-cost solutions to the problem, which is what cap-and-trade forces us to do.

And certainly if the train wreck scenario plays out, the only jobs created will be those for attorneys.

Ultimately, the most challenging question we face is whether we can afford our current haphazard course of action.

The temptation to “just say no” and put our heads in the sand is strong.

But the problem will not go away, and the ad hoc solutions will continue.

Those solutions tend to focus on the costly at the expense of the cheap.

Those solutions will not include provisions to control costs – like giving allowances to local delivery companies or a price collar.

Rather, in the train wreck scenario, each car could cost customers several billion dollars.

Those solutions will not use the power of markets to create lasting, well-paying jobs.

The question is not whether we can afford to put a price on carbon emissions, but whether we can afford not to.

I think the odds of Congress passing cap-and-trade legislation this year are slim.

But I believe that this is a problem that we must deal with sooner or later.

And I believe that we will keep coming back to some kind of legislation that puts a price on carbon emissions as the most efficient answer.

There is no other solution to our energy and climate challenges that gives us cleaner, more secure energy while minimizing the costs to consumers and putting more people to work.



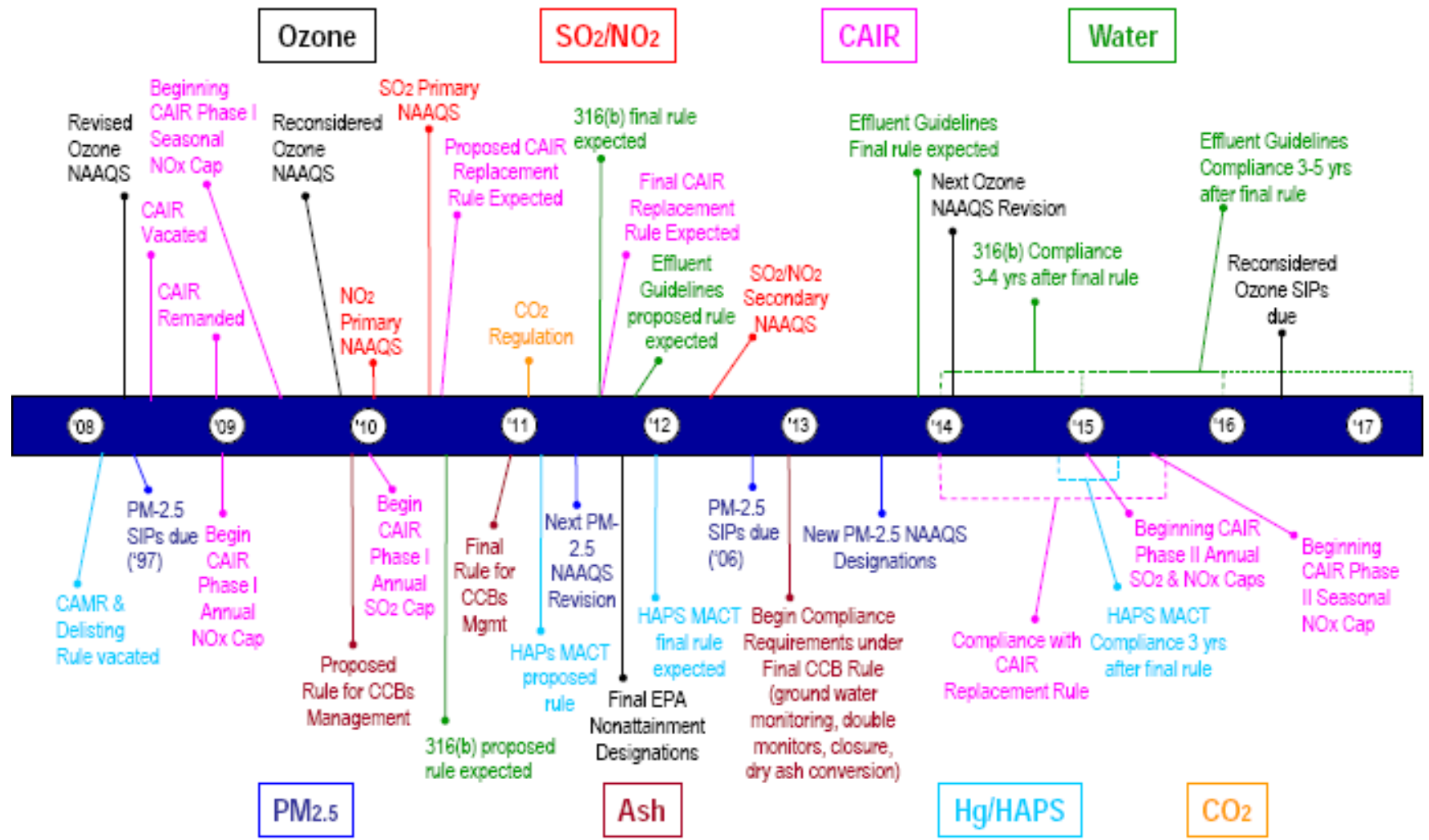
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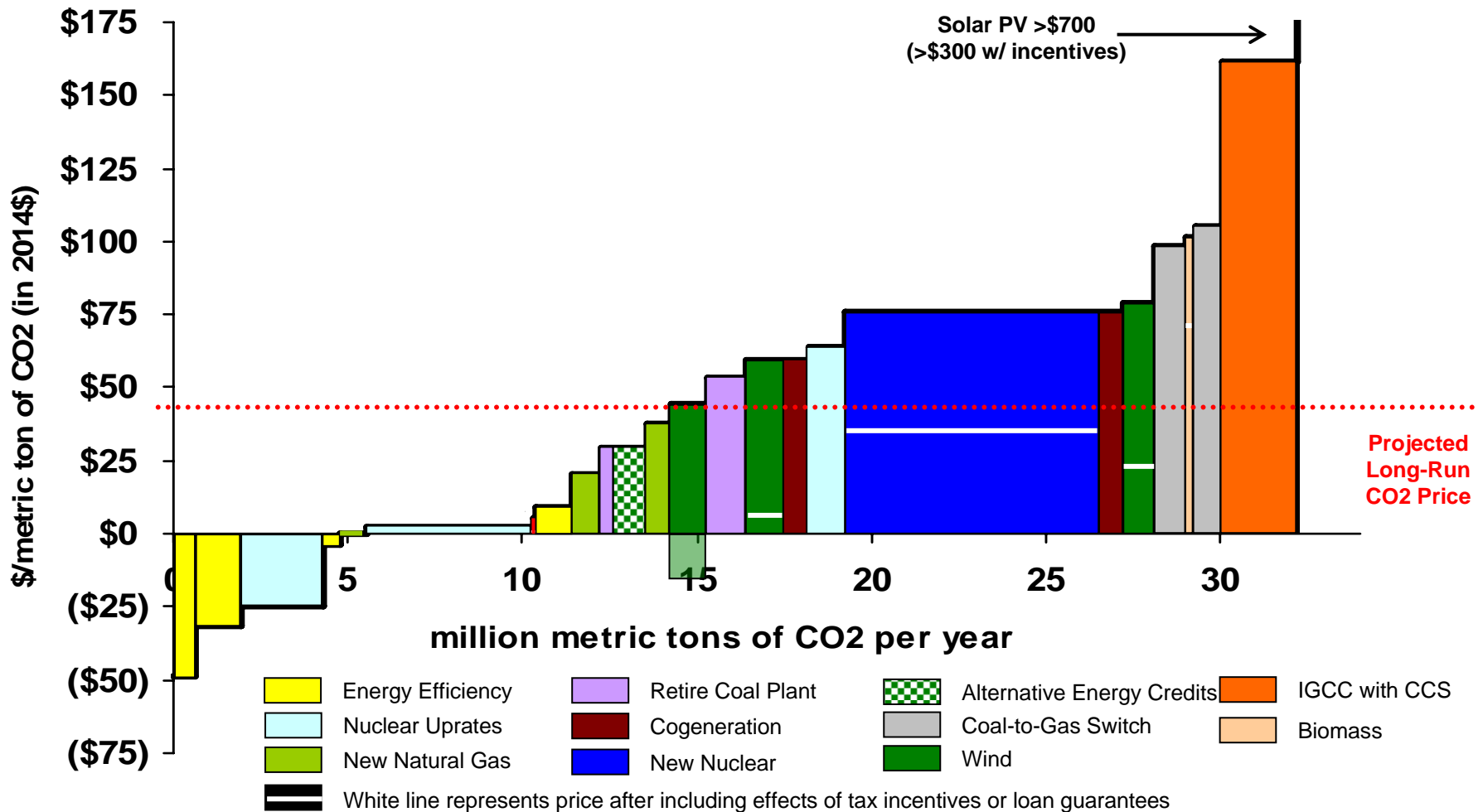
Coming EPA Regulation of the Utility Sector



EPA has the authority to regulate seven pollutants from carbon-intensive electricity sources, in addition to CO2



Cost of Carbon Mitigation in Electricity Supply



Note: Emissions abatement estimates for new generation capacity represents emissions reduced in the market as a result of the project less emissions introduced due to the project (if any). New nuclear plants assumes 1,460 MW of new generation.

Cap-and-trade legislation will encourage us to do the cheapest options first