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Honorable John McCain
241 Russell Office Building
Washington, DC 20510

Honorable Joseph Lieberman
706 Hart Senate Office Building
Washington, DC 20510

Dear Senators McCain and Lieberman:

As Congress takes up the issue of market-based systems to reduce emissions of carbon dioxide and other greenhouse gases, we are writing to encourage you to incorporate an allowance price cap sometimes referred to as a “safety valve.” In the context of a cap-and-trade system for emission allowances, a safety valve would specify a maximum market price at which the government would step in and sell additional allowances to prevent the price from rising any further. Much like the Federal Reserve intervenes in bond and currency markets to protect the economy from adverse macroeconomic shocks, this intervention is designed to protect the economy automatically from adverse energy demand and technology shocks. While we disagree on what steps are necessary in the short run, we both agree it is particularly important to pursue them in a manner that limits economic risk.

Our support for the safety valve stems from the underlying science and economics surrounding the problem of global climate change, and is something that virtually all economists—even two with as politically diverse views as ourselves—can agree upon. It is based on three important facts.

First, unexpected events can easily make the cost of a cap-and-trade program that includes carbon dioxide quite high, even with a modest cap. For example, consider an effort to reduce domestic carbon dioxide emissions by 5% below future forecast levels over the next ten years—to about 1.8 billion tons of carbon. This is in the ballpark of the domestic reductions in the first phase of McCain-Lieberman allowing for offsets, the targets in the Bush climate plan, and the level of domestic emission reductions described by the Clinton administration under its vision of Kyoto implementation. Based on central estimates, the required reductions would amount to about 90 million tons of carbon emissions, and might cost the economy as a whole around \$1.5 billion per year. However, reaching the target could instead require 180 million tons of reductions because of otherwise higher emissions related to a warm summer, a cold winter, or unexpected economic growth. Based on alternative model estimates, it could also cost twice as much to reduce each ton of carbon. The result could be costs that are *eight* times higher than the best guess.

Second and equally important, the benefits from reduced greenhouse gas emissions have little to do with emission levels in a particular year. Benefits stem from eventual changes in atmospheric



concentrations of these gases that accumulate over very long periods of time. Strict adherence to a short-term emission cap is therefore less important from an environmental perspective than the long-term effort to reduce emissions more substantially. Without a safety valve, cap-and-trade risks diverting resources away from those long-term efforts in order to meet a less important short-term target.

Finally, few approaches can protect the economy from the unexpected outcome of higher energy demand and inadequate technology as effectively as a safety valve. For example, opportunities to seek offsets outside a trading program can effectively reduce the *expected* cost of a particular emission goal—which is beneficial—but that does not address concerns about unexpected events. In fact, if the system becomes dependent on these offsets, their inclusion can increase uncertainty about program costs if the availability and cost of the offsets themselves is not certain. Another proposal, a “circuit breaker,” would halt future declines in the cap when the allowance price exceeds a specified threshold, but would do little to relax the current cap if shortages arise. Features that do provide additional allowances when shortages arise, such as the possibility of banking and borrowing extra allowances, are helpful, but only to the extent they can ameliorate sizeable, immediate, and persistent adverse events.

To summarize, the climate change problem is a marathon, not a sprint, and there is little environmental justification for heroic efforts to meet a short-term target. Such heroic efforts might not only waste resources, they risk souring our appetite to confront the more serious long-term problem. Absent a safety valve, a cap-and-trade program risks exactly that outcome in the face of surprisingly high demand for energy or the failure of inexpensive mitigation opportunities to arise as planned. A safety valve is the simplest, most transparent way to signal the market about the appropriate effort to meet short-term mitigation goals in the face of adverse events.

While trained economists hold divergent views on many topics—as our own views demonstrate—economic theory occasionally delivers a relatively crisp message that virtually everyone can agree on. We believe this is one of those occasions, and hope you will consider these points as Congress addresses various climate change policies in the coming months.

Sincerely,

R. Glenn Hubbard
Professor, Columbia University
Chairman, Council of Economic Advisers,
2001-2003

Joseph E. Stiglitz
Professor, Columbia University
Chairman, Council of Economic Advisers,
1995-1997