

the plan

HOW THE U.S. CAN HELP STABILIZE THE CLIMATE AND CREATE A CLEAN ENERGY FUTURE

EVAN WEBER, MATTHEW LICHTASH, DR. MICHAEL DORSEY

EXECUTIVE SUMMARY

The United States has internationally committed to the goal of reducing anthropogenic emissions of climate change causing greenhouse gases by 17% below 2005 levels by 2020. However, the Intergovernmental Panel on Climate Change (IPCC), the world's leading international scientific climate change authority, says that industrialized nations must reduce their emissions from 1990 levels by 25 to 40% by 2020 in order to remain on track to keep global average temperatures from rising more than 2°C above pre-industrial levels—the temperature increase that scientists, policy experts, and governments have agreed is the safe upper limit. For the United States, this would mean a 36-49% reduction in emissions from 2005 levels—more than double our current emissions goal. Since the United States is the greatest historical contributor to human-induced climate change, the current second

highest annual emitter of greenhouse gases, and an important international leader, we have a duty to act boldly and decisively if the world and the American people are to have any hope of avoiding the worst impacts of a warmer planet.

In June 2013, President Obama laid out his Climate Action Plan to "reduce carbon emissions, prepare the U.S. for the impacts of climate change, and lead international efforts to address global climate change." While these proposals represent improvements on previous plans put forward by the Administration, they still do not bring us close to where scientists or policy experts say that we need to be, or present a transformative vision with long-term goals. We lay forth a plan that the President and Congress should embrace in order to lead the world to a stabilized climate and a clean energy future.

1. GOING BEYOND THE PRESIDENT'S PLANS

More than simply achieving emissions reductions of insufficient magnitude given the scope of the climate crisis, President Obama's "Climate Action Plan" and "all-of-the-above" energy strategy fall short in three critical areas:

- A) Relying too heavily on risky, unproven, and/or antiquated technologies
- B) Lacking ambition with the vision for a new American transportation economy
- C) Not claiming full responsibility for our international impact on emissions

A) RELYING ON RISKY TECHNOLOGIES

The President's plans prop up technologies, such as natural gas extracted through hydraulic fracturing and horizontal drilling, offshore drilling in the Arctic, coal with carbon capture and sequestration, and nuclear power, that do not provide enough benefits relative to their inherent risks. They also underplay the potential for a robust and achievable renewable energy economy that has the possibility to produce real economic savings for the American people.

If the entire world transitioned fully from coal to natural gas generation, temperatures would increase by an unacceptable 3.5°C from 2000 levels by 2200. It is irresponsible to promote a strategy domestically that would globally lead to catastrophic levels of warming which might be further exacerbated by the uncertainty of high leakage rates of methane

Carbon capture and sequestration (CCS) cannot become a commercial success without strong incentives. In the most optimistic scenarios, CCS might provide 14% of cumulative emissions reductions through 2050; this highlights its limited potential to mitigate greenhouse gas emissions.

Nuclear energy in the U.S. commonly exhibits cost overruns unattractive to potential investors—it is not viable without government loan guarantees, subsidies, and liability caps. The prospects of meltdown, lack of a long-term waste disposal strategy, the potential increase of destabilizing climate events, and weapons proliferation and terrorist threats further contribute to nuclear power's excessive risks which make it an unattractive and unnecessary option to rely on.

We call for President Obama to acknowledge the limitations of these risky technologies and implement the following forward-looking policies to effectively mitigate greenhouse gases:

- Implement technology standards for natural gas production, transmission, and distribution networks, as well as coal mines, to capture fugitive methane.
- Pass a domestic ban on Arctic drilling and push for an international ban through the Arctic Council
- Shift federal loan guarantees from solely being available to “advanced fossil energy projects” like CCS and towards renewable energy, energy efficiency, and transportation innovations

B) THE GREAT TRANSPORTATION TRANSITION

The transportation initiatives in the President's Climate Action Plan lack specificity and ambition. Reimagining

our transportation systems will mitigate emissions, invigorate our nation's economy, empower working class

Americans, reduce our dependence on foreign oil, and make our communities more resilient. The White House gives no mention of improving the efficiency of or expanding public transportation options, investing in high-speed transportation, or funding advanced transportation innovations in its plan. The White House plan calls for converting our nation's transportation fleets to run on Compressed Natural Gas (CNG), but because of the high uncertainty of current methane leakage rates, converting our nation's cars and trucks to run on natural gas may

actually have *more of a warming impact than the conventional fuel supply*. The Administration also vaguely endorses "advanced" biofuels without specifics on what types of technologies are "advanced," whether there will be stricter requirements for lifetime carbon footprints of fuels, whether we will continue to support fuels that compete with food crops for land and raise prices, in which sectors the use of biofuels will be pursued, and how the government will support these technologies.

Instead of these lackluster proposals, we can embrace a *new transportation future* by investing in:

- Public transportation
- High-speed transportation solutions
- Research and development for promising technology alternatives like:
 - Advanced battery technologies
 - Algal biofuels
 - Electrofuels
 - Liquid hydrogen

Investments of around \$30 billion over 20 years could *double* the expected rate in ridership growth for U.S. public transit. Combining this with changes in land use, expansion of bike lanes, and improvements in pedestrian conditions could reduce transportation sector emissions by **3-10%** by 2050. If we invest strongly in battery technologies and decrease emissions from our electricity grid, running 56% of light-duty vehicles on electricity could lower transportation related emissions **26-30%** by 2050.

C) ENDING EMISSIONS EXPORTS & IMPROVING INTERNATIONAL IMPACT

The Administration's plan does very little to control our fossil fuel exports or support the work of reducing emissions in other countries. As it is presented, the President's "climate policy" could potentially increase

overall global warming pollution, *even if* our domestic emissions fall.

This is in part due to the fact that U.S. exports of coal and natural gas are projected to grow significantly in the near future. The President is calling for "an end to U.S. government support for

public financing of new coal plants overseas," yet seems poised to approve major coal export projects to supply growing demand in Asian markets. With respect to natural gas, President Obama continues to "promote fuel-switching from coal to gas for electricity production and encourage the development of a global market for gas" through the Unconventional Gas Technical Exchange Program (UGTEP) and will "encourage the adoption of heavy duty natural gas vehicles" despite both the dubious global climate benefits

and the fact that methane leakages are even greater for exported natural gas.

Lastly, while the Obama Administration has made commendable progress with clean energy financing by the Overseas Private Investment Corporation and the Trade and Development Agency, the U.S. Export-Import Bank still finances many fossil fuel projects abroad. In 2012 the Export-Import Bank financed \$356 million in renewables projects and a record \$9.6 billion in fossil fuel projects.

In order to discourage exporting our emissions to the global community and to encourage international adoption of renewable energy solutions, we call on President Obama to:

- Eliminate UGTEP and replace it with a Global Renewable Energy and Efficiency Exchange Network (G.R.E.E.E.N.) to encourage an international transition away from fossil fuels and towards renewable energy
- Reject fossil fuel export projects that would significantly contribute to greenhouse gas pollution through his authority under the National Environmental Protection Act (NEPA)
- Direct the Export-Import Bank to transition its financing from fossil fuel projects to low-emissions energy development

2. COMPREHENSIVE GREENHOUSE GAS FEE

Our country needs a broad and swiftly rising *Greenhouse Gas Fee* covering all emissions from energy sources that will finally put a price on the climate-altering greenhouse gas pollution that threatens our future. Such a fee represents a climate solution that is economically efficient and cannot be politically gamed. It will level the playing field for low-emissions technologies, provide consumers and businesses with visible and predictable price signals, help sufficiently reduce

our near- *and* long-term emissions, and position the United States to lead the clean energy revolution.

Unlike current policy proposals, a *Greenhouse Gas Fee* has the potential to provide large sources of revenue to:

- 1) *Protect the most vulnerable consumers* from price increases
- 2) Provide funding for renewable energy technology *Research and Development*
- 3) Protect vulnerable communities from already unavoidable

climate changes through a *Climate Adaptation Fund*

4) Provide jobs *Training and Transition programs* for blue-collar workers in vulnerable industries,

5) Support municipal and regional governments in funding *alternative transportation networks*

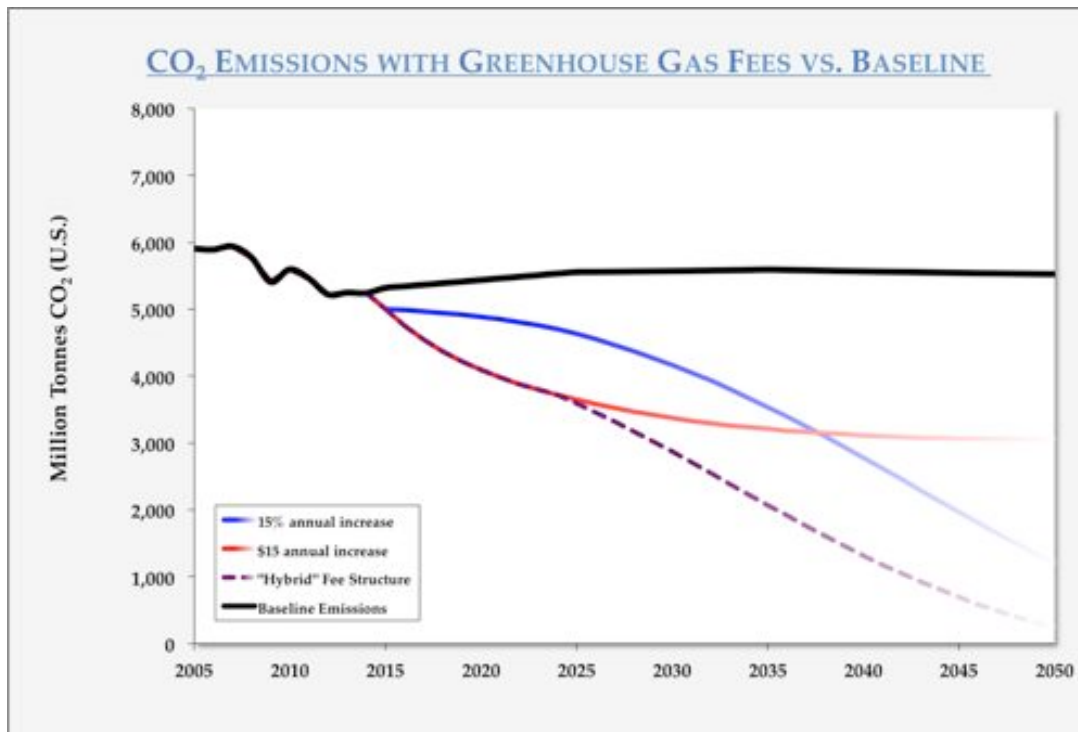
6) Fund nationwide upgrades to the electricity grid, creating a so-called “*smart-grid*” to support renewable energy generation and reduce transmission waste.

The fee should be flexible to ensure efficiency, and mechanisms should be established to adjust the fee and/or rate of growth when necessary, based on market and consumer responsiveness, unexpected technology disruptions, and changes in understandings of climate science and projected impacts.

We propose for consideration three different fee structures beginning

in 2015—a \$15 per metric ton fee that rises at **\$15 annually**, a \$15 per metric ton fee that rises at **15% annually**, and a “**hybrid**” fee. The fee rising at a flat rate would have the benefit of greater emissions reductions in the short-term, while the fee that increases exponentially would lead to lower emissions levels in the long run.

Since it is important to reduce our emissions substantially now *and* to ensure that we continue to reduce our emissions in the long term, we advocate for the “hybrid” fee that starts with a flat-rate increase of \$15 per metric ton annually in 2015 and begins to increase by 15% annually in **2025**. Such a fee would reduce CO₂ emissions from 2005 levels by at least **31% in 2020** and **96% in 2050** and incentivize the capture of CH₄ emissions from coal and gas systems resulting in overall CH₄ emissions reductions of at least **19% in 2020** and **35% in 2050**.



3. ENERGY INCENTIVES RESTRUCTURING

Other adjustments in our nation's incentive structure that would ensure fairness in energy markets and encourage proven climate solutions consist of:

INCENTIVES FOR BIO-SEQUESTRATION

Bio-sequestration has the potential to sequester approximately 1 GtCO₂ per year, as forests and soils across the U.S. regenerate. Just as emissions producing activities are penalized under the Greenhouse Gas Fee, incentives should be incorporated into its structure to reward changes in land-use, forestry, and agricultural practices that act to sequester emissions beyond the baseline.

REMOVE THE CORN ETHANOL STANDARD

Corn ethanol has lifecycle greenhouse gas emissions 20% lower than conventional gasoline *at best*, and in some cases *can be worse* for the climate. Eliminating the standard would allow substantially lower-carbon alternatives to compete on a level playing field. Additionally, removing the corn ethanol mandate of 15 billion gallons per year in 2015 could lower corn prices by around 24%.

LOAN GUARANTEES

The Obama Administration has earmarked \$8 billion in federal loan guarantees for "advanced fossil energy projects." Instead, the president can and should allow other solutions such as energy efficiency, renewables, and transportation innovations to compete on a level playing field to receive loans as is authorized under the law.

ELIMINATE FOSSIL FUEL SUBSIDIES

Fossil Fuel Subsidies, although comprising only a small fraction of GDP, are nevertheless large in magnitude. Eliminating wasteful portions of the \$13.15 billion in fossil fuel subsidies would have no discernable effect on gas prices and raise revenue that could be more effectively spent in other ways. Most importantly, removing fossil fuel subsidies in the U.S. would send a strong signal to the international community to engage in responsible subsidy reform, where the largest emissions reductions could be achieved.

4. NATIONAL GREEN BANK

A National Green Bank would provide lower interest rates for renewable energy projects with relatively new business models. By lowering interest rates for capital

projects, a National Green Bank will decrease the price of renewable energy. Capitalized with an initial \$10 billion, the Bank could leverage \$100 billion in private capital (a 10-1 ratio). The bank

would operate at no net cost to the taxpayer, as it recoups loans from clean energy projects with guaranteed financial returns. As borrowing costs

decline, so too will carbon emissions as the bank increases rates of renewable energy installations.

5. SUPPLY SIDE FOSSIL FUEL REGULATIONS

The President should use his executive powers under the National Environmental Policy Act (NEPA) to reject major projects under his jurisdiction that are determined to have significant impact on global emissions. By rejecting projects such as coal export terminals, liquid natural gas export facilities, and large international pipelines like Keystone XL, *the United States would be setting a major precedent for other world leaders to take note of.* Contracting global supplies of fossil fuels would eventually have the effect of reducing fossil fuel demand and promoting the switch to cleaner technologies

Fair valuation of our coal, oil, and gas resources on Federal Lands will ensure that damages from burning fossil fuels are accounted for and help to

control supply. Each ton of coal extracted in the Powder River basin in 2012 sold for \$1.11/ton, yet each ton of coal releases 1.87 metric tonnes of CO₂. Using the Obama Administration's value of the Social Cost of Carbon pollution released into the atmosphere (\$33/tCO₂e) **each ton of coal is responsible for more than \$60 of damages in carbon pollution**, or more than 50 times the winning bid price in the recent auction at Powder River Basin. In absence of a Greenhouse Gas Fee, we urge President Obama to direct the Bureau of Land Management to include such environmental damages in estimating the "Fair Market Value" for all auctions of fossil fuels extracted on federal lands.

6. PRESIDENTIAL COMMISSION ON THE UNFOLDING CLIMATE CRISIS & OUR ENERGY FUTURE

So far, President Obama has not put in enough effort to engage the American public and our elected officials on the need for a bold climate and energy strategy. He should create a Presidential Commission on the Unfolding Climate Crisis & Our Energy Future to foster discussion with citizens

and Congress in order to gather critical information and best plan for future energy policy decisions. The Commission can help to build political consensus among a broad range of interests—from businesses to civil society.

CONCLUSION

Our plan can begin to reduce our nation's impact on climate change to levels that our best scientists and policy experts say is necessary. These policies will transform our economy by creating green jobs and energy independence, reduce the impacts of climate change on vulnerable communities, reduce the impacts of climate policy on vulnerable consumers and workers, and lead the world on a path towards a clean energy future.

The Plan reduces net domestic greenhouse gas emissions from their 2005 levels by 29.4-54.2% in 2020 and 57.5-108.4% by 2050 through:

These estimates of potential domestic reductions are conservative, and don't

- Greenhouse Gas Fee on CO2 emissions from fossil fuels: 16.5-29.3 % by 2020, 46-91.2% by 2050
- Greenhouse Gas Fee and regulations on fugitive methane: 1.2-2.3% by 2020 and 3.5-4.2% by 2050
- National Green Bank: 1.7-2.6% by 2020, 3% minimum by 2050
- Bio-sequestration: 10-20% by 2020, 5-10% by 2050

factor in the impacts many of our proposed policies would have. To ensure that as our emissions decline, global emissions do not increase as a result of our policies, the President should also exercise his powers to reject international export projects through NEPA, shift financing practices of the Export-Import bank, promote international cooperation on renewable energy and energy efficiency through the State Department and other agencies, and institute additional supply-side fossil fuel regulations.

We do not deny that there will be technological barriers to overcome, or claim that the transition to a better future will be seamless. We simply ask that others cease denying that these are reasons not to act boldly, because the costs that will be incurred and the opportunities that will be forgone by taking a course that discounts the perils of a warming planet will be much more damaging.

If fully implemented, our sensible policies—with the ambitious and promising parts of President Obama's current plan—will set our nation on a promising path towards ensuring a safer, more prosperous, and more just world for ourselves and our posterity.

