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## **How Should Washington Address Climate Change?**

By Amy Harder

energy and environment reporter, National Journal

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How, if at all, should President Obama and Congress address climate change?

"We will respond to the threat of climate change, knowing that the failure to do so would betray our children and future generations," Obama told the nation in his Inaugural Address last week. That statement and subsequent ones expounding on the issue drew loud applauses from the thousands of people assembled on the National Mall to listen to Obama's speech. Since then, the administration has been coy about how, exactly, Obama intends to lead in responding to climate change. White House spokesman Jay Carney did say last week the administration intends to move forward on environmental rules controlling carbon emissions from power plants, but he didn't provide any details beyond that general statement.

What options does the administration have at its disposal to reduce greenhouse-gas emissions? Does Congress have the political and legislative appetite to pass any significant energy and climate legislation?

Despite all the talk of reducing U.S. greenhouse-gas emissions, they're actually already at a 20-year low thanks in large part to the newly discovered reserves of natural gas, which burns with fewer carbon emissions than coal or oil. Despite that domestic drop, global greenhouse-gas emissions are actually at an all-time high thanks in large part to the growing economics of China and India and their consumption of coal.

How can Washington address climate change knowing it's an inherently global problem? Can Obama lead by example on this issue? If so, how?

#### 25 Responses

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#### Obama has Levers to Act on Climate By Graciela Chichilnisky

Director, Columbia Consortium for Risk Management, and Professor of Economics and Statistics, Columbia University

In his acceptance speech of last week, President Obama singled out Climate Change as the area that will measure his success for future generations. This seems to set a difficult, perhaps unachievable standard. Our nation is divided, there is skepticism about human influence on the environment, and passing a law, budget or even a national appointment can encounter toxic battlefields in Congress.

It may come as a surprise to many therefore that with a single stroke of the pen, a pen that the US Supreme Court has already handed out to the Executive Office in 2007, Climate Change issues can be neatly resolved in the US. No need to battle Congress. With the same stroke of the pen, in addition, the US can provide leadership in the global climate negotiations, showing the way to resolve the issue globally while helping the global economy.

This is possible because we have a number of "levers" in place, all ready to be activated by President Obama and the EPA's with a stroke of the pen. They can put down a 'domino' that makes all the rest follow, enhancing economic performance, accelerating innovation, and creating jobs in the US and in developing nations, all while improving the environment. The way we measure economic progress the world over – the GDP – can in addition be made to reflect the value of a clean environment.

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much with so little. Let me explain how this works.

We all know that what is needed to decrease the risk of Climate Change is to reduce the carbon emissions caused by from burning fossil fuels. The largest source of carbon emissions in the US and globally – about 45% of all emissions – are power plants that burn fossil fuels to produce electricity. Once carbon emissions limits are placed on the main source of emissions – the power plants – these plants will naturally wish to establish a flexible way to comply – such as the so called 'carbon market'. Others call it "cap and trade". Power plants took this same action twenty years ago when limits were placed on their SO2 emissions, and the SO2 market in the Chicago Board of Trade was created, which is widely credited with eliminating in a very efficient way the worst of acid rain in the US. The US government only sets the emissions limits – private enterprise does the rest. The process works because the carbon limits reduce the emissions from the largest source of CO2 emissions – the power plants. Without reducing power plants emissions, the climate change problem cannot be solved. This is why the solution proposed works. It may be the only solution that works.

It is clear that the carbon market is not a way to escape emissions limits - it is only a way to rearrange who emits more and who emits less, as the overall lower limits remain in place. Now dirty power plants have to pay cleaner power plants for the rights to emit, creating an economic incentive that we all know we need for cleaner plants. It creates also an economic incentive for technology innovation and for investment in the crucial energy infrastructure. We all know that US infrastructure needs renovation. More jobs are created in the process of rebuilding our power plants and building more of them, the most important source of energy that feeds the US economy. Under this proposal there are no taxes to pay to the government. The net cost can be zero - as we are simply redistributing gains from the dirty power plants to the cleaner ones. The latter receive money and the former pay money -- the net cost is zero. There is a period of transition where today's market cost of electricity could go up, but we all know that the low costs of dirty power can be illusory. A recent MIT study shows that the real cost of gasoline paid by the US tax payer is about \$15 per gallon, more than 3 times of what we pay at the pump. Similarly the US tax payer is paying today much more for dirty electricity than we appear to do, including health costs of coal plants, the scary risks of 'fracking' for natural gas plants that contaminate drinking water, the defense costs and the political costs from importing gasoline from unstable regions, not to mention the environmental and health risks that are widely accepted from climate change damages such as increased frequency and violence of hurricanes and typhoons, increased costs of food from droughts that scorch the earth and floods that destroy entire communities. The difference between illusory and real costs is exactly what the carbon market captures; the price of "carbon credits" evens up the computations. In any case, transitional costs of ne technologies are just that - transitional. Our innovation- bent society understands that, and we invest enormous amounts of money on innovation in education and in risk capital every year for that reason. Transitional costs can also be covered by using the current subsidies to the fossil fuels to ease the transition thus avoiding all the risks and costs of fossil fuels already described. Finally, at the end of the day, as the scope of the clean technologies increases, when the built capacity of clean plants increases, the laws of innovation such as 'learning curves' and increasing returns to scale kick in, and clean energy costs can emulate or even improve upon existing ones. For full disclosure, the author is working on and has patented a technology that captures carbon very economically from ambient air and from industrial sources, showing that one can make money from the sale of useful CO2 from this process. This technology - called Global Thermostat™ - can make power plants carbon negative and its cost is low enough that it creates profits from the sales of the CO2 captured. At the end of the day we all know that transition to new technologies can be made to pay and pay very well. The result is innovation, new jobs and a cleaner economy.

Does the carbon market work to reduce emissions? Yes, the EU that was able to decrease its carbon emissions by about 37% since the Kyoto Protocol emission limits were imposed and the EU Emissions Trading System became international law in 2005. For full disclosure, the author designed and wrote the carbon market into the Kyoto Protocol in 1997, the same carbon market that became international law in 2005. This market requires no external funding – it is self-financing – and it works well in economic terms, creating incentives for cleaner technology in industrial and developing nations. For example China received about \$30Bn from the Kyoto Clean Development Mechanism to invest in clean technology, becoming since then the largest exporter of wind and solar power equipment in the world. The EU Emissions Trading System carbon market is now trading \$215Bn annually, and carbon markets now exist in four continents, including Australia, Asia and the EU and in 2012 a mandatory carbon market started to trade in the largest State of the Union, California, a State that leads the rest of the nation in presenting a positive example by fully balancing its budget in 2012.

We all know that the US cannot solve the global climate change problem alone. Climate Change is a global problem at its core. For example by burning its own coal reserves Africa can produce enough carbon emissions to cause trillions of dollars of damage to the rest of the

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world – according to the OECD. Yet with the same stroke of the pen the US can also become a world leader in the climate negotiations. This is because the US emits 25% of the global emissions, and all carbon markets will eventually converge. Therefore the US carbon market will enhance the carbon market of the Kyoto Protocol globally. Why? This is because markets have a very interesting feature that Wall Street calls "no arbitrage": it means that two markets side to side will end up trading at the same prices for the same commodity. Therefore the price of carbon emitted in the US carbon market will soon converge to that of the EU carbon market, the Australian and the Asian carbon markets – and all these markets will be strengthened in their mission of making money while cleaning the environment. Since US markets dominate the world economy, the US can enhance the performance of this crucial new market: the global carbon market.

A global carbon market will change the way we measure economic progress in ways that many clamor for, including the Group of 20. It will create a new global system of economic values. With the carbon market, cleaner nations become richer and their economies grow faster than dirty nations, who have to pay the former and can be left behind. A new stick is created to measure economic progress – the GDP now measures the value of all goods and services at market value but now market values includes the value of a clean atmosphere and a stable climate for humankind. We know that we must provide a cleaner environment for future generations – and President Obama has made his contribution to avert Climate Change the measuring stick of success of his second administration. The simple solution I propose is already available to him; it is legally supported by the US Supreme Court and is independent from the vagaries of bipartisan politics. There seems to be no excuse for not implementing it.

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