The President's Economic Recovery Advisory Board

PROPOSED MEMORANDUM FOR THE PERAB
FROM: John Doerr
DATE: May 20, 2009
SUBJECT: Energy, the Environment and Technology

Energy and the climate are complex global issues and there are many different views on how to manage them. We are a diverse group of advisors, but we agree on some important matters and wanted to convey them to you.

We believe that a successful, lasting economic recovery should include key energy and climate policies that accelerate innovation, reduce our CO_2 emissions and provide energy security. The foundations for such a sound energy policy are simple, widely accepted, and proven in different states across our country and different countries across the world. These are:

- Let the market determine the most efficient way to achieve emissions targets
- Set clear, consistent long-term signals for enhanced energy performance
- Stimulate innovation in new technology

Policy must resolve uncertainty to unleash innovation and investment to create jobs now and ensure America is the worldwide leader of the next great global industry: sustainable energy. We are not on that path today.

In short, we endorse putting a cap on carbon emissions. It alone cannot solve all our problems, and it must include other provisions to make it economically viable and to help smooth the transition. But it is the most important step in a coherent strategy for curtailing emissions.

I. GREENHOUSE GAS EMISSIONS: WHY CAP THEM AND WHY NOW?

A. Why a Cap and Trade System?

We need to do something about greenhouse gases. There is broad consensus among scientists that global warming is a threat and greenhouse gases exacerbate the problem. Today, the world emits CO_2 into the atmosphere without any economic consequences, and the United States is one of the largest emitters. A globally negotiated Cap and Trade system would help the world manage CO_2 emissions in a pragmatic and immediate way.

We need to be a market leader in the sustainable economy. A cap will create massive new markets for energy efficiency and renewable energy by setting a market-based price on carbon. For technology developers, it will signal a large, sustained market for lower carbon-emitting innovations. For utilities and project developers, a well-designed cap will accelerate deployment of lower emitting technologies. And for businesses and investors financing capital expenditures, a price on carbon will provide certainty for investment decisions made today that will impact tomorrow.

The business community is often incorrectly portrayed as universally opposing climate policy. We believe businesses want certainty, and many favor clear rules on managing carbon. 25 major corporations, including General Electric and Caterpillar, joined the United States Climate Action Partnership (USCAP) to support Cap and Trade policy. USCAP proposes an economy-wide cap-and-trade system that would reduce emissions by up to 20% by 2020 and 80% by 2050. Their proposal rightly includes domestic and international offsets and calls for a strategic offset and allowance reserve pool to smooth spikes in allowance prices.

Cap and Trade systems work. The Clean Air Act Amendments of 1990 established a cap and trade for sulfur pollution from power plants. The market found solutions at one tenth the projected price, and cut these pollutants by more than half. We believe Cap and Trade works better than alternatives, especially alternatives where several agencies share authority. The potential conflicts between agencies could slow progress to an important, results-oriented end point. To be successful, any climate change Cap and Trade system should provide clear boundaries for and direction to EPA and other agencies, so that all US government bodies act in concert. Regardless of the administering agency, the approach needs to recognize fundamental differences between the traditional regulation of local pollutants and the global, disperse nature and impact of greenhouse gas emissions.

B. Why Now?

We have already described the importance of the environmental impact of climate policy. It has an important competitive impact as well. If the U.S. fails to adopt an economy-wide carbon abatement program, we will continue to cede leadership in energy technology to other nations. The U.S. is now home to only two of the ten largest solar Photo-Voltaic producers in the world, two of the top ten wind turbine producers and one of the top ten advanced battery manufacturers. That is, only one-sixth of the top renewable energy manufacturers are based in the United States. To lose our advantage in technologies that were pioneered in the U.S. may cost us dearly if not reversed.

Sustainable technologies in solar, wind, electric vehicles, nuclear and other innovations will, in the view of many on our board, drive the future global economy. We can either invest in policies to build U.S. leadership in these new industries and jobs today, or we can continue with business as usual and buy windmills from Europe, batteries from Japan and solar panels from Asia.

The new green economy could be transformational for our country. Compare it to the internet. Fifteen years ago there was no web browser. There was no internet at your fingertips, no ecommerce, no search engines. Now, the internet has transformed our lives: how we learn and inform, how we entertain and communicate, how we buy and sell goods. Today, the internet economy is estimated at $1 trillion with 1.5 billion internet users worldwide—and growing.

The new green economy has greater potential. Energy is a large and growing global market with 4 billion users of electricity—and usage doubling in 25 years. It is perhaps the largest economic opportunity of the 21st century. With the right policies driving innovation and investment,

America can retake the lead in energy technology and create millions of new green jobs and industries, preserve millions of indirect jobs and repower our economy.

II. CRAFTING AN ECONOMICALLY SOUND CARBON POLICY

A. Global Problems Require a Global Solution

Even if federal legislation is able to establish a Cap and Trade system that meets the above criteria, such legislation will require complementary and coordinated international action. Even the best Cap and Trade system will not prevent many industries from facing serious competitiveness concerns, particularly in developing nations, in the absence of international regulatory and policy collaboration.

It is clear that the rest of the world must also move to lower carbon-emitting energy if we want to reduce global emissions by meaningful levels. It is also clear that global leadership is building to define and craft a global policy solution. Indeed, we think it is imperative that the US take the lead in shaping global policy and that it do so in Copenhagen. We cannot convince China and India to lower emissions unless we are willing to do so ourselves. The United States, as an industrial powerhouse, uses more energy each year than India and China combined, but has only 12% of their combined population. With a population spread across North America, we emit more CO_2 from transportation than all of Europe, China and India combined. We must commit to a path to drive our CO_2 emissions down if we want to be on secure footing in Copenhagen to help lead the world towards a clean energy economy.

B. Offsetting the Costs of Carbon Pricing

Dramatic changes will come with a cost. Because a cap forces us to internalize the costs of our emissions, a carbon abatement policy will raise the prices of many goods and services that are central to our lifestyle. As Paul Krugman succinctly states, "A cap and trade system will raise the price of anything that directly or indirectly leads to the burning of fossil fuels. Electricity, in particular, would become more expensive, since so much generation takes place in coal-powered plants." By increasing prices for carbon-intensive goods and services, a carbon Cap and Trade should drive meaningful behavioral changes and should lead consumers to choose less carbon-intensive goods. At the same time, these price signals will increase the pace and trajectory of technological innovation for lowering carbon emitting energy and enhancing energy efficiency.

The level of these costs will depend on the structure of the system, the amount of innovation and, crucially, on the efficiency of recycling revenues from carbon emissions back into the economy, or, alternatively, the handling of the initial allocation of allowances. Current estimates for the cost from a substantial reduction in emissions range from less than one hundred dollars per capita in 2020 to over one thousand dollars per capita. There is uncertainty among the various complex models (although these models do not account for the benefits of reduced emissions). We think it is important to consider the distributional impact of energy policy and to provide direct relief to consumers so they are not bearing the full burden of the adjustment.

To offset these costs, regardless of the level, we believe firms should be able to purchase offsets—verified, credentialed, voluntary emissions reductions by domestic or international entities not covered by the cap. Offsets reduce the cost of a climate policy by encouraging firms who can reduce emissions at a low cost to do so and allowing them to sell extra allowances to those who face higher costs for emissions abatement. Policymakers can reduce cost uncertainty by letting firms bank allowances when reductions are relatively cheap, and use those allowances or borrow future ones when emissions reductions are relatively expensive.

Not acting also has costs, and those costs may far exceed the costs of our implementing a carbon abatement policy, even though many of those costs are not internalized in energy pricing today.

C. Smoothing the Coal Transition

We are not suggesting a wholesale, immediate rejection of all carbon-based technologies. Climate change policies need to be aligned with national energy policies, which in turn need to focus on energy security, domestic energy sources, and their availability and cost. To protect industries vulnerable to international competition—and the workers who depend on them—the Administration should consider measures to ensure that the burden of mitigating climate change does not render strategic American industries uncompetitive. A properly designed Cap and Trade program will include transition assistance funds for deploying lower carbon emitting technologies in heavily coal-dependent and energy-intensive economies.

Because coal constitutes roughly half of U.S. electricity generation, and an even larger portion of several emerging economies, including China (80%) and India (70%), coal will be with us for some considerable time, and we must build a lower carbon strategy for coal. We recommend the Administration maintain, and add to, its focus on Carbon Capture and Storage (CCS) technologies. CCS. The Economic Recovery Act includes at least $2.4 billion for CCS research, development and deployment. We advise the DOE also to focus on CCS, to ensure its emergence as a serious energy option. We also recommend joint programs on CCS with China and India, as their adoption of the technology will be crucial to reducing global emissions.

III. COMPLEMENTARY POLICIES TO CAP AND TRADE

A cap on carbon is the single most important energy and climate policy this nation could adopt. But it will be far stronger if it is accompanied by complementary policies. We do not have the space to go into detail on all of our various views on these matters but they include:

- making utilities an engine of economic recovery through a unified national smart grid and through strong efficiency and renewable energy programs;
- making our buildings, cars and trucks as energy efficient as any in the world;
- accelerating energy innovation through public, university and private sector R&D.

IV. SUMMARY

Mr. President, we urge you to support a market-based Cap and Trade system that is both economically sustainable and environmentally sound. We believe it can help propel our economy, enhance our energy security goals and help make America the worldwide leader in the next great global industry.