

ANALYSIS OF KEY PROVISIONS OF THE AMERICAN POWER ACT OF 2010 (APA), (May 13, 2010 Discussion Draft)

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I. INTRODUCTION

The American Power Act (APA) “discussion draft” circulated by Senators Kerry and Lieberman fails to offer a serious response to the climate crisis. The bill sets inadequate targets for greenhouse gas emission reductions, rolls back proven Clean Air Act programs that should be used to curb emissions, and actually expands the nation’s reliance on dirty technologies like coal-fired generation, offshore drilling, and nuclear power. Moreover, because the APA relies heavily on offsets, a mechanism for reducing emissions that frequently does not result in real emission reductions, it is highly unlikely that even the modest emission reductions called for under the bill would be realized.

With so much time already squandered, failing to take sufficient action to address the climate crisis today will foreclose the ability to prevent catastrophe tomorrow. If we are to avoid saddling future generations with crippling economic and environmental hardships, federal climate legislation must set an economy-wide cap on greenhouse emissions that is strong enough to have a high probability of keeping future warming below dangerous levels. The best way to do this is to build upon existing tools like the Clean Air Act, and limit potential loopholes like offsets that undermine achievement of emission reduction objectives.

## II. THE APA WOULD RESULT IN ATMOSPHERIC GREENHOUSE GAS CONCENTRATIONS OF 650 PPM, A SURE PATHWAY TO CLIMATE DISASTER

*What the Bill Does:*

The emission reductions that would result from the APA fall far short of what is needed to curtail the risk of severe, widespread, and irreversible effects on the planet. The APA would put us on a pathway to atmospheric concentrations of greenhouse gases of 650 parts per million, a sure recipe for climate disaster since it exceeds by far the safe limit of 350 parts per million

The actual reductions required under the bill are inadequate and do not even meet its own stated goals. The APA states an aspiration to reduce economy-wide greenhouse gas pollution by 17% below 2005 levels by 2020 and 83% below 2005 levels by 2050.<sup>1</sup> For capped sectors, which constitute approximately 85% of domestic emissions, required reductions for those sources match overall economy-wide goals (17% below 2005 by 2020, 83% below 2005 by 2050).<sup>2</sup>

But under the APA, uncapped sectors cannot be subject to federal regulations for greenhouse gas emissions until at least 2020.<sup>3</sup> This means that even under the optimistic assumptions that the cap-and-trade program functions properly and that the large quantity of potential offsets do not undermine achievement of real emission reductions, the APA would fail to reach its goals. It would reduce *only approximately 85% of total emissions* by 17% below 2005 levels by 2020.

Assuming emissions from uncapped sources remain constant, reducing 85% of total emissions by 17% would result in a 14.5% reduction in overall economy-wide emissions from 2005 levels, or *a mere 0.7% below 1990 levels by 2020*.<sup>4</sup> By 2050, emissions would be reduced by 73% below 2005 levels, or 69% below 1990 levels.<sup>5</sup> Thus, the APA does not seem to provide strong enough mechanisms to reach its economy-wide reduction targets.

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<sup>1</sup> APA § 2001 (proposed Clean Air Act § 702).

<sup>2</sup> APA § 2001 (proposed Clean Air Act § 703); the APA also proposes a separate cap for HFCs, which were responsible for approximately 2% of 2005 emissions.

<sup>3</sup> APA § 2302 (proposed Clean Air Act § 111(k)(3) (stripping EPA of Clean Air Act authority to regulate uncapped sources eligible for offsets under New Source Performance Standards until 2020); APA § 2001 (proposed Clean Air Act § 734) (emissions eligible as offsets shall not be subject to federal regulation until 2020). This is a weakening from the American Clean Energy Security Act (ACESA) passed by the House, which would require EPA to promulgate performance standards for uncapped sources with emissions greater than 10,000 tons. ACESA, Sec. 811.

<sup>4</sup> If there were 1,000 total economy-wide emission units, and 850 of these are reduced by 17% to 705.5 units, and the remaining 150 are constant, economy-wide emissions would total of 855.5 units, or a 14.5% reduction from the original 1000. U.S. emissions in 2005 were 7182.6 million metric tons (MMT) and 6187.4 MMT in 1990.

<http://www.eia.doe.gov/oiaf/1605/ggrpt/> (last visited June 21, 2010). A 14.5% reduction from 2005 levels would reduce emissions from 7182.6 to 6141.1 MMT, a 0.7% decrease from 1990 emission levels. See also World Resources Institute, Emissions Reductions Under Pollution Reduction Proposal in the 111th Congress, June 8, 2010, *available at* <http://www.wri.org/publication/usclimatetargets> (last visited June 21, 2010) (estimating emission reductions from APA cap at 0% below 1990 levels by 2020, or 1% below 1990 levels when complementary requirements are accounted for).

<sup>5</sup> World Resources Institute, Emissions Reductions Under Pollution Reduction Proposal in the 111th Congress, June 8, 2010, *available at* <http://www.wri.org/publication/usclimatetargets>

Analysis:

Leading scientists warn that “to preserve a planet for future generations similar to that in which civilization developed and to which life on Earth is adapted . . . CO<sub>2</sub> will need to be reduced from its current 385 ppm to at most 350 ppm.”<sup>6</sup> The U.S. Global Change Research Program has affirmed this finding.<sup>7</sup>

The APA’s reductions fall far short of this critical target. Instead, the 0.7% reduction from 1990 levels envisioned under the APA is consistent with a trajectory that would result in atmospheric greenhouse gas concentrations of 650 ppm.<sup>8</sup> At 650 ppm, there is a 92% chance that the resulting increase in global mean temperature will exceed 2°C (3.6°F) from pre-industrial levels, an 80% chance that the increase will exceed 3°C (5.4°F) and a 40% chance that the increase will exceed 4°C (7.2°F).<sup>9</sup> Temperature increases of this magnitude would result in widespread and irreversible climate disruption.

If temperatures rise by 2°C, millions of people would be displaced due to sea level rise and entire ecosystems would be lost. Moreover, multiple climatic “tipping points” such as complete loss of summer Arctic sea ice and the irreversible melting of the Greenland ice sheet could be triggered resulting in a cycle of accelerating warming and a further sea level rise of seven meters.<sup>10</sup>

With a 3°C temperature rise, sea level rise would displace tens of millions of additional people , billions of people would suffer an increase in water stress, 65 countries would lose 16% of their agricultural gross domestic product, and the Amazon forest would be converted from a carbon sink to a carbon source.<sup>11</sup>

With a 4°C temperature rise, entire regions, including Australia, would be unable to sustain agriculture and many experts estimate there would be a greater than 50% chance that ocean circulation, including the Gulf Stream, would break down.<sup>12</sup>

In its analysis of the APA, EPA concluded that “[u]nder the combined APA and the G8 international agreement assumptions, the probability of observed temperature changes in 2100 remaining

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<sup>6</sup> James Hansen et al., *Target Atmospheric CO<sub>2</sub>: Where Should Humanity Aim?* 2 OPEN ATMOSPHERIC SCI. J. 217, 226 (2008).

<sup>7</sup> U.S. Global Change Research Program, GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES at 23 (2009) (finding that “atmospheric concentration of carbon dioxide would need to be stabilized in the long term at around today’s levels” to have a “good chance (but not a guarantee)” of avoiding severe, widespread, and irreversible impacts).

<sup>8</sup> T S. Gupta et al., *Policies, Instruments and Co-operative Arrangements*, in CLIMATE CHANGE 2007: MITIGATION, CONTRIBUTION OF WORKING GROUP III TO THE FOURTH ASSESSMENT REPORT OF THE INTERNATIONAL PANEL ON CLIMATE CHANGE 776 (2007) (reductions by developed (Annex I) nations from 0 - 25% below 1990 levels by 2020 are consistent with a trajectory stabilizing greenhouse gas emissions at 650 ppm CO<sub>2</sub>-eq.); Michel den Elzen & Malte Meinshausen, *Multi-Gas Emission Pathways for Meeting the EU 2°C Climate Target*, in AVOIDING DANGEROUS CLIMATE CHANGE 300, 305 (2006). While the APA’s 2050 targets could be viewed as falling within a 550 ppm trajectory, because reaching lower levels of greenhouse gas concentrations require earlier reductions than achieved by the APA, the APA’s deferral of required emission reductions would seem to make this outcome unlikely.

<sup>9</sup> Malte Meinshausen, *What Does a 2°C Target Mean for Greenhouse Gas Concentrations? A Brief Analysis Based on Multi-Gas Emission Pathways and Several Climate Sensitivity Uncertainty Estimates* in AVOIDING DANGEROUS CLIMATE CHANGE 271-72 (Cambridge Univ. Press 2006).

<sup>10</sup> Rachel Warren, *Impacts of Global Climate Change at Different Annual Mean Global Temperature Increases* in AVOIDING DANGEROUS CLIMATE CHANGE 95, 98 (2006).

<sup>11</sup> *Id.* at 99.

<sup>12</sup> *Id.*

below 2°C (or 3.6°F) increases to 75% and the probability of observed temperature changes exceeding 4°C is negligible given climate sensitivity assumptions.”<sup>13</sup> There are several fundamental problems with this conclusion.

First and foremost, estimating future warming based on the G8 international agreement is misleading. The G8 agreement is silent as to near-term emission targets and does not reflect the much lower emission reduction commitments actually made by G8 countries, including the United States, following the Copenhagen climate summit. It is therefore inaccurate and irresponsible for EPA to suggest that the APA and the G8 agreement put the world on track to avoid the most catastrophic impacts of global warming.

The history of the G8 agreement illustrates EPA’s error. In July of 2009, in anticipation of the UN climate conference in Copenhagen upcoming that December, the G8 nations made a non-binding pledge to reduce greenhouse gas emissions 80 percent (below an unspecified level) by 2050 and to work with all nations to cut global emissions in half.

Critics of the pledge, however, including UN Secretary General Ban Ki-moon, noted that this long-term target is not credible without “ambitious mid-term targets and baselines.”<sup>14</sup> Even Todd Stern, the chief U.S. climate change negotiator, recognized that “[i]t would be a big mistake to look only at 2050” because 2050 targets are so far in the future as to be largely meaningless.<sup>15</sup>

As noted by the UN Secretary General, to limit future warming to 2°C, “developed countries must lead by example in making firm commitments to reduce their emissions by 2020 on the order of the 25 to 40 percent below 1990 levels that the International Governmental Panel on Climate Change tells us is required.”<sup>16</sup> By ignoring critical near-term emission reduction targets—targets that the APA falls far short of reaching—EPA’s analysis masks the APA’s failure to achieve the reductions necessary to minimize the risk of dangerous climate change.

In addition, because the G8 agreement represented only aspirational pledges leading up to Copenhagen rather than actual commitments, it would be far more accurate and informative for EPA to estimate potential future warming based on the “Copenhagen Accord” that ultimately emerged from the UN climate summit. An analysis of the actual emission reduction pledges following Copenhagen, including those of the United States, found that “the Copenhagen Accord will almost certainly miss its own 2°C goal,” with “a greater than 50% chance that warming will exceed 3°C by 2100.”<sup>17</sup>

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<sup>13</sup> EPA, EPA Analysis of the American Power Act in the 111th Congress, June 14, 2010, <http://www.epa.gov/climatechange/economics/economicanalyses.html> (last visited June 21, 2010).

<sup>14</sup> Environmental News Service, 17 Major Economies Pledge to Set Greenhouse Gas Limit by December, July 7, 2009, <http://www.ens-newswire.com/ens/jul2009/2009-07-09-01.asp>.

<sup>15</sup> Jonathan Weisman, G-8 Climate-Change Agreement Falls Short, Wall Street Journal, July 9, 2009, <http://online.wsj.com/article/SB124704550659510745.html>.

<sup>16</sup> Environmental News Service, 17 Major Economies Pledge to Set Greenhouse Gas Limit by December, July 7, 2009, <http://www.ens-newswire.com/ens/jul2009/2009-07-09-01.asp>; see also T. S. Gupta et al., *Policies, Instruments and Co-operative Arrangements*, in CLIMATE CHANGE 2007: MITIGATION, CONTRIBUTION OF WORKING GROUP III TO THE FOURTH ASSESSMENT REPORT OF THE INTERNATIONAL PANEL ON CLIMATE CHANGE 776 (2007).

<sup>17</sup> Joeri Rogelk, Malte Meinshausen et al., Opinion: Copenhagen Accord Pledges Are Paltry, 466 NATURE 1126, 1128 (Apr. 2010).

Moreover, since language regarding the 80% reductions by developed countries was removed from the final draft of the Copenhagen Accord in the final hours of negotiations, it would appear that the G8 agreement no longer represents the current international consensus. The G8 agreement thus constitutes a completely inadequate and misleading basis for EPA's findings.<sup>18</sup>

The decisions we make today will determine the health and livability of the planet for generations to come. By failing to ground its analysis in reality, the EPA misleadingly concludes that the APA, in conjunction with current international efforts, is sufficient to meaningfully address the climate crisis.

It is critical that policymakers recognize the great danger to humankind from half-measures like the APA, which would leave future generations to deal with what can only be labeled climate catastrophe. This is sheer recklessness. The APA's emission targets must be strengthened enough to provide for stabilization below 350 ppm CO<sub>2</sub>. This requires a comprehensive solution that reduces carbon pollution by at least 40% below 1990 levels by 2020.<sup>19</sup> These changes are urgently needed if we want to have any chance of leaving a recognizable world to our children and grandchildren.

### III. THE APA EXPANDS AND PROLONGS AMERICA'S RELIANCE ON DIRTY ENERGY

*What the Bill Does:*

The APA opens with a package of subsidies, regulatory streamlining provisions, and other incentives for expanded offshore oil exploration, nuclear power, and continued reliance on coal-fired electricity generation.

#### Offshore Oil

The bill expands state and local government eligibility to receive a share of the revenue from offshore oil royalties and leases. Coastal states would receive 37.5% of lease rental payments, lease royalty payments, royalty proceeds, and other revenues, 20% of which would be sent directly to county-level local governments along the coast.<sup>20</sup> A maximum of \$500 million could be returned to the states every fiscal year through 2055 from each Outer Continental Shelf planning area.<sup>21</sup> Alaska would also receive 37.5% of revenues from leasing areas in the Alaska Adjacent Zone, but 33% of these revenues would be remitted to Native Alaskan Regional Corporations rather than local governments.<sup>22</sup> A maximum of \$500 million

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<sup>18</sup> *Id.* at 1127.

<sup>19</sup> To reach a 450 ppm CO<sub>2</sub>eq stabilization level (corresponding to 400 ppm CO<sub>2</sub>), developed (Annex I) countries should be reduced by 25 to 40% below 1990 levels by 2020. T. S. Gupta et al., *Policies, Instruments and Co-operative Arrangements*, in CLIMATE CHANGE 2007: MITIGATION, CONTRIBUTION OF WORKING GROUP III TO THE FOURTH ASSESSMENT REPORT OF THE INTERNATIONAL PANEL ON CLIMATE CHANGE 776 (2007); Michel den Elzen & Malte Meinshausen, *Multi-Gas Emission Pathways for Meeting the EU 2°C Climate Target*, in AVOIDING DANGEROUS CLIMATE CHANGE 300, 305 (2006). Thus, to reach 350 ppm CO<sub>2</sub>, the U.S. must achieve or exceed the upper end of this range.

<sup>20</sup> APA § 1202 (proposed 43 U.S.C. § 1344(i)).

<sup>21</sup> The Outer Continental Shelf off the coast of the contiguous United States is divided into three basic regions and several "planning areas." Under the Minerals Management Service's current five-year plan, there are four planning areas off the Atlantic coast, three planning areas in the Gulf of Mexico, and four planning areas off the Pacific coast. See Minerals Mgt. Svc., Leasing Program: Federal OCS Administrative Boundaries, at <http://www.mms.gov/ld/AdminBoundaries.htm> (last visited May 19, 2010).

<sup>22</sup> APA § 1203 (proposed 43 U.S.C. § 1344(j)).

could be returned to the state of Alaska every fiscal year through 2055 from each “area” in the Alaska Adjacent Zone.<sup>23</sup>

Each coastal state legislature would retain authority under the bill to enact a law prohibiting drilling within 75 miles of its coastline; following enactment of such a law, the state’s governor could petition the federal government to withdraw those areas from leasing.<sup>24</sup> Furthermore, if the Secretary of Energy determines that an oil spill would directly impact the economy of a neighboring state, that state’s legislature also may enact a law prohibiting drilling in the proposed area.<sup>25</sup>

### Nuclear Power

The APA limits public participation in approval hearings, streamlines environmental review, and provides new tax credits and subsidies for nuclear power. The bill directs the Nuclear Regulatory Commission to develop an “expedited process” for approving new nuclear plants at existing or pre-approved sites.<sup>26</sup> This expedited process may impose new restrictions on the ability of members of the public to participate in approval proceedings by eliminating currently required public hearings and potentially requiring participants to meet new “standing” tests before they can comment.<sup>27</sup>

The bill also limits environmental review of nuclear projects under the National Environmental Policy Act by allowing nuclear plant developers to rely on environmental studies for “early site permit” applications (essentially pre-approvals for siting nuclear plants). Specific environmental review of power plant proposals themselves would be required only to consider “new” information that “would materially change the prior findings or conclusions.”<sup>28</sup> Finally, the bill provides a host of financial guarantees, incentives, and subsidies, including payments in the event of project delays, suspension of duties on components, accelerated depreciation schedules, tax credits, and a “grant” program.<sup>29</sup>

### Coal-Fired Electricity Generation

The bill could weaken environmental standards for existing coal-fired power plants while subsidizing carbon sequestration technology that could encourage building further plants. For existing plants, the bill would add a new section to the Clean Air Act providing incentives for increasing efficiency at these plants and eventually shutting them down.<sup>30</sup> In addition to creating tax credits and subsidies for plant retirement, however, the bill also establishes a “task force” that would consider granting exemptions

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<sup>23</sup> The bill does not clearly define either “area” or “Alaska Adjacent Zone,” and these terms do not appear to be defined elsewhere in statute or regulation. That said, there are 15 offshore oil planning areas off the coast of Alaska. See Minerals Mgt. Svc., Leasing Program: Alaska Cadastral Data, at <http://www.mms.gov/ld/alaska.htm> (last visited May 19, 2010). If each of these areas could generate up to \$500 million in shared revenue per fiscal year, Alaska could potentially receive more revenue under this bill than the rest of the coastal United States combined.

<sup>24</sup> APA § 1204 (proposed 43 U.S.C. § 1341(g)).

<sup>25</sup> APA § 1205 (proposed 43 U.S.C. § 1341(h)).

<sup>26</sup> APA § 1101.

<sup>27</sup> See APA §§ 1101, 1105 (requiring Commission to recommend to Congress “an efficient process that will allow interested parties that have standing to participate

<sup>28</sup> APA § 1109.

<sup>29</sup> See APA §§ 1103, 1111, 1121, 1122, 1123, 1124, 1126.

<sup>30</sup> APA § 1441 (proposed Clean Air Act § 802).

from Clean Air Act regulations limiting emissions of conventional, non-greenhouse pollutants from coal-fired plants as an “incentive” for eventual decommissioning.<sup>31</sup>

For planned and future plants, the bill creates a \$2 billion per year subsidy for carbon capture and sequestration projects. This subsidy would be funded by assessments on utilities that will be passed on to ratepayers,<sup>32</sup> and allocated under the guidance of an advisory council dominated by industry representatives.<sup>33</sup> The bill also distributes emissions allowances under the cap-and-trade program to operators of carbon capture and storage projects.<sup>34</sup>

*Analysis:*

Although touted by its authors and supporters as a “clean energy bill,” the American Power Act opens with a triple dose of subsidies and incentives for old-fashioned dirty energy.

### Offshore Drilling

The APA strongly encourages expanded offshore drilling. Although the bill contains some hastily drafted findings concerning the catastrophic oil spill currently fouling the Gulf of Mexico as a result of the Deepwater Horizon drilling disaster, these observations amount to little more than lip service. Congress proposes only to “consider,” not to actually enact, protective measures such as a drilling moratorium, adjustments to oil company liability caps, and safety improvements.<sup>35</sup> The bill’s core offshore oil provisions—negotiated before the Gulf spill occurred—remain intact.

The bill’s offshore drilling “revenue sharing” provisions could send hundreds of millions of dollars each year to economically strapped state and local governments, most of which are not currently eligible to receive these funds.<sup>36</sup> The clear intent of the bill is thus to *expand* offshore oil drilling into new coastal areas by promising enough money to placate state and local opposition. The bill thus creates tremendous financial incentives for states to allow increased coastal drilling.

In the context of these financial incentives, the bill’s “state veto” provisions may prove illusory. By prohibiting offshore drilling, a state would leave potentially huge amounts of money on the table. In all likelihood, this would dramatically reduce the chances that its legislature would exercise its “veto” and that its governor would petition the federal government to prohibit offshore leasing.

Taken together, therefore, the bill’s provisions strongly favor the expansion of offshore drilling into new areas of the nation’s coastline, including fragile areas of the Arctic Ocean that are especially susceptible to the impacts of oil spills and climate change alike. Expanded offshore drilling—while perhaps

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<sup>31</sup> *Id.* (proposed Clean Air Act § 802(d), (e)).

<sup>32</sup> See APA §§ 1415, 1420 (authorizing collection of \$2 billion in assessments on utilities per fiscal year to support CCS development, and allowing regulated utilities to recover this cost from their ratepayers).

<sup>33</sup> APA § 1413(b)(3) (“A majority of the voting membership of the [Carbon Capture and Sequestration Program Partnership] Council shall be representatives of electric utilities selling fossil fuel-based electricity to electric consumers subject to assessment under section 1416.” The cross-reference to section 1416 may be in error. General authority to levy assessments is conveyed in section 1415; section 1416 provides a special assessment process for the Electric Reliability Council of Texas.

<sup>34</sup> See APA § 1431 (proposed Clean Air Act § 794).

<sup>35</sup> APA § 1201.

<sup>36</sup> APA § 1202. The current “Gulf producing states” of Alabama, Louisiana, Mississippi, and Texas already receive a share of federal revenues from offshore drilling, and are explicitly excluded from additional revenue sharing under this bill. *Id.*

enticing to Senators seeking additional federal money for their home states—exacerbates the climate crisis, furthers America’s reliance on fossil fuels, and increases the risk to our oceans and coastlines from spills like the one currently devastating the Gulf of Mexico.

### Nuclear Power

The APA envisions greatly increased construction of—and future reliance on—nuclear power to meet the nation’s energy needs. The bill achieves this expansion not only by providing massive tax credits and subsidies, but also by curtailing environmental review and limiting public participation in the approval process. A non-partisan analysis of the bill estimates that it would spur construction of 78 gigawatts of nuclear power in the next two decades, nearly doubling nuclear power’s share of the country’s energy portfolio and ensuring that nearly a third of our electricity will come from nuclear power by 2030.<sup>37</sup> However, the bill provides no new solutions for the known risks, long-lasting impacts, and extremely high cost of nuclear energy relative to other cleaner energy sources.<sup>38</sup>

### Coal-Fired Power Plants

Coal-fired power generation emits massive quantities of carbon dioxide and other greenhouse gases, and coal mining is responsible for catastrophic environmental and social damage. Leading climate scientists have recommended that the nation immediately begin phasing out its reliance on coal-fired electricity.<sup>39</sup> Under the APA, however, both local communities and the global climate would continue to suffer the numerous adverse effects of coal power.

The bill sets in motion a process whereby existing coal-fired power plants could obtain exemptions from Clean Air Act limitations on *all* pollutants—not just greenhouse gas emissions—in exchange for a promise to shut down at some undetermined point in the future. Such exemptions would *increase* pollution in affected communities and ecosystems, threatening public health, water quality, and habitat viability. The American Lung Association has condemned this provision as a dangerous attack on the Clean Air Act’s ability to protect health and safety.<sup>40</sup>

The bill also throws a substantial lifeline to future coal mining and electricity generation interests in the form of huge subsidies for carbon capture and sequestration projects.<sup>41</sup> The APA’s emissions

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<sup>37</sup> See Peterson Inst. for Int’l Economics, *Assessing the American Power Act: The Economic, Employment, Energy Security and Environmental Impact of Senator Kerry and Senator Lieberman’s Discussion Draft*, No. PB10-12 (May 2010) at 1-2, 4, available at <http://www.iie.com/publications/interstitial.cfm?ResearchID=1574> (last visited May 21, 2010).

<sup>38</sup> For example, the bill does almost nothing to address the heart of the nuclear power problem—what to do with nuclear waste—other than to appoint one of the National Laboratories to serve as a “center of excellence” in research and development of fuel reprocessing technologies. See APA § 1104.

<sup>39</sup> See J. Hansen, et al., *Target Atmospheric CO<sub>2</sub>: Where Should Humanity Aim?*, 2 OPEN ATMOS. SCI. J. 217, 226 (2008). This influential article proposes that coal-fired power plants be phased out except where carbon emissions can be safely captured and sequestered. As discussed below, this is a doubtful proposition given current economic and technological constraints.

<sup>40</sup> Am. Lung Ass’n, Statement of Charles D. Connor, President and Chief Executive Officer, *On the Kerry-Lieberman Bill, The American Power Act*, <http://www.lungusa.org/press-room/press-releases/statement-of-charles-d.html> (last visited May 25, 2010).

<sup>41</sup> APA Subtitle C, §§ 1401-1432.

performance standards for new coal plants, in turn, also depend entirely on the development of carbon capture and sequestration technologies.<sup>42</sup>

Under this bill, therefore, the future of the coal sector largely rides on ample, safe, and effective storage of CO<sub>2</sub> from coal-fired power plants. By investing billions of dollars of ratepayer money in this unproven and potentially dangerous technology—which has no purpose other than to support new coal-fired generation and the coal mining industry—the bill once again prioritizes continued reliance on dirty energy over a rapid transition to a low-carbon future.

It is far from clear that this gamble will work. Carbon capture and storage technology has been implemented in only a few locations, and has sequestered carbon in only very limited quantities relative to overall emissions. There is no clear indication that this technology will ever be widely available or commercially feasible at the scale envisioned by the bill. Public health professionals and local communities also have expressed serious concern that a significant carbon dioxide leak from an underground storage facility could prove deadly.<sup>43</sup>

The APA thus seeks to keep the coal industry healthy by betting everything on subsidies for an unproven and potentially dangerous new technology. Even if this gamble were to work, the bill would still represent an unwise choice. To continue using one of the dirtiest fossil fuel sources available is to condemn small coal country towns and major urban areas alike to continued environmental degradation and toxic chemical exposures. Once again, the bill misses an opportunity to transition away from dirty energy—and indeed seeks to further cement America’s reliance on this most destructive form of fossil fuel.

#### **IV. THE APA STRIPS EPA OF AUTHORITY TO EFFECTIVELY REGULATE GREENHOUSE GAS EMISSIONS UNDER NUMEROUS PROVISIONS OF THE CLEAN AIR ACT**

*What the Bill Does:*

Subtitle D of the APA would exempt greenhouse gases from regulation under nearly all of the Clean Air Act’s major programs.

- 1) Criteria Pollutants/National Pollution Cap. The bill would amend Clean Air Act section 108(a) to provide that beginning on the date of enactment, the EPA Administrator may not establish a national ambient air quality standard for any greenhouse pollutant “on the basis of the effect of the greenhouse gas on climate change or ocean acidification.”<sup>44</sup>
- 2) New Source Performance Standards (NSPS) for Capped Sources. The bill would amend Clean Air Act section 111 to preclude establishment of standards of performance for “capped greenhouse gas emissions from a capped source” unless the EPA Administrator determines that standards are appropriate “because of effects that do not include climate change effects.”<sup>45</sup> EPA would retain authority to establish greenhouse gas performance standards for existing

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<sup>42</sup> APA § 1441 (proposed Clean Air Act § 801).

<sup>43</sup> See, e.g., John Fogarty and Michael McCally, *Health and Safety Risks of Carbon Capture and Storage*, 303(1) J. AM. MED. ASS’N 67 (2010).

<sup>44</sup> APA § 2301 (proposed Clean Air Act § 108(a)(3)).

<sup>45</sup> APA § 2302 (proposed Clean Air Act § 111(k)).

coal-fired power plants.<sup>46</sup> However, EPA would be prevented from enacting standards for sources outside the bill's capped sectors until January 1, 2020.<sup>47</sup> The bill also would specifically and permanently exempt “sources of enteric fermentation”—methane emissions from livestock—from the NSPS program.<sup>48</sup>

- 3) Ten-Year Ban on Regulation of Uncapped Sources. Sources of greenhouse gases outside the bill's cap and trade program will not be limited or regulated, but rather will function as potential sources of carbon offset projects.<sup>49</sup> Emissions reductions from these sectors could be turned into carbon credits, sold to polluters within capped sectors, and used to meet those polluters' emission reduction responsibilities. The bill exempts these sources from virtually all federal greenhouse gas regulation; emissions subject to the uncapped source offset program “shall not, prior to January 1, 2020, be subject to any other limitation that is established under a Federal law enacted or applied for the purpose of regulating greenhouse gas emissions solely on the basis of the effect of those emissions on climate change.”<sup>50</sup>
- 4) Performance Standards for New Coal-Fired Power Plants. The bill would impose carbon dioxide performance standards on new coal-fired power plants (defined as electrical generating units deriving at least 30% of their heat input from coal and/or petroleum coke). Plants “initially permitted” after January 1, 2020, must achieve a 65% reduction in carbon dioxide emissions (or a more stringent limit that could be achieved with then-available technology). Plants initially permitted between January 1, 2009 and January 1, 2019 must reduce carbon dioxide emissions by 50% by the earlier of: (i) four years after issuance of a report by the EPA Administrator finding that carbon capture and sequestration is in widespread commercial operation in the United States, or (ii) January 1, 2020. With the approval of Congress, this deadline could be extended until the beginning of 2022. The EPA Administrator may also grant 18-month extensions to individual power plants on a case by case basis.<sup>51</sup>
- 5) New Source Review and Title V Permitting. The bill would amend Clean Air Act section 169 to exempt from the prevention of significant deterioration/new source review permit requirement<sup>52</sup> “any facility that is initially permitted or modified after January 1, 2009, on the basis of the emission by the facility of any greenhouse gas.”<sup>53</sup> The bill also would amend Clean Air Act section 502(a) to provide that no stationary source shall be required to apply for or obtain a Title V permit “solely on the basis of the emission by the stationary source of a

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<sup>46</sup> APA § 2302 (proposed Clean Air Act § 111(d)(1)(ii), (k)(2)(B)).

<sup>47</sup> APA § 2302 (proposed Clean Air Act § 111(k)(3)). These “uncapped” sources and sectors include major emitters of carbon dioxide and methane such as landfills, feedlots, certain oil and gas facilities, commercial timberlands, and agricultural areas. See APA § 2001 (proposed Clean Air Act § 734(b)).

<sup>48</sup> APA § 2302 (proposed Clean Air Act § 111(k)(4)).

<sup>49</sup> APA § 2001 (proposed Clean Air Act § 733(a)(1)(A)). See Part V of this analysis below for further discussion.

<sup>50</sup> APA § 2001 (proposed Clean Air Act § 742(c)).

<sup>51</sup> APA § 1441 (proposed Clean Air Act § 801).

<sup>52</sup> These complementary programs require permits incorporating specific emissions reduction technology for major new and modified sources of air pollution. Sources are subject to different control requirements depending upon whether they are located in areas that have attained applicable ambient air quality standards. See *generally* Clean Air Act Title I, Parts C and D.

<sup>53</sup> APA § 2306 (amending Clean Air Act § 169(1)).

greenhouses [sic] gas that is only regulated under this Act due to the impact of the greenhouse gas on climate change.”<sup>54</sup>

- 6) Preemption of State Cap-and-Trade Programs. The bill would enact a new section of the Clean Air Act preventing states from implementing their own “cap-and-trade” programs, defined as programs that issue a limited number of tradable instruments in the nature of emissions allowances and require surrender of those instruments for each unit of greenhouse gases emitted during a given compliance period.<sup>55</sup> The states would retain authority to implement other greenhouse gas emissions limitations and reduction programs, provided that state-level standards are at least as stringent as any applicable new source performance standard or hazardous air pollutant limitation.<sup>56</sup>
- 7) Mobile Sources. The bill would add a new section to the Clean Air Act governing regulation of mobile sources of greenhouse gas emissions. This section would require the EPA Administrator to adopt emissions standards for heavy-duty motor vehicles and engines by the end of 2010, but would exempt vehicles subject to Tier II standards as of the bill’s date of enactment.<sup>57</sup> Standards for non-road engines and vehicles also would be required, but only for the classes or categories of engines that both contribute significantly to overall emissions from the sector and provide the greatest potential for significant and cost-effective reductions.<sup>58</sup> Although the bill requires the EPA to promulgate these standards by the end of 2012, the Administrator is given discretion to delay the date the standards come into effect, taking into consideration the cost of compliance, other compliance deadlines, and the time needed to transfer technology from other applications.<sup>59</sup> Standards for other non-road engines and vehicles could be adopted “as the Administrator determines appropriate and in the timeframe the Administrator determines appropriate.”<sup>60</sup> All of these standards would need to reflect the greatest reductions achievable through technology available in the applicable model year, considering cost, energy, and safety factors.

The bill also would authorize “reasonable and appropriate” provisions for trading and banking of greenhouse gas emissions credits within and across mobile source categories, including motor vehicles, non-road engines, marine vessels, and aircraft, “to the extent the Administrator determines appropriate.”<sup>61</sup> Finally, the bill would retain EPA’s “current authorities” to set passenger motor vehicle standards for model years after 2016.<sup>62</sup>

- 8) Additional Exemptions. The bill would amend Clean Air Act section 112 to provide that no greenhouse gas could be added to the list of hazardous air pollutants unless it meets the criteria for designation “independent of the effects of the greenhouse gas on climate change or ocean

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<sup>54</sup> APA § 2307 (proposed Clean Air Act § 502(a)(4)).

<sup>55</sup> APA § 2501 (proposed Clean Air Act § 806).

<sup>56</sup> APA § 2305 (amending Clean Air Act § 116).

<sup>57</sup> APA § 4141 (proposed Clean Air Act § 804(b)). “Tier II” standards establish emissions limitations for conventional pollutants from certain newer heavy-duty engines.

<sup>58</sup> APA § 4141 (proposed Clean Air Act § 804(c)(1)).

<sup>59</sup> APA § 4141 (proposed Clean Air Act § 804(c)(4)).

<sup>60</sup> APA § 4141 (proposed Clean Air Act § 804(c)(2)).

<sup>61</sup> APA § 4141 (proposed Clean Air Act § 804(d)).

<sup>62</sup> APA § 4141 (proposed Clean Air Act § 804(e)).

acidification.”<sup>63</sup> Clean Air Act section 115—which authorizes EPA to regulate domestic emissions based on danger to health and welfare in other countries under certain circumstances—also would be rendered inapplicable to “any air pollutant with respect to the contribution of the air pollutant to climate change or ocean acidification.”<sup>64</sup>

*Analysis:*

The American Power Act dramatically curtails federal authority to regulate greenhouse gas emissions under existing laws, imposing rollbacks even more radical than those included in the American Clean Energy and Security Act (ACESA) as passed by the House in 2009.<sup>65</sup> These provisions would senselessly discard some of our most powerful existing legal tools for reducing greenhouse pollution—including nearly all of the proven, effective programs established by the Clean Air Act.

For four decades, the Clean Air Act has protected the air we breathe, saved thousands of lives each year and otherwise improved public health. According to the EPA’s own data, the economic benefits of Clean Air Act regulation have exceeded the costs by at least 42 times.<sup>66</sup> No changes are needed to the statute before it can be deployed to reduce carbon dioxide emissions and other forms of greenhouse pollution. Yet the American Power Act exempts greenhouse gas emissions from most of the statute’s provisions.

First and foremost, the bill would prevent EPA from establishing a science-based, nationwide limit on greenhouse gas concentrations in the atmosphere. Under the Clean Air Act’s national ambient air quality standards program, EPA must limit atmospheric concentrations of dangerous pollutants to levels requisite to protect public health and welfare.<sup>67</sup> Air quality criteria for these pollutants must “accurately reflect the latest scientific knowledge useful” in ascertaining health and welfare effects,<sup>68</sup> and must reflect scientific and health-based rather than economic and convenience-based considerations.<sup>69</sup> The Clean Air Act thus provides a readily available, powerful tool for limiting maximum concentrations of CO<sub>2</sub> to 350 ppm, the level scientists currently believe is necessary to avoid the worst impacts of global warming.<sup>70</sup> The APA would block EPA from using this authority.

The bill also would eliminate nearly all of EPA’s existing authority to regulate greenhouse gas emissions from major “stationary sources” like factories and power plants. The Administrator would be unable to set minimum emissions requirements under the Clean Air Act’s new source performance standards program for a wide range of industries covered by the bill’s cap-and-trade provisions. The bill

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<sup>63</sup> APA § 2303 (proposed Clean Air Act § 112(b)(2)(C)).

<sup>64</sup> APA § 2304 (proposed Clean Air Act § 115(c)).

<sup>65</sup> See ACESA § 331.

<sup>66</sup> EPA 1997. *The Benefits and Costs of the Clean Air Act: 1970 to 1990*, available at <http://www.epa.gov/air/sect812/> (last visited May 26, 2010).

<sup>67</sup> See generally Clean Air Act §§ 108, 109; 42 U.S.C. §§ 7408, 7409.

<sup>68</sup> Clean Air Act § 108(a)(2); 42 U.S.C. § 7408(a)(2).

<sup>69</sup> See *Whitman v. Am. Trucking Ass’ns*, 531 U.S. 457, 471 (2001).

<sup>70</sup> The Center for Biological Diversity and 350.org have filed a petition with EPA seeking establishment of a national ambient air quality standard for greenhouse gases, specifically citing the scientific basis for a 350 ppm limit. Ctr. for Biological Diversity and 350.org, *Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act* (Dec. 2, 2009), available at [http://www.biologicaldiversity.org/programs/climate\\_law\\_institute/global\\_warming\\_litigation/clean\\_air\\_act/pdfs/Petition\\_GHG\\_pollution\\_cap\\_12-2-2009.pdf](http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf) (last visited May 26, 2010).

also exempts many new and modified sources of greenhouse pollution from existing permit requirements under the Act's new source review and Title V permitting programs. Finally, the bill goes further than its House counterpart does by limiting efforts to address ocean acidification as well as climate change.

Even more troubling is the bill's treatment of sources of greenhouse pollution not covered by the cap-and-trade system. These "uncapped" sources include major emitters of methane—a greenhouse gas far more potent than CO<sub>2</sub>—such as landfills, livestock feeding operations, and coal mines. Immediate, beneficial emissions reductions at many of these facilities presently could be achieved in a cost-effective manner. Yet the bill would exempt these uncapped sources from *any* federal emissions limitations until at least 2020. Instead of requiring emissions reductions from these sectors, the bill would allow reductions to be turned into carbon credits, sold to polluters subject to the cap-and-trade program, and used to offset capped emissions for at least the next decade. These combined provisions—a broad exemption from federal regulation and incorporation into an offset program—preclude achievement of the steeper cuts needed to avoid the worst impacts of climate change.

Amid these wholesale exemptions from the Clean Air Act and other federal laws, the bill preserves only a few shreds of existing legal authority. EPA would be allowed to establish new source performance standards for existing coal-fired power plants. However, it is unclear how this authority would dovetail with the bill's process for creating exemptions from other Clean Air Act requirements for existing coal plants.<sup>71</sup> EPA also would retain its current authority to limit greenhouse gas emissions from passenger cars and trucks in conjunction with the establishment of fuel economy standards. Yet the bill creates new exemptions and imposes new conditions on EPA's ability to regulate emissions from other "mobile sources" of greenhouse gases.

Taken together, these various exemptions severely curtail the federal government's existing authority to limit greenhouse pollution from both broad economic sectors and particular sources. The bill thus leaves the nation's response to climate change entirely dependent upon an untested greenhouse gas cap-and-trade program—a program already weakened by over-reliance on offsets of unknown quality and a set of woefully inadequate emissions reduction targets.

This approach is not only scientifically unsupportable and legally unwarranted, but also incredibly risky. Any future efforts to reduce greenhouse gas emissions by setting a price on carbon or establishing a cap-and-trade system must be *in addition* to—rather than instead of—immediate efforts using the tested, effective, existing tools provided by the Clean Air Act and other environmental laws.

## V. HEAVY RELIANCE ON OFFSETS UNDERMINES ATTAINMENT OF THE APA'S EMISSION REDUCTION OBJECTIVES

*What the Bill Does:*

Like the American Clean Energy and Security Act (ACESA) passed by the House, the APA relies primarily on a cap and trade program to achieve reductions in greenhouse gas pollution. The program

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<sup>71</sup> See APA § 1441 (proposed Clean Air Act § 802).

sets an annual tonnage limit on the amount of CO<sub>2</sub>equivalent (CO<sub>2</sub>eq) greenhouse gas emissions that may be released from covered sources, with total levels declining each year. Entities covered under the cap are required to hold either an emissions allowance or an offset credit for each ton of CO<sub>2</sub>eq emissions they emit.

Because offsets relieve capped entities from reducing their own emissions, if all 2 billion tons of offset credits allowed in the APA were used each year, direct emissions from capped sources in the U.S. in 2020 would grow 16% from 2005 levels and would not begin to drop below 2005 levels until 2027. Under the APA, capped entities may collectively use up to 2 billion tons of CO<sub>2</sub>eq offset credits each year to demonstrate compliance with the cap.<sup>72</sup> One quarter of these offsets may come from international sources, though EPA can increase the amount to half (one billion tons) if it is determined that insufficient domestic offsets are available.<sup>73</sup> Until 2018, approved international and domestic offsets will both be treated as equivalent to emissions allowances, at a 1 to 1 ratio. After 2018, international offset credits will be discounted to require 1.25 international offset credits to offset 1 ton of emissions generated in the U.S.<sup>74</sup>

The maximum amount of offset credits that a covered entity can use in a given year is limited to its prorated share of the 2 billion tons of offset credits that may be used economy-wide. Once the overall economy-wide emissions cap is equal to or less than 2 billion tons CO<sub>2</sub>eq, an entity could demonstrate compliance with the cap entirely through offsets. The two billion tons of CO<sub>2</sub>eq offsets will exceed the annual capped tonnage limit beginning in 2043, when the cap for covered entities will be 1.924 billion tons of CO<sub>2</sub>eq.<sup>75</sup>

The APA enumerates types of projects that must be included in the domestic offset program.<sup>76</sup> Listed projects, which are presumptively eligible to generate qualified emission reductions, include methane collection at mines and landfills, recycling programs, and agricultural methods such as winter cover cropping and altered tillage practices.<sup>77</sup>

EPA may remove certain types of projects from eligibility for the domestic offset program every three years. EPA may do this if the actions comprising the project have become required by law, if it is determined that the environmental harm resulting from the project exceeds the emission reduction

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<sup>72</sup> APA § 2001 (adding Clean Air Act § 722(d)(1)(A)(i)).

<sup>73</sup> APA § 2001 (adding Clean Air Act § 722(d)(1)(B)(iii)(I)-(II)).

<sup>74</sup> APA § 2001 (adding Clean Air Act §§ 722(d)(1)(A)(ii), (d)(1)(C)). The APA increases the percentage of domestic offsets from ACESA, which would allow 1 to 1.5 billion tons of total offsets be derived from international sources. ACESA § 331 (adding Clean Air Act § 722(d)(1)).

<sup>75</sup> APA § 2001 (adding Clean Air Act § 721(e)). This is a significant weakening from ACESA, which used a formula to ensure that the amount of available offsets available to a covered entity did not exceed its emission allowance. ACESA § 311 (adding Clean Air Act § 722(c)(1)(B) (total emission allowances per year are listed in proposed Clean Air Act § 722(e))). Under ACESA, the percentage of potential offsets that can be utilized by a covered entity to demonstrate compliance with the cap is calculated by dividing two billion by the sum of two billion plus the annual tonnage limit for that year. Thus, in 2012, when the annual tonnage limit is 4.627 billion tons, the offset percentage would be 30.20 percent (2 divided by 6.627 times 100 percent.) In 2050 and beyond, when emission allowances are reduced to 1.035 billion tons, the offset percentage would be 65.89 percent.

<sup>76</sup> APA § 2001 (adding Clean Air Act § 734(b), (c)(3)(B)(ii)). Under ACESA, instead of enumerating specific project types eligible for offsets, EPA was charged with developing eligible projects. ACESA § 311.

<sup>77</sup> APA § 2001 (adding Clean Air Act § 734(a)(2)).

benefits, if the activity has “become predominant, and would remain predominant even without the availability of offset credits” or if the project does not generate actual emissions reductions.<sup>78</sup>

With respect to the use of international offsets, the APA does not specifically state which types of international offset projects would be eligible. Instead, the APA provides that international offsets could come from three possible sources: 1) “sector-based credits” whereby developing countries with comparatively high levels of GHG emissions or greater levels of economic development reduce emissions from a given sector below business-as-usual levels; 2) credits issued by an international body established under the U.N. climate convention (such as the CDM); and 3) offsets from reduced deforestation.<sup>79</sup>

*Analysis:*

APA’s heavy reliance on offsets to achieve emission reductions undermines the integrity of the cap-and-trade program and will likely result in higher levels of global emissions than would have occurred in the absence of the offset program.<sup>80</sup> Unless offsets represent real, measurable, permanent and “additional” emission reductions – reductions that would not have otherwise occurred in the absence of the incentive provided by the offset credits – they do not help achieve the targets or caps because non-additional offset credits simply allow covered entities to increase their emissions without a corresponding reduction in emissions elsewhere.

These concerns are particularly acute in the APA because the broad scope of activities eligible to generate offset credits includes activities that are inherently uncertain and that are already happening in the absence of an offset program or specific regulation. In addition, because the APA expressly prohibits any federal regulation of projects eligible for offsets until at least 2020, the APA bars pursuit of steeper and critically needed additional reductions in greenhouse gas pollution.<sup>81</sup>

Emissions reductions from agricultural, land management and forestry activities, which could comprise a significant portion of the domestic offset supply under the APA,<sup>82</sup> are particularly uncertain.<sup>83</sup> For example, the climate benefits of “altered tillage practices” have been characterized by agricultural experts as “difficult to quantify” given site-specific variations, “fairly complicated” to verify, challenging to monitor, potentially not additional to business-as-usual, and possibly only temporary.<sup>84</sup> So-called “reduced impact logging” projects face similar challenges, given the complexity of quantifying impacts, verifying reductions against a projected baseline level of logging, and ensuring that emissions are not simply shifted to another timber harvest site.<sup>85</sup>

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<sup>78</sup> APA § 2001 (adding Clean Air Act § 734(c)(2)).

<sup>79</sup> APA § 2001 (adding Clean Air Act § 756(a)-(c)).

<sup>80</sup> See U.S. Government Accountability Office, *International Climate Change Programs: Lessons Learned from the European Union’s Emissions Trading Scheme and the Kyoto Protocol’s Clean Development Mechanism* at 8 (Nov. 2008), GAO-09-151.

<sup>81</sup> APA § 2001 (adding Clean Air Act § 742(a), (c)).

<sup>82</sup> See APA § 2001 (Adding Clean Air Act § 734(b)(2)(E), (F), (L), (M)).

<sup>83</sup> See U.S. Government Accountability Office, *Climate Change: Observations on the Potential Role of Carbon Offsets in Climate Change Legislation*, GAO-09-456T at 7-8 (Mar. 2009); see also Renée Johnson & Ross Gorte, *Measuring and Monitoring Carbon in the Agricultural and Forestry Sectors*, Congressional Research Service, RS22964 at 6 (Aug. 2009); Renée Johnson, *Climate Change: The Role of the U.S. Agriculture Sector*, Congressional Research Service, 27 (Nov. 2009).

<sup>84</sup> See Johnson and Gorte, *supra* note 13, at 11.

<sup>85</sup> *Id.* at 8.

The APA's domestic offset program would also preclude regulations that could achieve significant, cost-effective reductions in non-CO<sub>2</sub> GHGs, such as methane. Coal mines are increasingly capturing methane because the technology is available, relatively inexpensive or cost-saving in some cases,<sup>86</sup> and can provide a commercially viable source of energy.<sup>87</sup> However, rather than require mines and landfills to realize these feasible and cost-effective reductions, the APA makes methane collection projects eligible for offset credits.

Doing so could unleash a flood of cheap credits, allowing methane reductions to be used as a substitute for, rather than a supplement to, reductions by capped entities and paying methane producers a carbon premium for measures they already have a financial incentive to undertake.<sup>88</sup> To address the climate crisis, the U.S. must take advantage of *all* possible opportunities to reduce GHGs, not forgo the steeper cuts that could be accomplished through regulation simply to lower the cost of compliance for big polluters.

Furthermore, by making waste minimization and recycling eligible for offset credits,<sup>89</sup> the APA undermines the effectiveness of local action to combat climate change. Recycling is one area in which municipal measures and public awareness campaigns have already had dramatic impacts on emissions from waste.<sup>90</sup> Such programs should be encouraged because they enhance efforts to combat global warming, not in order to displace excess emissions from big polluters. Allowing the climate benefits generated by responsible citizen action to be used as offsets diminishes both the social and the environmental benefits of local green initiatives.

The international offsets envisioned under the APA face similar, well-documented problems.<sup>91</sup> The significant uncertainties associated with calculating sector-wide GHG reductions, the notorious difficulty of accurately measuring forest carbon, and the substantial risk that emissions avoided in one area will be displaced elsewhere, all threaten the integrity of the proposed international offset program. One 2007 study examining 93 official projects registered between 2004 and 2007 in the world's largest existing offset market, the Clean Development Mechanism (CDM), found additionality questionable in 40 percent of

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<sup>86</sup> U.S. EPA analysis suggests that even at no cost (without any offset credit incentive), landfills, coalmines and natural gas facilities could cut methane emissions by 60 MtCO<sub>2</sub>eq. EPA, *Global Mitigation of Non-CO<sub>2</sub> Greenhouse Gases*, EPA-430-R-06-005 (June 2006); EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2008* (Apr. 2010) # 430-R-10-006, available at <http://www.epa.gov/climatechange/emissions/usinventoryreport.html> (last visited June 21, 2010).

<sup>87</sup> The EPA estimates that many opportunities exist to reduce emissions at low cost by capturing the methane and using it as fuel. See EPA, *Methane Projects and Mitigation Costs*, available at <http://www.epa.gov/methane/projections.html> (last visited June 21, 2010).

<sup>88</sup> According to the EPA, at \$15/tonCO<sub>2</sub>eq overall methane emissions in the U.S. from the heavy-emitting sectors (landfill, coal mining, and natural gas) could be reduced by roughly 25%. See EPA, *Global Mitigation of Non-CO<sub>2</sub> Greenhouse Gases* EPA-430-R-06-005 (June 2006). In 2015, domestic methane emissions are projected to total 649 million tons CO<sub>2</sub>eq. A 25% reduction would generate approximately 162 million tons CO<sub>2</sub>eq eligible for offset credits under the APA.

<sup>89</sup> APA § 2001 (adding Clean Air Act § 734(c)(2)(B)(ii)).

<sup>90</sup> According to the EPA, "the U.S. recycles approximately 32 percent of its waste which saves an equivalent amount of greenhouse gases to removing 39.6 million cars from the road." See EPA, *Measuring Greenhouse Gas Emissions from Waste*, available at <http://www.epa.gov/climatechange/wywd/waste/measureghg.html> (last visited June 21, 2010). If those GHG reductions were made available to capped polluters as offset credits, it would be like putting those 39.6 million cars back on the road.

<sup>91</sup> APA § 2001 Part E (Adding Clean Air Act §§ 751-763). See e.g., U.S. Government Accountability Office, *Climate Change: Observations on the Potential Role of Carbon Offsets in Climate Change Legislation*, GAO-09-456T (Mar. 2009); Friends of the Earth, *A Dangerous Distraction: Why Offsetting is Failing the Climate and People: The Evidence* (Jun. 2009); International Rivers, *Bad Deal for the Planet: Why Carbon Offsets Aren't Working and How to Create a Fair Global Climate Accord*, 2008.

the projects, while another study found that the great majority of hydropower projects credited under the CDM were “non-additional.”<sup>92</sup>

According to a survey cited in a report by Friends of the Earth, 86 percent of professionals involved in CDM projects agreed that “in many cases, carbon revenues are the icing on the cake, but are not decisive for the investment decision.”<sup>93</sup> Offsets from reduced deforestation remain especially controversial because of technical constraints on monitoring changes in forest cover, vulnerability to natural disturbance, potential manipulation by the logging industry, and risks to local forest-dependent communities.<sup>94</sup> These persistent problems have kept deforestation reduction credits out of the European Union’s Emissions Trading System (ETS) and the CDM.

Despite the US Government Accountability Office’s determination that carbon offsets “may not be a reliable long-term approach to climate change mitigation,”<sup>95</sup> the APA would make offsets a prominent part of U.S. climate policy. Under the APA, capped entities can continue to use 2 billion tons of offsets every year, even as the overall emission ceiling declines. If it is cheaper for polluters to purchase offsets than reduce their own emissions, there will be little incentive to invest in the transformative technology needed to transition to a low-carbon economy. To ensure that the U.S. makes a meaningful contribution toward the global fight against climate change, the APA must abandon its heavy reliance on offsets and more aggressively require polluters to directly reduce their emissions.

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<sup>92</sup> Lambert Schenider, *Is the CDM fulfilling its environmental and sustainable development objectives? An evaluation of the CDM and options for improvement*, Institute for Applied Ecology, at 8-9 (Nov. 5, 2007), available at <http://www.oeko.de/oekodoc/622/2007-162-en.pdf> (last visited June 21, 2010); Barbara Haya, *Failed Mechanism: How the CDM is Subsidizing Hydro Developers and Harming the Kyoto Protocol*, International Rivers Network, (Nov. 2007).

<sup>92</sup> U.S. Government Accountability Office, *International Climate Change Programs: Lessons Learned from the European Union’s Emissions Trading Scheme and the Kyoto Protocol’s Clean Development Mechanism* at 56 (Nov. 2008), GAO-09-151.

<sup>93</sup> Friends of the Earth, *A Dangerous Distraction: Why Offsetting is Failing the Climate and People: The Evidence*, at 15 (Jun. 2009).

<sup>94</sup> See, e.g., Molly Macauley et al, *Forest Measurement and Monitoring: Technical Capacity and “How Good is Good Enough?”*, RESOURCES FOR THE FUTURE, available at [http://www.rff.org/rff/documents/RFF-Rpt-Technical%20Capacity\\_Macauley%20et%20al.pdf](http://www.rff.org/rff/documents/RFF-Rpt-Technical%20Capacity_Macauley%20et%20al.pdf) (last visited June 21, 2010). See generally, <http://www.redd-monitor.org>

<sup>95</sup> U.S. Government Accountability Office, *International Climate Change Programs: Lessons Learned from the European Union’s Emissions Trading Scheme and the Kyoto Protocol’s Clean Development Mechanism* at 56 (Nov. 2008), GAO-09-151.