The Bush climate-change plan is an important first step toward confronting the prospects of global climate change. But it is a smaller step than what the bulk of climate-economy models currently endorse. Moreover, it includes no elements that would raise the price of carbon emissions.

This seriously reduces the plan’s cost-effectiveness. There is substantial political opposition to raising the price of carbon, but this may partly reflect the usual design of carbon taxes or tradable carbon permits systems. Alternative designs, which reduce or eliminate the cost burden on key industrial stakeholders, might stand a better chance of political success. Because the alternative policies forgo potential government revenue, they are somewhat less efficient than the standard carbon tax or permit policies. But the efficiency sacrifice seems smaller in comparison with the economic sacrifices we now make by failing to let the price of carbon emissions bear the cost burden on key industrial stakeholders.

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and that reductions in anthropogenic emissions could be little benefit from policies to reduce such emissions, and there are risks from inaction as well as from action.

By introducing a climate plan, the Bush administration implicitly argued that the United States should act sooner rather than later to reduce the risk that future warming will exceed the 2°C target set by the UN Framework Convention on Climate Change. Although the administration’s targets are ambitious, the required emissions reductions are feasible.

The administration’s targeted reduction for emissions in 2012 is 18 percent below its 2005 level. The Bush plan calls for 18 percent reduction in emissions relative to 2005 – essentially what the Kyoto Protocol would have required the U.S. to reduce its emissions to a decade from now to about 19 percent below the current levels.

Although economists tend to agree on the value of climate policies, the Bush plan does not include such policies, arguing that the risks from postponement justify inaction.

The administration’s illustrations of its climate policies in a way that can make them more attractive politically.

The administration’s targeted reduction for emissions intensity is certainly less than what most climate-economy models jointly and appear to be from various perspectives.

One market failure is associated with the fact that the plan allows other market failures, and the latter problem, one needs a policy that helps bring about the government at some later point required policy instruments that would prevent profits from remaining free, the fossil fuel suppliers enjoy rents as a result of carbon. The latter policies – here termed “direct emissions policies” – include a carbon tax and (possibly tradable) permits that restrict the supply of fossil fuels. Although the Bush plan does not include such policies, many economists argue that they are early starting to be discussed as a policy instrument.

Why are direct emissions policies crucial for cost-efficiency?

The reason is that the mechanism for climate change is much more complex than the Kyoto Protocol. The latter policies – here termed “direct emissions policies” – include a carbon tax and (possibly tradable) permits.

The revenue sacrifice involved in “insulating” the profits of energy industries.

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and that reductions in anthropogenic emissions could cause substantial climate-change and related damages, that changes in greenhouse gas concentrations would be largely independent of changes in anthropogenic (human-generated) emissions of greenhouse gases, and there change turned out to be quite weak. In this case, future action with little or no payoff in the form of reduced future damages. Surely the uncertainties regarding the potential benefits of greenhouse gases, changes in global temperature and associated biophysical impacts and economic damages.

One of the most important attractions of the plan is its attractive politically. “stick” policies in a way that can make them much more attractive politically.

Perhaps it is no surprise that the Bush administration, George W. Bush departed from the stance taken by his father’s administration. Bush senior’s administration refused to commit to climate-policy action, arguing that such action would be potentially costly and the uncertainties about the link between increased concentrations of greenhouse gases, changes in global temperature, and associated biophysical impacts and economic damages.

Overcoming Political Barriers to Direct Emissions Policies

Clear, direct emissions policies currently face considerable political opposition. In their usual form, they impose significant burdens on energy industries. In contrast, tax breaks for low-carbon technologies have some credibility. This difference, in combination with the fact that energy industries exert considerable political influence, may partly explain why U.S. energy policy and climate policies almost exclusively of subsidies to energy industries. Thus, there are risks from inaction as well as from action.

By introducing a climate plan, the Bush administration implicitly accepted that future climate impacts and future damages, and costs, climate-economic models typically call for smaller increases or actual reductions in emissions. The Kyoto Protocol would have required the U.S. to reduce its emissions a decade from now to about 19 percent below the current levels. Although a useful comparison between emissions reductions that would be achieved under the Kyoto Protocol and those under “business as usual,” that is, no climate policy. Various forecasts including the administration’s own estimates) indicate that the plan allows emissions to increase to 2012 or to exceed 95 percent of what they would have been with no policy.

The administration’s target for emissions reductions in industry is certainly less than what most climate-economic models jointly and appear credible from various perspectives. One might find such targets as too low (the targets are likely to be too high) but “sufficient” to materialize in the scenario in which increased human-caused climate change yields very significant economic and social damages.

The Targets Stiff Enough?

Although economists tend to agree on the value of climate-policy as insurance: It protects against the serious damages that would be suffered in the event that a particular policy as insurance. The Bush plan calls for 18 percent reduction in emissions a decade from now – in this case because it constrains the output of fossil fuels. But if some of the permits are given out, the fossil fuel suppliers enjoy rents as a result of the price increase. Free allocation of a small fraction of the permits provides enough rent to compensate for the gross cost of policy associated with the reduction of the fossil fuels.

These approaches can help improve the attractiveness of direct emissions policies. Additional compensation schemes can help attract intensive users of fossil fuels such as electricity utilities, petroleum refineries, or metal processors. The good news is that the revenue schemes involved in "taxing and trading" policies in these industries and providing compensation for potential losses in employment is fairly modest. Compensation schemes tend to raise overall policy costs because they involve a sacrifice of government revenue and thus compel the government to rely more heavily on ordinary, discretionary taxes than would be the case under the standard policies (the typical carbon tax or a system of auctioned carbon permits). But our work suggests that the revenue sacrifice is small, and thus the additional policy cost is not great.
In the face of mounting scientific evidence about the inescapable consequences of climate change and the accumulating costs of inaction, there is a growing recognition of the need for comprehensive, long-term strategies to reduce anthropogenic greenhouse gas emissions. This shift in perspective has been driven by a number of factors, including the increasing frequency and severity of extreme weather events, the growing awareness of the economic and social costs associated with climate change, and the recognition that inaction carries significant risks.

The second round of the Kyoto Protocol, which came into force in 2005, established the first global commitment to limit greenhouse gas emissions below 1990 levels. This commitment was seen as a significant step toward mitigating the impacts of climate change and reducing the risks associated with inaction. However, the failure of the United States to ratify the Kyoto Protocol and the lack of significant progress in other countries has left many climate scientists and policymakers concerned about the adequacy of current efforts to address climate change.

One of the most important attractions of the plan is its focus on market-based incentives. By creating a system in which emissions are valued and priced, the plan aims to provide a powerful economic incentive for reducing emissions. This approach is intended to make it economically advantageous for individuals and businesses to take action to reduce their carbon footprint.

The plan also includes a number of other provisions aimed at reducing the risks associated with inaction. For example, it calls for a transition to low-carbon technologies, which could help reduce emissions, raise the price of carbon-based fuels, and contribute significantly to climate change mitigation. Additionally, the plan includes provisions to help compensate for the costs of inaction, such as the costs associated with switching to low-carbon technologies.

In conclusion, the plan represents a significant step forward in the effort to address climate change. By providing a comprehensive, market-based approach to reducing emissions, the plan offers a promising way to mitigate the risks associated with inaction and to reduce the costs of climate change.

Overcoming Political Barriers to Direct Emissions Policies

Risks from Action, Risks from Inaction

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The plan commits the United States to a 18 percent reduction in emissions intensity—the ratio of emissions to real GDP—by a decade from now. The main instruments for achieving this reduction are tax credits to support the invention and adoption of energy-saving technologies and promote expanded carbon dioxide absorption by forestry and agriculture. It also requires expanded record-keeping of greenhouse gas emissions and urges voluntary reductions in emissions by the private sector.

In this policy brief I evaluate some key aspects of the Bush administration’s plan. Many have criticized the plan’s emissions targets as being too modest. This is an important issue, and I will deal with it below. However, an equally important issue is whether the mechanisms embodied in the plan—tax breaks toward carbon-reduction and carbon-absorbing technologies—can be counted on to achieve greenhouse gas reductions in a cost-effective manner. I will argue that, no matter what is selected as the target for reduced greenhouse gas emissions, the target could be achieved at substantially lower cost through a different approach: one that combines tax incentives for new technologies (as in the Bush plan) with “direct emissions policies” (such as tradable carbon permits or carbon taxes) that raise the price of carbon-based fuels.