In the United States, the legal and policy response to global warming has always lagged far behind the urgency of the problem as articulated by scientists and borne out in the real world. In the past five years, this mismatch has reached frightening proportions, with Arctic sea ice and glaciers rapidly retreating, rising and acidifying seas, stronger storms, more frequent and intense droughts and heat waves, looming species extinction and the climate related-deaths of 300,000 people each year.

Leading scientists warn that atmospheric carbon dioxide levels have already exceeded safe levels and must therefore be reduced in the next few decades to no more than 350 parts per million (ppm) from today's 389 ppm to avoid triggering catastrophic, and irreversible, changes to the planet. Instead, emissions continue to grow each year. Nevertheless, the federal government has yet to finalize, much less implement, any meaningful domestic greenhouse gas reduction plan.

Strong leadership and strong legislation can still save the day. Unfortunately, the American Clean Energy and Security Act (ACES, H.R. 2454), the climate bill passed by the House of Representatives on June 26, does not provide the much needed solution to the climate crisis. In fact, overall, ACES as currently written moves us in the wrong direction.

ACES suffers from two central flaws. First, it provides inadequate greenhouse gas reductions, so that even if it were fully and successfully implemented, greenhouse gas concentrations would still remain far above the safe level. Second, and perhaps even more importantly, the bill repeals existing Clean Air Act authority to reduce greenhouse pollution, placing all of our eggs in one precarious basket.

Some of ACES's provisions would actually reduce current greenhouse emissions reduction requirements for the largest polluters and enable emissions increases in the short term that we cannot afford. Sen. Barbara Boxer intends to introduce a companion bill shortly after Congress' August recess, providing the opportunity to correct these critical problems.

The political challenges of passing a climate bill have dominated the news coverage of the legislation. Yet it is the physical challenge of climate change that should take center stage.

Leading climate scientists warn that deep and rapid greenhouse gas reductions are necessary to avert catastrophic climate change and that continued construction and operation of coal-fired power plants is fundamentally incompatible with achieving the needed reductions. Dr. James Hansen, NASA's chief climate scientist, along with many co-authors, wrote in a major scientific paper in 2008 that carbon dioxide levels must be reduced to 350 ppm "[i]f humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted.” Hansen said further that this goal could be achieved if the use of coal were phased out except where carbon dioxide emissions resulting from burning the coal were captured and stored.

Legislation to solve the climate crisis should be grounded in this scientific reality. ACES falls far short. First, even if the bill were fully and successfully implemented, it would not reduce carbon
dioxide levels to below 350 ppm, and would in fact allow total greenhouse gas concentrations to rise to more than 450 ppm.

This provides a less than 50-50 chance of avoiding catastrophic climate impacts. A climate solutions bill that flips a coin to determine the fate of our children and grandchildren is no solution at all.

ACES also relies heavily on a future cap-and-trade system to achieve these already inadequate greenhouse emission reduction targets. Under ACES, sources accounting for approximately 85 percent of U.S. emissions would ultimately be subject to the cap. However, in addition to taking advantage of free pollution allowances distributed each year, these entities collectively also could emit up to 2 billion tons of additional pollution so long as they purchase carbon offsets for their excess pollution.

Carbon offsets theoretically represent emissions reductions elsewhere but in reality these reductions may occur partially or wholly only on paper. This massive volume of allowances and offsets, combined with already weak reduction targets, means that emissions from capped entities could actually increase by 38 percent at the onset of the cap-and-trade program in 2012, with no requirement for actual emissions to again reach 2005 levels until 2026.

Without any checks and balances in the short term, coal-fired electricity generation will expand to fill this gap. Coal-fired power plants are already the single largest contributor to U.S. greenhouse pollution, spewing nearly 2,000 million metric tons of greenhouse gases in 2007, or 27 percent of total U.S. emissions. There are about 50 new coal plants currently in the permitting or construction phase, which if completed would add 250 million tons of greenhouse emissions each year. That is more than the entire annual emissions of Denmark, Norway, Sweden and Switzerland combined. Building these coal-fired plants now will make it impossible to achieve the level of emissions reductions scientifically required.

ACES is weak at its core and riddled with additional loopholes added during the legislative process. The very worst problem, however, is that ACES takes us in the wrong direction by rolling back important provisions of the Clean Air Act.

The Clean Air Act has protected the air we breathe for four decades, enabling everyone to enjoy a safer and cleaner environment. It is directly responsible for saving lives, improving health, and decreasing hospitalizations and lost school and work days. According to the Environmental Protection Agency, in 2010 alone, the act will save 23,000 lives. It will prevent 1.7 million asthma attacks, 4.1 million lost work days and more than 68,000 hospitalizations and emergency room visits. The act has provided us with trillions of dollars of benefits, which have exceeded the costs of regulation by 42 times, according to the EPA's own conservative data.

The Clean Air Act is also our strongest existing tool for reducing greenhouse pollution. ACES guts the act by exempting greenhouse gas emissions from stationary sources from pollution control requirements. Most importantly, greenhouse gas emissions would be exempted from the new source performance standards and new source review programs, allowing new and existing coal-fired power plants to operate without any additional pollution controls for a decade or more.

This would allow hundreds of millions of tons of additional pollution. For example, the exemptions would prevent the EPA from requiring common-sense efficiency improvements at existing coal-fired power plants, which alone could reduce total U.S. emissions by 3.4 percent. And under current law, new coal-fired power plants must be built, if at all, subject to consistent pollution reduction measures. Eliminating these requirements actually encourages the construction of more coal plants, the worst possible policy outcome.
There is no reason for these exemptions beyond the fact that the coal industry and other polluters have demanded them. The Clean Air Act rollbacks must be stripped from the bill, and existing Clean Air Act authority should be strengthened by adding deadlines for the oldest and dirtiest coal-fired power plants to meet pollution reduction goals.

The need to pass a bill prior to the upcoming international climate negotiations in Copenhagen is often cited as an additional reason for rapid legislative action, yet the Obama administration does not need new legislation to negotiate an ambitious emissions reduction agreement there. The Clean Air Act provides a comprehensive system for greenhouse emissions reductions from all major sources in the U.S. economy, and has a proven track record of success at reducing other pollutants. The only thing lacking is the administration's political will to implement the law despite the inevitable opposition from polluters.

Boxer should strengthen the ACES bill in the Senate and ensure that efforts to reduce pollution through a new cap-and-trade system are based on science and implemented in addition to rather than instead of the Clean Air Act's critical safety net.

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