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## Obama's New Climate Policy

Opportunities and Challenges of  
Climate Policy Change in the US

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**Obama's New Climate Policy.  
Opportunities and Challenges of  
Climate Policy Change in the US**

When Barack Obama was elected the next president of the United States on November 4, 2008, hopes ran high that this would reinvigorate the international climate negotiations. During his campaign, he had already announced his intention to reduce US greenhouse gas emissions 80 percent by 2050, increase the share of renewable energies to 25 percent of total energy consumption by 2025, and set up a nationwide emissions trading system. It looked then as if 2009 would be a banner year for climate protection. Not only did the House of Representatives pass a comprehensive climate bill in June, but the Environmental Protection Agency (EPA) and the Department of Transportation enacted many new regulations (for instance, for the transport sector). In addition, the US again became a serious contributor to the multilateral negotiations of the UNFCCC (United Nations Framework Convention on Climate Change). At the UN climate talks in Bonn in late March 2009, US climate envoy Todd Stern emphasized US acknowledgment of its special responsibility for global warming and climate protection, thereby underscoring the stark contrast between the new administration and that of Obama's predecessor, George W. Bush, a firm opponent of binding targets for US climate policy.

The initial euphoria, however, soon gave way to a more sober atmosphere in the international negotiations. At both the New York climate change meeting convened by UN Secretary-General Ban Ki-Moon in September 2009 and the G20 Summit that followed in Pittsburgh, the US posture was much more guarded. In Obama's parlance, the Copenhagen Summit planned for December was merely a "significant step forward" in the global effort to counter climate change. In Copenhagen itself, the new sobriety turned to outright disappointment when the negotiating partners were unable to agree on even a concrete declaration of intent. While Obama did attend the summit and was able to push the participants to an agreement, the plenary of UNFCCC members simply took note of the minimal consensus—the Copenhagen Accord—rather than adopting it. It has no binding force.

This would seem to vindicate the skeptics who view the change in US climate policy under the new administration as one of rhetoric, rather than substance. This study therefore focuses on the following questions: How can we explain US behavior in international climate negotiations? What are the limits to an American (leadership) role in international climate policy? And what are the odds of real change in climate policy in the US? All of this will be examined from the standpoint of the forces shaping domestic climate policy, since American foreign policy on climate change mirrors its domestic policy on the issue. Domestic policy is in turn the result of a complex interplay between countless stakeholders on the federal and state government levels and is compounded further by economic exigencies, industry interests, and the public's mood and awareness of the problem. As a result, a president's ambitions alone are by no means sufficient to advance the cause of climate protection. This study concentrates primarily on the balance of power between the administration and Congress, but also considers the role of the individual states.

The study comes to the following conclusions:

- ▶ Although the US has returned to the multilateral climate negotiations, the Obama administration is still unwilling to consent to a stringent set of regulations. There is disagreement not only on the magnitude of specific carbon reduction targets, but also on the form an agreement should take. Europe wants an internationally binding treaty, while the US would prefer to set climate targets that conform to domestic legislation.
- ▶ The administration's current foreign policy restraint should not, however, be interpreted as proof that Obama is conducting nothing but an empty, rhetorical "image campaign" in this policy area. The new administration is in fact distinguished by its remarkable climate policy ambitions. Taking the regulatory route alone, Obama has already done significantly more for climate protection than his predecessor did during eight years in office.
- ▶ US restraint in international negotiations is due primarily to the balance of power between the administration and Congress. While the House of Representatives did pass its first comprehensive climate bill in June 2009, and a corresponding bill was sent to the Senate, Obama most likely will not make a binding commitment to the rest of the world until Congress has approved climate legislation.
- ▶ Whether or not Congress will pass a climate law, however, and when this might occur, has become increasingly uncertain over the last few months. Democrats have lost their supermajority in the Senate, the oil spill in the Gulf of Mexico has called the strategy of courting Republicans by considering new offshore drilling into question, and November's mid-term elections are looming.
- ▶ Even if Congress passed national climate legislation, ratifying an internationally binding treaty will remain nearly impossible, since this would require a 67-vote majority in the Senate.
- ▶ As a result, climate policy change will take place first on the national, rather than the international, stage. If a federal law were to be defeated, change could take two other forms: first, as climate policy regulations enacted by the administration, and second, in the climate policy legislation of individual states.

The study makes the following recommendations:

- ▶ Given the domestic policy situation in the US, the EU's options to pressure the US into an international agreement are limited. Although Europeans may wonder whether aiming at an internationally binding treaty with quantified targets still makes sense, in view of American opposition, the EU should keep working for binding and substantial emissions reductions over the medium and long term.
- ▶ In the meantime, the focus should be on measuring, reporting, and verifying the success of climate protection initiatives under the Copenhagen Accord. Even without internationally binding targets, this can make the actions of individual negotiating partners visible and quantifiable. The US Senate has called for monitoring of this kind; complying with this demand would improve the chances of federal climate legislation being passed in the United States.
- ▶ Moreover, transatlantic cooperation on climate issues could be stepped up in, for instance, the context of the Transatlantic Economic Council and the new EU-US Energy Council. The focus here should be on enhancing Congress's role in bilateral dialogues and institutions. Since the individual states will likely continue to be pacesetters in US climate protection efforts, cooperation with them, too, should be maintained.

# The United States and International Climate Policy

Climate policy is a vital component of Barack Obama's foreign policy and his attempt to reestablish America's leadership role in the world. While George W. Bush squandered a great deal of the world's respect for the US by disdaining multilateral forums and engaging in foreign policy that was often confrontational in style, Obama is working to regain lost legitimacy and rebuild a basis of shared values with allied countries.<sup>1</sup> In his first address to a joint session of Congress in February 2009, he maintained that "As we stand at this crossroads of history, the eyes of all people in all nations are once again upon us—watching to see what we do with this moment; waiting for us to lead."<sup>2</sup> A new climate policy is also considered essential to US leadership in the world economy. On the sidelines of the 2009 G8 Summit in L'Aquila, Italy, Obama emphasized that the country able to build a clean energy economy would also be the country to lead the global economy in the twenty-first century.<sup>3</sup>

This attitude sets Obama clearly apart from his predecessor. In 2001, under President Bush, the US had finally rejected the Kyoto Protocol. According to Bush, the Protocol would have imposed too great a burden on the American economy; he also criticized the lack of binding reduction commitments for important emerging economies (especially China and India). Bush always claimed to be taking a multilateral approach and to be dealing with the problem appropriately; what could be observed in practice at the beginning of the new millennium, however, was an American strategy to block UN negotiations. In subsequent years, the Bush administration attempted

to create alternatives to multilateral climate protection in bilateral and unilateral forums outside the UNFCCC. These were to permit a maximum of flexibility and allow the US to avoid binding reduction commitments.<sup>4</sup> The best example of this sort of initiative is the Asia-Pacific Partnership on Clean Development and Climate. The APP was launched just a few months after the Kyoto Protocol went into force in 2005, but has failed to produce substantial results. While Bush characterized formats of this kind as complementary to the UNFCCC, even Republican senators in the United States interpreted the APP as a diversionary tactic. At the Thirteenth Conference of the Parties to the Convention in Bali at the end of 2007, too, the US continued to resist binding reduction targets. It agreed only to consider "measurable, reportable, and verifiable nationally appropriate mitigation commitments or actions" in future agreements to reduce climate change.<sup>5</sup>

Obama, too, is pursuing initiatives outside the UN climate convention. However, in contrast to the Bush years, progress—however minimal—has been made both in the Major Economies Forum (MEF) and in bilateral negotiations with China (often referred to as the G2) towards goals espoused by the UNFCCC process. For instance, in its final declaration of July 2009, the MEF committed itself to limiting the increase in average global temperature to two degrees Celsius and agreed to work together up until the Copenhagen Summit to identify a "global goal for substantially reducing global emissions by 2050."<sup>6</sup> And even though India went on record shortly thereafter as saying that this declaration would have no effect on its climate policy strategies, it must be noted that this was still the first time some large

1 Peter Rudolf, "Amerikas neuer globaler Führungsanspruch: Außenpolitik unter Barack Obama," Berlin: Stiftung Wissenschaft und Politik, November 2008 (SWP-Aktuell 77/08).

2 The White House, Council on Environmental Quality, "Remarks of President Barack Obama – As Prepared for Delivery. Address to Joint Session of Congress," February 24, 2009, [http://www.whitehouse.gov/the\\_press\\_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/](http://www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/) (this website and all other Internet sources cited below were last accessed on January 14, 2010).

3 White House, Office of the Press Secretary, "Press Conference by the President," U.S. Press Filing Center L'Aquila, Italy, July 10, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Press-Conference-by-the-President-in-LAquila-Italy-7-10-09/](http://www.whitehouse.gov/the_press_office/Press-Conference-by-the-President-in-LAquila-Italy-7-10-09/).

4 Danko Knothe, "Straight Down the Dead End Street: Kontinuität und Wandel in der Klimaschutzpolitik," in *Weltmacht in der Krise. Die USA am Ende der Ära George W. Bush*, eds. Jochen Hils, Jürgen Wilzewski, and Söhnke Schreyer (Trier: forthcoming).

5 *Bali Action Plan*, [http://unfccc.int/files/meetings/cop\\_13/application/pdf/cp\\_bali\\_action.pdf](http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_action.pdf).

6 "Declaration of the Leaders of the Major Economies Forum on Energy and Climate," <http://www.guardian.co.uk/environment/2009/jul/09/climate-change-g8>.

emerging economies (including China) had signed on to such a goal. Moreover, the “US-China Memorandum of Understanding to Enhance Cooperation on Climate Change, Energy and the Environment” signed the same month created a basis for closer cooperation with China on the same issue.<sup>7</sup>

Obama is also taking a far more liberal, multilateral approach than his predecessor did. Under Obama, the US has returned to the UN negotiating table with genuine interest in a solution. At the UN climate talks in Bonn at the end of March 2009, US climate envoy Todd Stern said that the US indeed recognized its unique responsibility for climate protection. He also underscored the necessity of a global response involving “truly significant actions by all major economies” to protect the climate.<sup>8</sup> This would require, he maintained, a “long-range vision” that also defines “clear milestones along the way.” Developing countries—especially those that would be hit hardest by global warming—should be assisted in their efforts to mitigate climate change and adapt to its effects. The basic prerequisite for innovation and investment in developing countries would be to provide for transparency, sound governance structures, and a favorable regulatory environment.

On May 4, 2009, the Obama administration put these statements into concrete terms and submitted a draft negotiation text to the UNFCCC Ad Hoc Working Group on Long-term Cooperative Action. According to this document, industrialized nations should commit to strict medium-term targets for the period up to 2020, “in conformity with domestic law,” and to “long-term net emissions reductions of at least [ ] by 2050.”<sup>9</sup> In general, every party to the climate convention—which also includes less-developed countries—should establish “nationally appropriate mitigation actions” and develop low-carbon strategies, including defining emissions trajectories for the period up to 2050. Any

action taken should be subject to measurement, reporting, and verification. In addition, all countries, apart from the least developed ones, would be required to publish their emissions statistics annually.

The paper also provides for a new country group: developing countries “whose national circumstances reflect greater responsibility or capability”. These countries (for example, China) are called on to substantially and quantifiably reduce their emissions, assuming a reduction from “business-as-usual” emissions trajectories up to 2020 and net emissions reductions by 2050. Furthermore, the country groups should become more permeable: countries that have reached a certain development level—“in accordance with objective criteria of economic development”—should be moved up to the status of industrialized nations with the concomitant climate protection responsibilities. The US deputy climate change envoy, Jonathan Pershing, said, “We want more countries to belong to the group of industrialized countries than today, for example Korea. Large economies with large total emissions, like China, should take additional steps, including a quantitative and quantifiable set of actions with a legal requirement to implement those actions.”<sup>10</sup> Although the Obama administration accepts the principle of shared but differentiated responsibilities, at the same time it is calling on large emerging economies to do more. The proposal of increased permeability between country groups has met with harsh criticism, especially from the developing countries.

In the months prior to the climate summit in Copenhagen, hesitation was the dominant feature of the US position. This was noticeable at both the New York climate meeting initiated by UN Secretary-General Ban Ki-Moon in September 2009 and the G20 Summit that followed it in Pittsburgh. In New York, for instance, Obama said only that Copenhagen was to be a “significant step forward,” and not that it would find a concrete solution in the global fight against climate change.<sup>11</sup> He emphasized that an international treaty would also have to be able to muster domestic

7 US Department of State, Bureau of Public Affairs, “US-China Memorandum of Understanding to Enhance Cooperation on Climate Change, Energy and the Environment,” <http://www.state.gov/r/pa/prs/ps/2009/july/126592.htm>.

8 US Department of State, “Intervention of the United States: Plenary Session of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention,” Todd Stern, Special Envoy for Climate Change, March 29, 2009, <http://www.state.gov/g/oes/rls/remarks/2009/120974.htm>.

9 United Nations Framework Convention on Climate Change, “Paper No. 39: United States of America. US Submission on Copenhagen Agreed Outcome,” <http://unfccc.int/resource/docs/2009/awglca6/eng/misc04p02.pdf>; empty brackets in the original.

10 “US-Klimaunterhändler: ‘China muss sich zur CO<sub>2</sub>-Minderung verpflichten,’” *Spiegel Online*, June 12, 2009, <http://www.spiegel.de/wissenschaft/natur/0,1518,630010,00.html>.

11 “Obama’s Speech at the United Nations Secretary General Ban Ki-Moon’s Climate Change Summit,” Council on Foreign Relations, September 22, 2009, [http://www.cfr.org/publication/20252/obamas\\_speech\\_at\\_the\\_united\\_nations\\_secretary\\_general\\_ban\\_kimoons\\_climate\\_change\\_summit\\_september\\_2009.html](http://www.cfr.org/publication/20252/obamas_speech_at_the_united_nations_secretary_general_ban_kimoons_climate_change_summit_september_2009.html).



support. Insisting on perfection, he said, would be more likely to doom the treaty to failure than to achieve appropriate results. As US climate envoy Todd Stern put it, “It serves no one to produce a weak political compromise that is inadequate to the scientific task at hand.” On the other hand, he argued, a “scientifically pristine” treaty doomed to fail for political reasons would serve no purpose either.<sup>12</sup> The US continued to reject an internationally binding treaty on the model of Kyoto. Although the American team made it clear at the climate negotiations in Bangkok in October 2009 that the US wanted to join a new international climate treaty, what they had in mind was more in the direction of national commitments that would be enforced by national regulating authorities. Shortly after the APEC summit in mid-November 2009, Michael Froman, Obama’s deputy national security advisor for international economic affairs, maintained that the time had not yet come for a comprehensive, legally binding climate treaty.<sup>13</sup>

Events at the APEC meeting itself had already suggested that a breakthrough in Copenhagen was not at hand, since the APEC participants were unable to agree on common reduction targets. Original proposals had provided for reducing greenhouse gases 50 percent by 2050, but this long-term goal was ultimately abandoned. At the end of November, just a few days before the climate summit in Copenhagen, Obama presented the first American proposal for concrete US reduction commitments: an approximately 17 percent reduction in greenhouse gas emissions by 2020 compared to 2005 levels—“in line with final US energy and climate legislation.” By 2025 emissions were to be cut 30 percent, followed by 42 percent by 2030, and finally, by 2050, 83 percent. These targets correspond roughly to what the House of Representatives had approved in June 2009 in its climate bill.<sup>14</sup> The US offer, however, did not go far enough for its negotiating partners. The main focus of criticism was the base year Washington used to calculate its CO<sub>2</sub> reduction targets. In contrast to the countries of the EU, the US uses 2005 as a base year, rather than 1990. Since American emissions rose steadily between

1990 and 2005 (see Figures A3, A4, and A6 in the Appendix, pp. 44), the American offer of 17 percent by 2020 would actually be less than 4 percent below 1990 levels.

A collective sigh of relief was heard throughout the international community when Obama announced that he would not take part in the opening of the Copenhagen Summit, but would come for the second week, the decisive phase of negotiations. Obama had said a few weeks earlier that he would do so only if there appeared to be a real chance of a breakthrough. And when the EPA announced on the opening day of negotiations—with perfect timing—that it had classified CO<sub>2</sub> and five other greenhouse gases as hazardous to public health and welfare, summit participants were almost euphoric. The EPA statement not only signaled Obama’s determination to move forward with climate protection, but was also a legal prerequisite to stronger regulatory action by the administration.

The rejoicing was premature, however, since Obama was ultimately unable to improve on the disappointing US offer. The day before his appearance at the summit, Secretary of State Hillary Clinton announced that the US would join other industrialized nations in raising \$100 billion a year by 2020 to “address the climate change needs of developing countries”—on the condition that the recipients agreed to specific climate targets and complied with regular international monitoring.<sup>15</sup> With that, the US delegation had played its last card; Obama was unable to bring anything else to the table. Rather, he gave the international community the choice of accepting the American proposal or risking the future of international climate policy.<sup>16</sup> By underscoring the finality of the US position and reiterating the validity of scientific findings—no longer a point of international dispute—his speech seemed to be directed as much to the domestic audience as to the international community. The majority of summit participants expressed disappointment at the missed opportunity to give the

<sup>12</sup> US Department of State, “Intervention of the United States” (see n. 8).

<sup>13</sup> “Apec Leaders Drop Climate Target,” BBC News, November 15, 2009, <http://news.bbc.co.uk/2/hi/8360982.stm>.

<sup>14</sup> White House, Office of the Press Secretary, “President to Attend Copenhagen Climate Talks,” November 25, 2009, <http://www.whitehouse.gov/the-press-office/president-attend-copenhagen-climate-talks>.

<sup>15</sup> “Hillary Clinton in Copenhagen: US Ready to Join \$100 Billion Climate Finance Deal,” *Huffington Post*, December 17, 2009; Hillary Clinton, “Remarks at the United Nations Framework Convention on Climate Change,” Copenhagen, December 17, 2009, <http://www.state.gov/secretary/rm/2009a/12/133734.htm>.

<sup>16</sup> White House, Office of the Press Secretary, “Remarks by the President at the Morning Plenary Session of the United Nations Climate Change Conference,” Copenhagen, December 18, 2009, <http://www.whitehouse.gov/the-press-office/remarks-president-morning-plenary-session-united-nations-climate-change-conference>.

negotiating process new momentum, and more than a few accused the president of arrogance.<sup>17</sup>

The Copenhagen Summit ended without binding results and clearly revealed the limits of Obama's international climate policy. Stronger commitments from the emerging economies would have required greater concessions from the US, which Obama was not prepared to make. To the surprise of the negotiating parties, the minimal consensus hammered out by a smaller group of participants (primarily the US, China, the EU, India, Brazil, and South Africa) in the last few hours before the closing session was not formally approved by the plenary of UNFCCC members. Instead, the accord was merely "taken note of". Obama had already left by the time final negotiations took place.

The accord has many loopholes.<sup>18</sup> For instance, the parties to the climate convention are only asked to report the goals they have set for themselves to the UNFCCC Secretariat. The climate convention's Annex I countries<sup>19</sup> are supposed to report their reduction targets for the period up to 2020 by January 31, 2010; this also applies to the US. The choice of a base year is left up to the parties themselves. Developing countries are also called upon to communicate their mitigation strategies by this date, although these do not have to be aimed at absolute emissions reductions. As it turned out, the reduction targets handed in on time largely conform to the proposals made by the individual negotiating parties during the conference in Copenhagen. The accord does not include a concrete upper limit for global emissions by 2050—this demand was sacrificed to a requirement for measurement, reporting, and verification. National climate protection initiatives are to be monitored by national authorities, but the accord requires international evaluation of the measures in question if countries want to benefit from funding to help with implementation. The proposed \$100 billion in annual climate aid is not binding, however; the only actually binding commitment is for fast-start funding of \$30 billion in

the next three years, of which the US offered to contribute at least \$2.9 billion.<sup>20</sup> Where this money will come from specifically is not stated, although the document refers to a wide "range of potential sources."

While Copenhagen failed to meet the expectations of many negotiating partners, such as the EU, a number of the aspects mentioned above correspond to US interests. These include the lack of a uniform base year and the fact that each state can set its own emissions targets. Requiring developing countries to let outside experts examine their reduction strategies if they want to receive climate funds also satisfies Washington's preferences, as does the absence of a binding agreement under international law. However, even the US was left empty-handed on some issues. In particular, the emerging economies' level of commitment was not what the US had hoped for, which is why Obama called the accord disappointing.<sup>21</sup>

US restraint in these international negotiations is rooted in pivotal characteristics of American foreign policy. The country's willingness to subject itself to strict international rules has always been limited. In addition, the US consistently takes a pragmatic approach in its multilateralism, which is relevant in two areas in particular. For one thing, this explains its insistence on countries like China and India doing their part to protect the climate. And for another, while the UN negotiations are an important part of America's international climate policy efforts, they are not the only route the US is taking. However, that alone does not explain the Obama administration's position in the international arena. As the deputy

<sup>20</sup> Following an analysis of the World Resources Institute, approx. \$1.8 billion of this amount is part of the actual fast-start funding. This includes \$531 million for mitigation and \$245 million for adaptation in the FY 2010, as well as \$711 million for mitigation and \$334 million for adaptation in FY 2011. The fast-start funding for the FY 2012 has yet to be announced. Apart from the actual fast-start funding, the overall amount of \$2.9 billion includes \$1 billion that the US is expected to provide for "Reducing Emissions from Deforestation and Degradation" (REDD+) over the course of three years. Of this amount, \$579 million has already been included in the US budget (\$232 million in FY 2010, \$347 million in FY 2011). In FY 2011, the US administration plans to provide an additional \$50 million for the Scaling-Up Renewable Energy Program for Low-Income Countries (SREP). World Resources Institute, "Summary of Climate Finance Pledges Put Forward by Developed Countries" (Washington, D.C., 2010), [http://pdf.wri.org/climate\\_finance\\_pledges\\_2010-02-18.pdf](http://pdf.wri.org/climate_finance_pledges_2010-02-18.pdf).

<sup>21</sup> Daniel Stone, "Obama: 'People Are Justified in Being Disappointed about Copenhagen,'" *Newsweek*, December 23, 2009.

<sup>17</sup> "Kuba wirft Obama Lug und Trug vor," *NGZ Online*, December 21, 2009.

<sup>18</sup> Decision -/CP.15 The Conference of the Parties Takes Note of the Copenhagen Accord of 18 December 2009.

<sup>19</sup> The "Annex I countries" are the parties to the convention who are listed in the first annex of the United Nations Framework Convention on Climate Change. They are industrialized nations and the economies in transition of the former Eastern Bloc (a total of 40 countries), as well as the European Union as a whole.

climate envoy Jonathan Pershing put it, “It will be extraordinarily difficult for the US to commit to a specific number in the absence of action from Congress. The question is open as to how much we can do.”<sup>22</sup> It is thus necessary to take a look at the domestic situation, especially at the powers of the administration and Congress and the prevailing mood of the public and industry.

**22** Daniel Ten Kate and Alex Morales, “US May Not Make CO<sub>2</sub>-Emissions Pledge, Pershing Says,” <http://www.bloomberg.com/apps/news?pid=20601103&sid=a44LYmw845IE>.

## The Prevailing Mood of the Public and of Industry

Whether or not the US is able to muster a solid majority for climate protection and to usher in change in the country's climate policy depends heavily on public perceptions of global warming as a problem and on the interests of industry. Obama's situation in this regard is better than what his predecessors confronted, since there have long been indications that the tide is turning: the public is more sensitive to the issue, more and more companies are urging the passage of federal climate legislation, and the individual states have proven to be a strong force in climate protection. And yet, critics are still as vocal as ever.

### How the public views climate change

Gradual change in public opinion on the phenomenon of climate change had set in on different levels already during President Bush's eight-year tenure in office. High energy costs and growing dependence on foreign energy sources, the devastation wreaked by Hurricane Katrina (2005), Al Gore's documentary film *An Inconvenient Truth* (2006), the Fourth Assessment Report by the UN Intergovernmental Panel on Climate Change (IPCC) (2007), as well as various studies on climate change as a security risk raised public awareness of the issue. Whereas a survey in 2004 found that only 28 percent of Americans felt that climate change was having a dangerous impact on humanity (or would have in the next ten years), the number had risen to 48 percent by 2007. At the same time, 62 percent of the population advocated various climate protection measures, and 68 percent were even in favor of reducing greenhouse gas emissions 90 percent by 2050.<sup>23</sup>

According to a 2009 report published by the United States Global Change Research Program, led by the US climate agency NOAA, *Global Climate Change Impacts in the United States*,<sup>24</sup> climate change is already having a

noticeable effect in the US in the form of extreme weather phenomena, floods, droughts, and forest fires. Moreover, a number of American think-tanks have warned against the consequences of climate change for national security. The military and the intelligence community are now examining the security policy challenges of global warming. The Department of Defense, for instance, highlighted the impact of climate change on security policy in its 2010 *Quadrennial Defense Review*.<sup>25</sup>

The long-standing debate in the US on whether (anthropogenic) climate change was happening at all is now largely over. Most Americans now recognize the seriousness of the threat, although party affiliation still plays a role in this perception: in 2008, 76 percent of Democratic voters believed that climate change was already having an impact, whereas only 42 percent of Republican voters shared this opinion; 72 percent of the Democrats thought that human activity was mostly responsible for climate change, as opposed to 40 percent of the Republicans.<sup>26</sup>

Meanwhile, the media are reporting in detail on the climate debate. A problematic aspect here is that skepticism towards media reports on this issue appears to be growing, according to a Gallup poll. In 2006 only 30 percent of Americans believed the media were exaggerating the impact of global warming, but by March 2009, no less than 41 percent held this opinion.<sup>27</sup> This impression may lead to a certain "climate fatigue," which appears to be reflected already

publications/reports/scientific-assessments/us-impacts/download-the-report.

<sup>25</sup> Van Ness Feldman, "Weekly Climate Change Policy Update – September 28, 2009," Washington D.C./Seattle, September 2009, <http://www.vnf.com/news-policyupdates-391.html>.

<sup>26</sup> Riley E. Dunlap and Aaron M. McCright, "A Widening Gap: Republican and Democratic Views on Climate Change," *Environment*, September/October 2008, <http://www.environmentmagazine.org/Archives/Back%20Issues/September-October%202008/dunlap-full.html>.

<sup>27</sup> Yale Forum on Climate Change and the Media, "Gallup Poll Finds More Americans Say Media Overstate Warming Risks," March 17, 2009, <http://www.yaleclimatemediainforum.org/2009/03/gallup-poll-more-americans/>.

<sup>23</sup> Yale School of Forestry & Environmental Studies, "American Opinions on Global Warming: A Yale University/Gallup/ClearVision Institute Poll," <http://environment.yale.edu/news/5310>.

<sup>24</sup> United States Global Change Research Forum, *Global Climate Change Impacts in the United States*, Cambridge: Cambridge University Press, 2009, <http://www.globalchange.gov/>

in other polls. In October 2009, just 57 percent of the Americans surveyed believed there was solid evidence of climate change (April 2008: 71 percent), and only 35 percent thought it was a very serious problem (April 2008: 44 percent) (see Figure 1/2). Here, too, party preferences made a clear difference: 75 percent of Democratic voters believed in 2009 that there was adequate evidence of climate change, but only 35 percent of the Republicans did.<sup>28</sup>

As it is, the subject of climate change is not a top priority for most Americans right now. In a survey by the Pew Research Center for the People and the Press on political priorities for 2010, global warming ended up in last place on a list of 21 issues. Only 28 percent of those polled thought it was a top priority. Given the economic and financial crisis, it comes as no surprise that 83 percent considered the economic situation most important.<sup>29</sup> While Obama and other supporters of comprehensive climate legislation advocate the creation of “green jobs,” opponents of the measures under consideration attempt to portray these as “job killers.” According to a poll by the Rasmussen media company, only 19 percent of Americans believed in June 2009 that the House of Representatives’ climate bill would benefit the US economy. A total of 42 percent thought it would hurt the economy. This includes 56 percent of Republicans and 52 percent of independents (swing voters who are not committed to either party); among Democrats, only 23 percent agreed with this assessment.<sup>30</sup>

These numbers are significant in light of another survey. According to the *German Marshall Fund*, only 43 percent of Americans would be willing to support climate policy that slowed economic growth. Republicans are especially reluctant in this regard: only 27 percent of them would agree to such a policy (versus 58 percent of the Democrats) (see Figure 3, p. 14).<sup>31</sup>

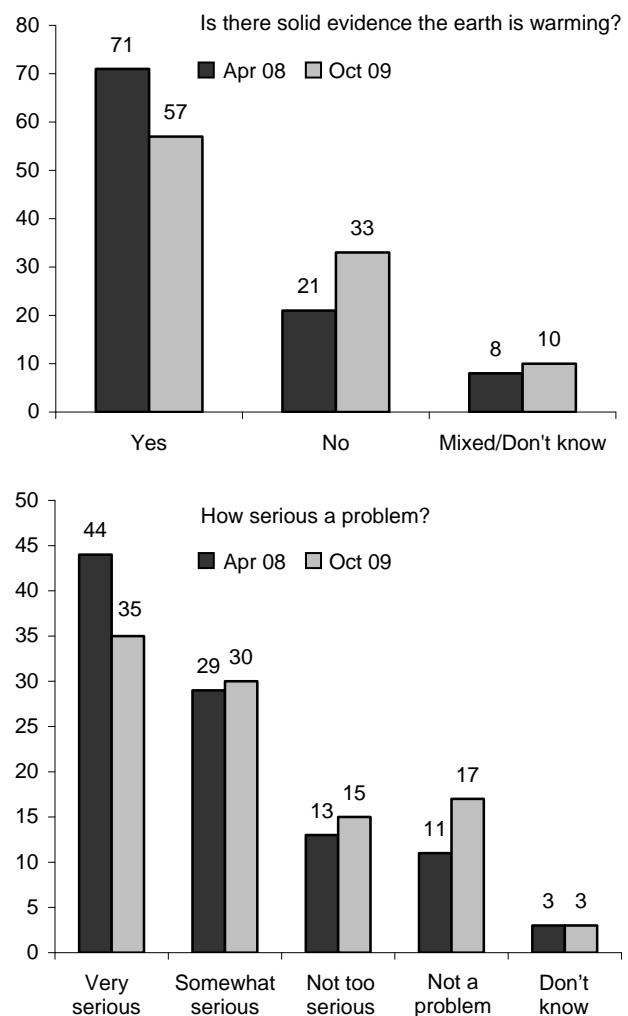
<sup>28</sup> Pew Research Center for the People and the Press, “Fewer Americans See Solid Evidence of Global Warming,” October 22, 2009, <http://people-press.org/report/556/global-warming>.

<sup>29</sup> Pew Research Center for the People and the Press, “Public’s Priorities for 2010: Economy, Jobs, Terrorism,” January 25, 2010, <http://people-press.org/report/584/policy-priorities-2010>.

<sup>30</sup> Rasmussen Reports, “42% Say Climate Change Bill Will Hurt the Economy,” June 30, 2009, [http://www.rasmussenreports.com/public\\_content/politics/current\\_events/environment\\_energy/42\\_say\\_climate\\_change\\_bill\\_will\\_hurt\\_the\\_economy](http://www.rasmussenreports.com/public_content/politics/current_events/environment_energy/42_say_climate_change_bill_will_hurt_the_economy).

<sup>31</sup> German Marshall Fund, *Transatlantic Trends: Key Findings 2009*, [http://www.gmfus.org/trends/2009/docs/2009\\_English\\_Key.pdf](http://www.gmfus.org/trends/2009/docs/2009_English_Key.pdf), p. 23.

**Figure 1/2**  
Poll results on climate change (in percent)



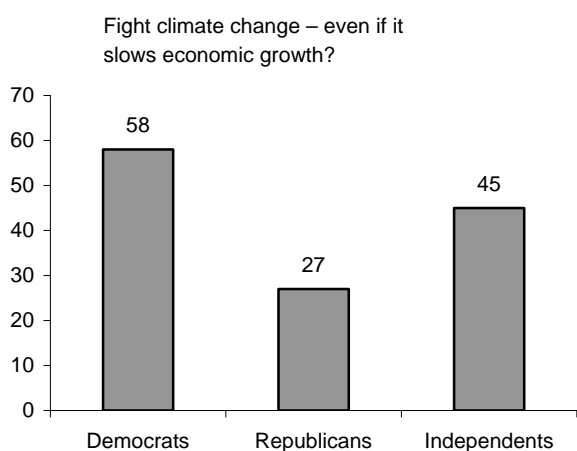
Source: Pew Research Center for the People and the Press, “Fewer Americans See Solid Evidence of Global Warming,” October 29, 2009, <http://people-press.org/report/556/global-warming>.

The longer it takes Congress to pass climate legislation, the more crucial the midterm elections in November 2010 will become for US representatives and senators: in these elections, voters will also be passing judgment on climate policy.

In a Pew survey in October 2009, a majority of 56 percent thought the US should join other countries in setting standards to address climate change, with 66 percent of Democratic voters favoring this idea, as opposed to 47 percent of Republicans.<sup>32</sup>

<sup>32</sup> Pew, “Fewer Americans See Solid Evidence” (see n. 28).

**Figure 3**  
**Support for climate policy even when harmful to the economy (in percent)**



Source: German Marshall Fund, *Transatlantic Trends*, Washington D.C. 2009.

### Climate policy disagreement in industry

Discussions on the business level were long dominated by corporate-funded groups like the Global Climate Coalition (GCC), which attempted to raise doubts about whether the phenomenon of climate change actually existed. The GCC disbanded in 2002, and while Bush was still in office, the number of voices advocating effective climate policy began to grow, even in the business community. In 2007, for instance, ten corporations joined four environmental organizations in starting the US Climate Action Partnership,<sup>33</sup> which called for a 60 to 80 percent reduction of emissions by 2050. Not only were investments in climate protection increasingly viewed as making good economic sense and climate technology as an engine for innovation and a promising new industry, but climate protection was also turning out to be a growing image factor for American companies. Many different companies (such as General Electric, Caterpillar, and the chemicals giant Dupont) are now calling for emissions limits and the introduction of a national emissions trading system—less out of environmental conviction

<sup>33</sup> United States Climate Action Partnership, *A Call for Action. Consensus Principles and Recommendations from the US Climate Action Partnership: A Business and NGO Partnership*, 2007, <http://us-cap.org/USCAPCallForAction.pdf>, p. 7. The initiative now has 31 members (26 corporations and 5 NGOs).

than in order to achieve predictability in economic planning.

The debate is still focused on the cost of climate protection. And although discussions are less heated today than in the past, critics are still quite vocal. Among industry associations, the National Association of Manufacturers has been the primary opponent of the climate legislation proposed so far, such as the House of Representatives' climate bill, the American Clean Energy and Security Act. While it supports a reduction target in principle, it opposes unilateral efforts by the US that do not mandate binding reductions for large emerging economies. Energy- and carbon-intensive industries (e.g., cement, steel, glass) fear that unilateral targets will make them less competitive against rivals in countries without binding climate protection targets. As a result, they also support compensatory tariffs on carbon-intensive imports from these countries (border adjustment measures). Advocates of such measures include, for instance, the president of the American Iron and Steel Institute, Tom Gibson.<sup>34</sup>

While the US Chamber of Commerce, the world's largest business federation, rejects border adjustment measures because of their unpredictable impact, they, too, oppose unilateral climate protection commitments by the US, which could weaken the competitiveness of American companies or end up exporting jobs. This organization, whose sympathies tend to lie with the Republican Party, gave this as its reason for rejecting the American Clean Energy and Security Act. At the same time, however, the US Chamber of Commerce would prefer comprehensive federal legislation passed by Congress to multiple regulations under the Clean Air Act, which they describe as an inappropriate instrument for climate policy regulation. They argue that the best strategy against climate change is research and development in the area of renewable energy and energy efficiency.<sup>35</sup>

The Business Roundtable—a forum that brings together CEOs from corporations like American Electric Power and Boeing—has also criticized congressional climate policy initiatives. With an eye on energy security, it calls for raising the share of nuclear energy in

<sup>34</sup> Van Ness Feldman, "Weekly Climate Change Policy Update – June 22, 2009," Washington D.C./Seattle, June 2009, <http://www.vnf.com/news-policyupdates-371.html>.

<sup>35</sup> DIHK and BDI, *Washington News*, September 24, 2009; DIHK and BDI, *Washington News*, October 1, 2009. US Chambers of Commerce, "Climate Change," <http://www.uschamber.com/issues/index/environment/climatechange.htm>.

the overall energy mix, expanding domestic oil and gas production, boosting investment in research and development, creating incentives for carbon capture and storage (CSS) technology, and increasing energy efficiency. The Business Roundtable does not reject measures to counter climate change as such, and in fact urges its members to institute these. However, it continues to argue that these should be voluntary.<sup>36</sup>

The number of companies that support federal climate legislation has, in fact, been growing. In 2009, Apple, the energy supplier and nuclear power plant operator Exelon Corporation, and Pacific Gas & Electric resigned from the Chamber of Commerce in protest to its stand on climate change legislation. All three corporations criticized the organization's efforts to block climate policy changes.<sup>37</sup> A spokesman for Exelon emphasized that inaction was not an option: "If Congress does not act, the EPA will, and the result will be more arbitrary, more expensive, and more uncertain for investors and the industry than a reasonable, market-based legislative solution."<sup>38</sup> The National Association of Manufacturers and the industry advocacy group American Coalition for Clean Coal Electricity have also lost members who were dissatisfied with their position on climate change.

The "We Can Lead" campaign by the Ceres coalition and the Clean Economy Network exemplifies the new mood in parts of the American business community. Members of this alliance include Duke Energy, Exelon, Constellation Energy, Nike, and eBay. In early October 2009, the two groups organized a large-scale lobbying campaign in the Senate on behalf of the climate bill under consideration. It was aimed at influencing moderate Democratic senators and senators from states with a high manufacturing profile, such as Michigan and Ohio. The Obama administration supported the groups' lobbying efforts; in its second Clean Energy Economy Forum at the end of October 2009, it called on big corporations to bring their influence to bear on the Senate debate. As Energy

Secretary Steven Chu put it, "We need the voice of the other side of the business community."<sup>39</sup>

<sup>36</sup> Business Roundtable, *Unfinished Business: The Missing Elements of a Sustainable Energy and Climate Policy*, October 2009, [http://www.businessroundtable.org/sites/default/files/2009.10.20%20Business%20Roundtable.Unfinished%20Business.FINAL\\_.pdf](http://www.businessroundtable.org/sites/default/files/2009.10.20%20Business%20Roundtable.Unfinished%20Business.FINAL_.pdf).

<sup>37</sup> Moritz Koch, "Ökos gegen Verschmutzer," *Süddeutsche Zeitung*, October 8, 2009.

<sup>38</sup> "Exelon To Quit US Chamber of Commerce Over Climate," *Reuters*, September 28, 2009, <http://www.reuters.com/article/idUSN2838281820090928>.

<sup>39</sup> Van Ness Feldman, "Weekly Climate Change Policy Update – October 26, 2009," Washington D.C./Seattle, October 2009, <http://www.uscrp.org/news-policyupdates-403.html>.

## Stakeholders and Jurisdiction in Climate Policy: The Institutional Setting

American climate policy is the result of complex interplay between countless stakeholders: the administration, Congress, the Supreme Court, and the individual states. Table A1 in the Appendix (pp. 40) gives an overview of the institutions relevant to climate policy.

The White House maps out the strategy for the administration. The individual departments are far less independent than, for instance, Germany's ministries. The US does not have a department of the environment; rather, the Environmental Protection Agency is in charge of environmental issues. Under the Bush administration, the Department of Energy dealt with many climate policy issues, while EPA influence declined. The Federal Energy Regulatory Commission (FERC) also plays a key role in climate and energy policy: it is an independent part of the Department of Energy; among other things, it regulates interstate energy transmission and sales in the US.

The constitution assigns foreign policy to the executive branch. Therefore, the administration is responsible for foreign policy on climate issues; the international climate negotiations are conducted by the State Department. At the same time, however, every internationally binding treaty must be ratified by a two-thirds majority (i.e., 67 out of 100 votes) in the Senate, which gives the Senate considerable power to block agreements. As a result, any international commitment by the administration that goes beyond what the Senate is willing to approve is unlikely; this also applies to climate policy. The fate of the Kyoto Protocol in the US has already given the international community one vivid illustration of the futility of such attempts. The Clinton administration did not even send the 1997 Kyoto Protocol to the Senate for ratification; with its 95-0 vote on the Byrd-Hagel Resolution during the Protocol negotiations, the Senate had left no room for doubt about its opposition to an international climate agreement of that scope.

Regulations enacted by the EPA, the Department of Transportation, and the Department of Energy (for instance, on fuel efficiency and exhaust standards for automobiles or on limiting industry emissions) are a primary climate policy instrument for the administration—even against the will of Congress. The Clean Air Act of 1990, for example, gives the EPA the power to

set CO<sub>2</sub> emissions limits, as long as greenhouse gases have been classified as harmful to the environment and to health. Taking this route, however, also entails risks for the administration. For one thing, bypassing congressional approval gives the regulation in question less legitimacy. This method is also less effective, since such regulations have to be geared to the applicable legal framework. Climate policy is, to a significant degree, always intertwined with energy policy issues, over which the Clean Air Act has only limited influence. This inhibits the flexibility needed for fundamental changes and for a comprehensive approach, making the legislative route the better option.

In the House of Representatives, the Committee on Energy and Commerce together with the Committee on Natural Resources are responsible for energy and climate. In the Senate, the Committee on Environment and Public Works and the Committee on Energy and Natural Resources handle these issues. In addition, the Agriculture Committees of both House and Senate play a major role in drafting climate legislation. Passage of a law in Congress requires only a simple majority of the 435 votes in the House of Representatives and the 100 votes in the Senate. An additional hurdle has to be cleared in the Senate, however: individual senators can use a filibuster, an endless debate, to prevent a bill from being put to a vote. Sixty votes are required to end a filibuster.<sup>40</sup>

Finally, individual states can take action. While they are unable to block federal legislation—unlike in Germany, where the executive branch of the individual states is represented in the federal government and is involved in the passage of federal laws—this does not prevent them from having a significant impact on climate policy. On the contrary: countless policy areas relevant to climate issues are either under the control of the individual states or are under shared jurisdiction. The cooperation between the federal government and the executive branch of individual states is based on the “commerce clause” of the American constitution. It is the foundation for all of

<sup>40</sup> Filibusters almost never happen in actual practice. However, the threat alone is enough to defeat a bill if a 60-vote majority cannot be secured.



the federal government's powers to legislate and regulate and lists all of the areas that are under the sole jurisdiction of Congress (Article I, section 8 of the constitution). Any power not specifically delegated to the federal government falls to the individual states. According to the constitution's "supremacy clause," federal law takes precedence over the laws of the individual states, making state laws that conflict with federal law null and void. However, since the constitution does not expressly assign jurisdiction for climate policy to one level or the other, it is up to the Supreme Court to make the decision in cases open to question.

The US has a long history of competitive federalism, and the individual states have often been incubators of innovative policy. They also possess one significant advantage: better understanding of their own specific situation.<sup>41</sup> However, climate policy dominated by the individual states has a few disadvantages of its own. The Supreme Court often ends up having to decide whether or not they can set and enforce their own standards. There is also the question of whether different initiatives can be integrated to form a whole. Policy set on the federal level, on the other hand, results in uniform legislation that would include all the individual states, preclude additional regulatory obstacles for business, and make American climate policy more visible to the international community.

**41** Franz T. Litz, *Toward a Constructive Dialogue on Federal and State Roles in US Climate Change Policy*, Pew Center on Global Climate Change, Solutions White Paper Series, June 2008, pp. 10f.

## Current Climate Policy: Between the President and Congress

Barack Obama's presidency, the Democratic majority in Congress (Democrats hold 255 of the 435 seats in the House of Representatives and 57 of the 100 Senate seats)<sup>42</sup> and the gradual change in outlook among the public and industry have all improved the chances of a new direction in US climate policy. In fact, an examination of domestic political developments reveals that there have already been substantial changes in American climate policy since Obama's inauguration. At the same time, however, the Obama administration's limited room to maneuver is equally clear.

### A new spirit in the White House

In contrast to his predecessor, Obama accepts the findings of climate researchers without reservation: "The science is clear and conclusive, and the impacts [of climate change] can no longer be ignored."<sup>43</sup> The team that he and Secretary of State Clinton put together for the international climate negotiations also demonstrates that he takes climate protection seriously. Todd Stern became Obama's climate envoy, with Jonathan Pershing as his deputy. Stern, an expert on climate and environmental issues, had already represented the US at the Kyoto Protocol negotiations, while Pershing headed the climate and energy program at the World Resources Institute (WRI). In addition, the White House created a new office to coordinate administration policy on energy and climate change and named Carol Browner its first director. She had been the head of the EPA under President Clinton; today Lisa Jackson—appointed by Obama—is EPA Administrator. All of these people can look back on years of experience in the field of climate protection and/or renewable energy. The same is true of the new Energy Secretary, Steven Chu, a Nobel Prize winner in physics.

<sup>42</sup> Two other seats are held by independents who caucus with the Democrats.

<sup>43</sup> White House, Office of the Press Secretary, "Remarks by the President on Major Economies Forum Declaration," July 9, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Obama-On-Major-Economies-Forum-Declaration](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Obama-On-Major-Economies-Forum-Declaration).

In the first months of his tenure, Obama was skillful in linking the issue of climate policy with the current financial and economic crisis. A "Green New Deal" would not only help to curb global warming, he argued, but would spark the restructuring of the American economy, create jobs, and make the US economy more competitive.<sup>44</sup> One desirable side effect would be a reduction in the American trade deficit. Obama also steered the discourse on energy security in a new direction. Like his predecessors, he, too, points out the danger of American dependence on energy imports in view of the political instability prevailing in the world's most important oil-producing countries. More so than George W. Bush, however, Obama emphasizes the role of renewable energy.

He had already presented his key climate policy goals in 2008 during his campaign: he wanted to raise the share of renewable energy in electricity generation to 25 percent by 2025, invest \$150 billion in clean energy technologies over the next ten years, and reduce US greenhouse gas emissions 80 percent by 2050 compared to 2005 levels. Using 2005 as a base year is domestically more palatable than 1990, the base year applied in the Kyoto Protocol,<sup>45</sup> since emissions continued to rise after 1990. As a result, reductions below 2005 levels are not as steep as they would be with a comparison to 1990 and thus cause less economic pain.

Moreover, the administration made climate protection a big part of its stimulus package proposal at the beginning of 2009 (see p. 22). It also called for the introduction of an emissions trading system. Its original goal was to auction off all emissions permits, with the proceeds going to finance the proposed climate investments—which seemed like an appealing

<sup>44</sup> White House, Office of the Press Secretary, "Remarks by the President on the Importance of Passing a Historic Energy Bill," June 25, 2009, [http://www.whitehouse.gov/the\\_press\\_office/Remarks-by-the-President-on-the-Importance-of-Passing-a-Historic-Energy-Bill/](http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-the-Importance-of-Passing-a-Historic-Energy-Bill/).

<sup>45</sup> See also Andreas Falke, "Klimaschutz- und Handelspolitik – Neue transatlantische Konstellationen?," in *Die Außenpolitik der USA. Präsident Obamas neuer Kurs und die Zukunft der transatlantischen Beziehungen*, ed. Reinhard C. Meier-Walser, Munich 2009, pp. 403–427.

idea, considering the precarious state of the budget. However, because of the contentious debates in Congress over how to allocate emissions permits—the House bill provides for mostly free permits until 2015—the administration has in the meantime backed off from this plan.

Predominant in the US so far have been the faith in technological solutions and the skepticism about regulatory requirements. The country traditionally pursues a “technology push” strategy, with government-mandated measures like renewable energy minimums or emissions caps being instituted only once innovations have made it possible and affordable to meet the requirements. According to this line of reasoning, the government should do more to support technological developments, rather than initiating technological change via regulatory action—as is the case with a “market pull” strategy. The latter relies more on the interplay between regulations and market forces to reach energy policy goals.<sup>46</sup> Obama, too, is counting on market forces. He, however, has already shown more willingness to go the regulatory route.

For instance, the administration has tightened fuel efficiency standards for cars and light trucks (Corporate Average Fuel Economy, or CAFE) that the Democratic-controlled Congress mandated in 2007 in the Energy Independence and Security Act. In May 2009, the Department of Transportation announced its new standards for 2011.<sup>47</sup> The Department estimates that these measures will improve the overall fuel economy of the US car fleet to 27.3 miles per gallon of gasoline (8.7 liters per 100 kilometers) by 2011. In mid-September 2009, it proposed further rules for the following years. It tightened requirements relative to the 2007 legislation in two ways, increasing the standard from 35 to 35.5 miles per gallon (approximately 6.6 rather than 6.7 liters per 100 kilometers) and calling for this goal to be achieved by 2016, rather than 2020.

An important legal prerequisite to the administration’s stepped-up environmental regulatory action was the EPA’s classification of greenhouse gases as harmful to the health and welfare of the public. In April 2009, the EPA proposed an “endangerment finding” stating that greenhouse gases contribute to air pollution and thereby endanger the environment and the health of the population. In December 2009, the agency officially confirmed that the atmospheric concentration of carbon dioxide and five other greenhouse gases poses a danger to human health, also stating that greenhouse gases emitted by cars and trucks contribute to air pollution and thus constitute a health risk. These findings allow the administration to take stronger regulatory action under the Clean Air Act.<sup>48</sup>

The EPA also worked on curbing greenhouse gas emissions from transportation. Already in June 2009, the EPA had permitted California to impose its own, stricter CO<sub>2</sub> limits for automobiles—which Bush had refused to allow. In close cooperation with the Department of Transportation, the EPA also proposed its first-ever emissions standards for the transport sector. An emissions limit of 250 grams of carbon dioxide per mile (approximately 155 g/km) is to be reached by 2016,<sup>49</sup> reducing emissions in this sector 21 percent by 2030 compared to a “business-as-usual” scenario. The final rule was published on May 7, 2010. On May 21, 2010, Obama requested the Department of Transportation and EPA to work on ensuring continuous progress in enhancing efficiency. By September 30, 2010, the agencies are requested to publish a notice of intent to issue a proposed rule including, among other things, potential fuel efficiency and greenhouse gas emissions standards for the years 2017–2025. Moreover, Obama requested the agencies to work on respective standards for medium- and heavy-duty trucks beginning with model year 2014. They are required to aim at issuing a final rule by July 30, 2011.<sup>50</sup> All measures are to be achieved in close

**46** Katrin Jordan, “Neue Initiativen in der amerikanischen Energiepolitik – aber keine Neuorientierung,” Berlin: Stiftung Wissenschaft und Politik, August 2006 (SWP-Studie 18/06).

**47** White House, Council on Environmental Quality, “The Energy Independence and Security Act of 2007,” Memorandum for the Secretary of Transportation and the Administrator of the National Highway Traffic Safety Administration, [http://www.whitehouse.gov/the\\_press\\_office/The\\_Energy\\_Independence\\_and\\_Security\\_Act\\_of\\_2007](http://www.whitehouse.gov/the_press_office/The_Energy_Independence_and_Security_Act_of_2007); Federal Register, *Average Fuel Economy Standards, Passenger Cars and Light Trucks Model Year 2011. Final Rule*, accessible via GPO Access <http://www.gpoaccess.gov/fr/>.

**48** DIHK, BDI, *Washington News*, December 17, 2009; Andrew Light, Julian Wong, and Saya Kitasei, “America Is Serious about Climate Action: Global Support for New International Consensus Is Key to Success at Copenhagen,” Washington D.C.: Friedrich-Ebert-Stiftung, 2009.

**49** Federal Register, *Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*, September 28, 2009, <http://www.epa.gov/fedrgstr/EPA-AIR/2009/September/Day-28/a22516a.pdf>.

**50** White House, Office of the Press Secretary, “Presidential Memorandum Regarding Fuel Efficiency Standards” May 21, 2010, <http://www.whitehouse.gov/the-press-office/>

coordination with the State of California and other states.

Along with the transport sector, the EPA is also taking on other emissions sources. On September 22, 2009, the agency issued new emissions reporting rules: starting on January 1, 2010, major greenhouse gas emitters producing more than 25,000 tons of CO<sub>2</sub> equivalent emissions annually,<sup>51</sup> as well as suppliers of fossil fuels and industrial greenhouse gases and manufacturers of vehicles and engines, would be required to submit regular reports to the EPA. This group is responsible for roughly 85 percent of US greenhouse gas emissions. Moreover, greenhouse gases becoming subject to regulation in the transport sector, triggered the application of CAA permitting programs to stationary sources of these pollutants. Since emissions thresholds applied to pollutants such as lead, sulfur dioxide, and nitrogen dioxide would cause an ineffective operation of the greenhouse gas permit process—thresholds are too low and would require even the smallest entities to obtain operation permits—the EPA has established a rule to “tailor” this threshold. The rule was proposed on September 30, 2009, and issued on May 13, 2010.<sup>52</sup> Permitting requirements for large stationary sources will go into effect in January 2011.

In addition to the new climate policy regulations, the Obama administration brought its influence to bear on the debates in Congress—although it was late getting involved in the legislative process in the House of Representatives and the Senate. This was not out of a lack of interest; rather, it was the awareness of what had happened to the Clinton administration’s health care reform plans in the mid-1990s. Back then, President Clinton had presented a detailed proposal to Congress, which Congress—despite a Democratic majority in both chambers—had rejected. By staying out of the discussion, Obama wanted to give Congress enough

presidential-memorandum-regarding-fuel-efficiency-standards.

**51** “CO<sub>2</sub>-equivalent emissions”: carbon dioxide (CO<sub>2</sub>) serves as the reference value. The direct greenhouse gases include methane (CH<sub>4</sub>), nitrous oxide (laughing gas, N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). See also Environmental Protection Agency, *Inventory of US Greenhouse Gas Emission and Sinks: 1990–2007*, Washington D.C., 2009, <http://www.epa.gov/climatechange/emissions/downloads09/InventoryUSGhG1990-2007.pdf>.

**52** Environmental Protection Agency, *Final Rule: Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. Fact Sheet*, May 2010, <http://www.epa.gov/NSR/documents/20100413fs.pdf>.

freedom to work out compromises on important issues. This strategy was also aimed at creating the opportunity for bipartisan solutions. It is doubtful, however, that his approach achieved the desired effect. The lack of presidential leadership in Congress led to significant delays and also ended up helping to water down the original proposals.

After the Copenhagen conference, however, Obama started taking a stronger position again on congressional negotiations, especially with regard to the new bill being drafted by Senators Kerry, Graham, and Lieberman (see p. 28). For instance, in early March 2010 he invited a bipartisan group of 14 senators whose votes will be key to the climate bill to the White House to discuss the legislation. In late May, Obama visited Capitol Hill to discuss the prospects for comprehensive climate change legislation with Republican senators. In early June, he again invited a bipartisan group of key senators to the White House to press for legislation. “The votes [to pass a climate bill] may not be there right now,” said the president in early June, “but I intend to find them in the coming months [...] I will work with anyone to get this done.”<sup>53</sup> In order to overcome the political divides between Democrats and Republicans in the Senate, Obama also offered concrete compromises: in February 2010, he announced that the Department of Energy would offer conditional commitments for a total of \$8.3 billion in loan guarantees for the construction and operation of two nuclear reactors at a plant in Georgia.<sup>54</sup> In late March, Obama and Secretary of the Interior Ken Salazar announced that the administration would allow for more offshore oil and gas drilling in the outer continental shelf (OCS).<sup>55</sup> The latter did not win him any new votes, however. Only a month after his announcement, the exploration rig Deepwater Horizon exploded and sank in the Gulf of Mexico.

**53** White House, Remarks by the President on the Economy at Carnegie Mellon University, June 2, 2010, <http://www.whitehouse.gov/the-press-office/remarks-president-economy-carnegie-mellon-university> (accessed on June 22, 2010).

**54** The White House, Obama Administration Announces Loan Guarantees to Construct New Nuclear Power Reactors in Georgia, February 16, 2010, <http://www.whitehouse.gov/the-press-office/obama-administration-announces-loan-guarantees-construct-new-nuclear-power-reactors> (accessed on March 4, 2010).

**55** White House, Office of the Press Secretary, “Obama Administration Announces Comprehensive Strategy for Energy Security” March 31, 2010, <http://www.whitehouse.gov/the-press-office/obama-administration-announces-comprehensive-strategy-energy-security>.

Since then, 35,000 to 60,000 barrels of oil are estimated to have spilled into the Gulf daily<sup>56</sup>—the biggest oil spill in US history. Obama therefore devoted his entire first Oval Office speech to oil and the need for a new energy policy. “For decades, we have known the days of cheap and easily accessible oil were numbered. For decades, we’ve talked and talked about the need to end America’s century-long addiction to fossil fuels. And for decades, we have failed to act with the sense of urgency that this challenge requires. [...] The tragedy unfolding on our coast is the most painful and powerful reminder yet that the time to embrace a clean energy future is now.”<sup>57</sup> It is still open to question how the Obama administration would react if the climate bill were to be defeated in the Senate. Government sources have repeatedly indicated that Obama could use the EPA to cap carbon emissions by large industrial facilities and to introduce an emissions trading system, all without involving Congress. Obama has already given the agency more political weight (among other things, his 2010 budget proposal allocated \$10.5 billion to the EPA, as opposed to the \$7.6 billion it received in 2009),<sup>58</sup> and it has been able to make far greater use of its regulatory capability. Whether Obama would use the EPA to launch an emissions trading system is still doubtful. The Clean Air Act’s legal authority in such a case is not entirely clear. In addition, Obama would risk losing support in Congress for other important legislative initiatives (even from fellow Democrats).

Many members of Congress have challenged the EPA’s authority to regulate in this area, arguing that such measures are the responsibility of legislators. Senate reactions to the announcement of planned emissions standards for the transportation sector made this viewpoint quite clear. Debates in Congress heated up considerably after the EPA classified greenhouse gases as hazardous to human health in its endangerment finding of late 2009 and announced mandatory reporting rules requiring businesses to prove their ability to compensate for environmental

damage and residual pollution (applying to parts of the coal, petroleum and chemical industry, as well as power generation).<sup>59</sup> At the end of 2009, Senator Lisa Murkowski, a Republican, sponsored a resolution that would block the EPA’s endangerment finding. Her resolution required only a simple majority in the Senate and House of Representatives to pass (a Senate filibuster was not an option) and thus posed a serious threat to Obama’s climate policy. Moreover, the Democratic representative Earl Pomeroy introduced a bill at the end of December—the Save Our Energy Jobs Act—according to which the term “air pollutant” was not to apply to greenhouse gases; these would thus not be subject to the Clean Air Act.<sup>60</sup> The Democratic Senator John Rockefeller also opposed EPA regulation by introducing a Senate bill on March 4, 2010 that, if passed, would prevent the EPA from regulating stationary emitters for a period of two years. The senators find ample support from industry. Countless lobbying groups and companies from the agricultural, mining, and energy sectors, including the Coalition for Responsible Regulation, Massey Energy Company, and the coal producer Alpha Natural Resources, have petitioned to have the endangerment finding re-examined.<sup>61</sup> So far, none of the legislative attempts have succeeded. In early June 2010, the Senate defeated Murkowski’s resolution by 53 to 47 votes. The vote was cast along party lines: of the 47 senators voting in favor, 41 were Republicans and 6 were Democrats.<sup>62</sup> If it had been passed by the Senate, the president could have vetoed the resolution. Nevertheless, the threat arising from such resolutions cannot be measured solely in concrete policy terms. It is rather the symbolic loss of the vote that could have a pronounced impact on the climate debate.

<sup>59</sup> DIHK and BDI, *Washington News*, January 7, 2009.

<sup>60</sup> “Congressman Pomeroy (D-ND) Introduces Bill to Weaken Clean Air Act,” *EnviroKnow*, 11 January 2010, <http://enviroknow.com/2010/01/11/congressman-pomeroy-d-nd-introduces-bill-to-weaken-clean-air-act/>.

<sup>61</sup> Van Ness Feldman, “Weekly Climate Change Policy Update – December 21, 2009,” Washington D.C./Seattle, December 2009, <http://www.vnf.com/news-policyupdates-421.html>.

<sup>62</sup> Open Congress, S.J.Res.26 – A joint resolution disapproving a rule submitted by the Environmental Protection Agency relating to the endangerment finding and the cause or contribute findings for greenhouse gases under section 202(a) of the Clean Air Act, [http://www.opencongress.org/bill/111-sj26/actions\\_votes](http://www.opencongress.org/bill/111-sj26/actions_votes) (accessed on June 23, 2010).

<sup>56</sup> U.S. Scientific Team Draws on New Data, Multiple Scientific Methodologies to Reach Updated Estimate of Oil Flows from BP’s Well, June 15, 2010, <http://www.deepwaterhorizonresponse.com/go/doc/2931/661583/>.

<sup>57</sup> White House, Office of the Press Secretary, “Remarks by the President to the Nation on the BP Oil Spill,” 15 June 2010, <http://www.whitehouse.gov/the-press-office/remarks-president-nation-bp-oil-spill>.

<sup>58</sup> Environmental Protection Agency, *FY 2010 EPA Budget in Brief*, May 2009, <http://www.epa.gov/budget/2010/2010bib.pdf>.

## Heated debates in Congress

The gradual shift in Congress's position on climate policy, which became especially evident during the last two years of the Bush administration, continued after Obama took office, although the change was not quite as dramatic in Congress as in the White House. In the spring of 2009, Congress passed a series of economic stimulus measures that reflect the increased importance of climate protection. The \$789 billion *American Recovery and Reinvestment Act* (ARRA 2009) was passed in February by a 246 to 183 vote in the House of Representatives, and by a 60 to 38 vote in the Senate.<sup>63</sup> Green initiatives to stimulate the economy play an important role in the stimulus package; in total, about \$95 billion (12 percent of the total sum) are slotted for investment in clean energy technologies and for the creation of "green jobs"—of this, \$23 billion for renewable energies, \$4 billion for carbon capture and storage (clean coal) technologies and \$52 billion to promote energy efficiency, \$11 billion of which is to go to modernizing the power supply system (renewing the transmission network in connection with intelligent counters and information technologies)<sup>64</sup> as well as \$16 billion for water and waste management (see Table 1, p. 23).<sup>65</sup>

With the Cash for Clunkers program, too, Congress attempted not just to boost the economy but also to push climate protection forward. This additional stimulus effort required that a small passenger car improve its fuel economy by four miles per gallon to qualify for a \$3,500 subsidy. The fact that climate protection is only possible through compromise is seen clearly, however, in the regulation for larger vehicles, where the required efficiency improvements were much lower: for SUVs, pickups, and small vans, an increase in fuel economy of just two miles per gallon was enough to earn the \$3,500 voucher, and with heavy vehicles (weighing between 2,700 and

3,855 kilograms) an increase of just one mile per gallon sufficed. And work trucks (3,855 to 4535 kilograms) did not have to reduce fuel consumption at all: here, the trade-in vehicle just had to have been manufactured before 2002.<sup>66</sup>

In addition, a comprehensive climate law was negotiated in both chambers of Congress. The House of Representatives passed the American Clean Energy and Security Act (ACES) on June 26, 2009. Although the original proposal was watered down by numerous compromises—many environmental organizations criticize it as too industry-friendly—the ACES still represented an important step forward in American climate policy. In the Senate, however, no bill has been passed so far.

## Developments in the House of Representatives

The House's passage of the American Clean Energy and Security Act was preceded by fierce debates. Up to the last minute, the vote was a nail-biter. The Democrats were only able to achieve narrow passage of the bill by granting major concessions, putting pressure on party members, and making deals to provide material support to the constituencies of on-the-fence representatives. Even the vote by the House Committee on Energy and Commerce, which was responsible for the bill, failed to show a strong majority in favor in a 33 to 25 vote that largely broke down along party lines.<sup>67</sup> Since the Democratic Party leadership was aware of the dissent in its ranks, it aimed primarily at securing a Democratic majority and swinging undecided Democrats to vote for the bill, especially those from states with heavy coal production (West Virginia, Tennessee, etc.) or gas and oil production (Texas, Arkansas, North Carolina, etc.) as well as states with a high percentage of manufacturing and the automobile industry (Ohio, Michigan, Pennsylvania). In the end, 32 of the 36 Democratic representatives voted for and three against the proposed bill. Of the 23 Republicans on the committee, only one voted for the bill,

63 One Hundred Eleventh Congress of the United States of America, *The American Recovery and Reinvestment Act of 2009*, [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111\\_cong\\_bills&docid=f:h1enr.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h1enr.pdf).

64 In contrast to European proposals, the super grid proposals in United States always include smart grid components; see p. 36 for further details.

65 Nick Robins et al., *A Climate for Recovery. The Colour of Stimulus Goes Green*, London: HSBC Bank (ed.), [http://www.globaldashboard.org/wp-content/uploads/2009/HSBC\\_Green\\_New\\_Deal.pdf](http://www.globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf); see also: The White House, *Energy and Environment*, [http://www.whitehouse.gov/issues/energy\\_and\\_environment/](http://www.whitehouse.gov/issues/energy_and_environment/).

66 United States House of Representatives, Committee on Energy and Commerce, "Fact Sheet: Cash for Clunkers," June 8, 2009, [http://energycommerce.house.gov/Press\\_111/20090505/cashforclunkers.pdf](http://energycommerce.house.gov/Press_111/20090505/cashforclunkers.pdf).

67 United States House of Representatives, Committee on Energy and Commerce, "Roll Call Vote Number 68," May 21, 2009, [http://energycommerce.house.gov/Press\\_111/20090609/hr2454\\_reportfavorably\\_rc.pdf](http://energycommerce.house.gov/Press_111/20090609/hr2454_reportfavorably_rc.pdf).

**Table 1**  
**Green investments in the stimulus package**

	Percentage of green investments in total expenditures	As a percentage of spending towards “green” investments						
		Renewable technologies	CCS (clean coal technology)	Building efficiency	Vehicle efficiency	Modernization of the power grid (Smart Grid)	Rail traffic	Waste and wastewater management
ARRA 2009	12%	24.3	4.2	29	4.2	11.6	10.2	16.5

Source: HSBC Global Research, “A Climate for Recovery,” February 2009.

another abstained from voting, and all others voted against it.

These results would not have been possible without major concessions—with regard to auctions in emissions trading (free allocation of allowances to key industries), greenhouse gas reduction goals for 2020 (17 percent reduction instead of the originally planned 20 percent) and the target set for the share of renewable energies in the energy mix (20 percent by 2020 instead of the originally planned 25 percent by 2025).<sup>68</sup> The proposal was examined by 14 different committees of the House of Representatives. Numerous representatives proposed alternative draft climate and energy legislation<sup>69</sup> in the hope that their proposals would be integrated into the ACES as amendments. In the end, President Obama stepped into the debate in Congress and campaigned vigorously for passage of the bill.

The ACES was finally approved by the House by a vote of just 219 to 212. Supporting it were 211 Democrats and only 8 Republicans; 168 Republicans and 44 Democrats voted against it.<sup>70</sup> While the majority of representatives from the northeastern and West

Coast states voted for the ACES, the outcome clearly reflected the skepticism of representatives from the southern and rust belt states and the industrial and coal regions regarding questions of climate policy (see Figure 4, p. 24).<sup>71</sup> Coal is the most important domestic energy source in the US; in 2008, 33 percent of American energy production came from coal. The main coal-producing states are Wyoming, West Virginia, Kentucky, Pennsylvania, and Montana.<sup>72</sup> In contrast to House votes on the stimulus package or on health reform, the 52 fiscally conservative “blue dog” Democrats did not play a decisive role in voting on the climate policy bill—they were split approximately down the middle between those in favor and those opposed to the bill. In general, the blue dog Democrats favor a climate law as long as it does not place a unilateral burden on the US economy.<sup>73</sup>

The ACES calls for a 17 percent reduction in greenhouse gas emissions by 2020 and an 83 percent reduction by 2050 (below 2005 levels). This is to be achieved with the help of five key programs. An emissions trading system is to be introduced no later than 2012, covering 85 percent of all US emissions sources. Emission allowances will be allocated mostly free of charge up to 2015. The following industries will be affected by the emissions trading system: electricity production, natural gas, oil, fluorinated gas producers, CO<sub>2</sub> capture and geologic sequestration, and producers and importers of coal-based liquid fuels with emis-

<sup>68</sup> Arne Jungjohann and Gisa Holzhausen, *Umfangreiches Energie- und Klimapakett nimmt erste Hürde im US-Kongress*, Washington D.C.: Heinrich Böll Stiftung North America, 2009, p. 1.

<sup>69</sup> These included the *Prevent Unfair Manipulation of Prices Act* by Democrat Bart Stupak, the *Financing Advanced and Superconducting Transmission Act* by Democrat Steny Hoyer, the *Climate Change Health Protection and Promotion Act* by Democrat Lois Capps and the *Climate Market, Auction, Trust & Trade Emissions Reduction System Act* by Democrats Lloyd Doggett, Earl Blumenauer, and Chris Van Hollen. In the *Raise Wages, Cut Carbon Act*, Republicans Bob Inglis, Jeff Flake, and Daniel Lipinski proposed an alternative to the ACES emissions trading system: a carbon tax.

<sup>70</sup> *Final Vote Results for Roll Call 477*, June 26, 2009, <http://clerk.house.gov/evs/2009/roll477.xml>.

<sup>71</sup> Wolfgang Fischer and Petra Holtrup-Moster, *Eines ist sicher – noch ist alles unsicher! Zur Situation des Klimaschutzes in den USA*, Transatlantic Networks, 2009, <http://www.transatlantic-networks.de/?p=173>.

<sup>72</sup> Energy Information Administration, *State Rankings 2007*, [http://www.eia.doe.gov/emeu/states/\\_seds.html](http://www.eia.doe.gov/emeu/states/_seds.html).

<sup>73</sup> *Blue Dog Coalition. Energy Principles 110th Congress*, <http://www.house.gov/melancon/BlueDogs/Energy%20Principles.html>.

**Figure 4**  
**Cross-party voting by Democrats and Republicans**

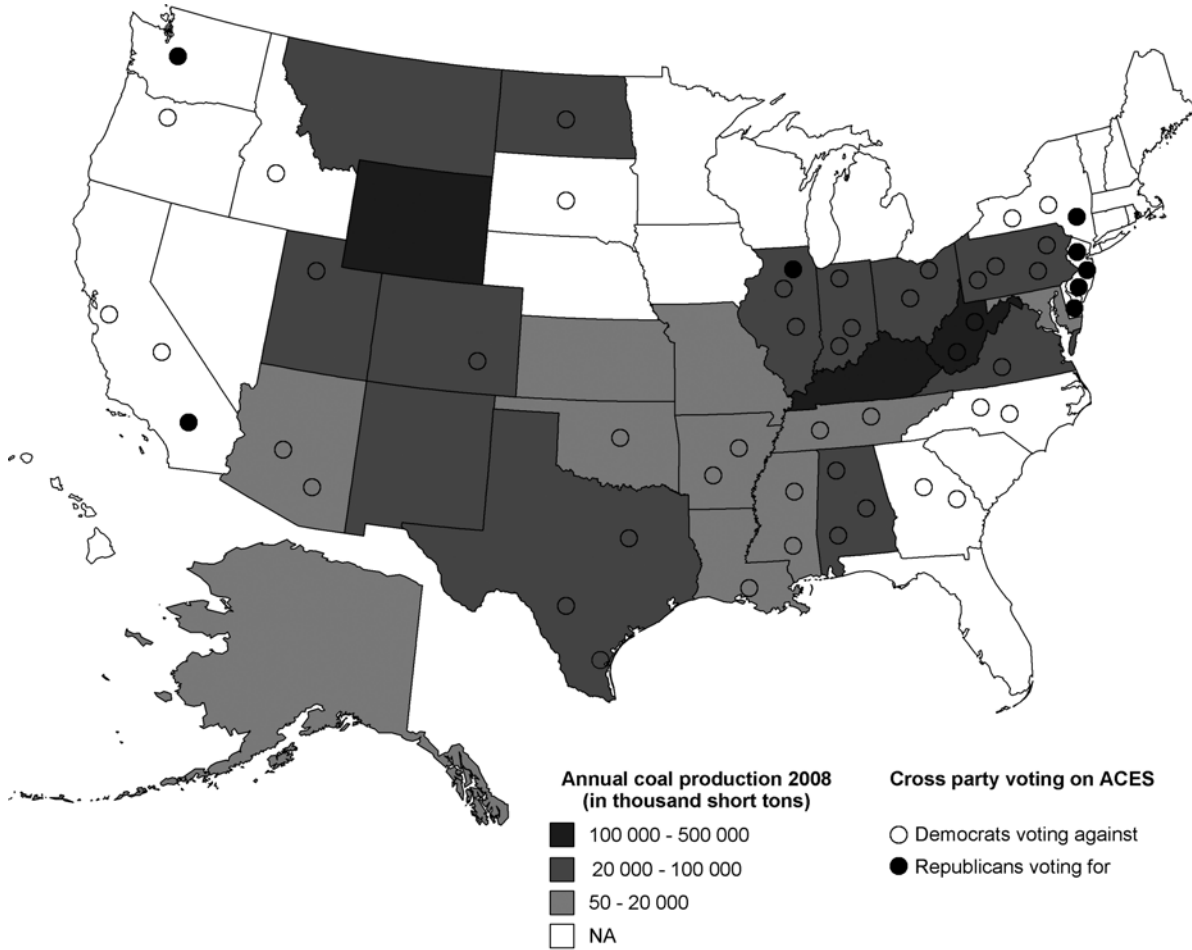


Figure based on: “What Chance Does ACES Have in the Senate?,” <http://www.dailykos.com/story/2009/6/27/747460/-What-Chance-Does-ACES-Have-in-the-Senate>.

sions of over 25,000 tons of carbon equivalent per year. According to the ACES, individual states’ or regional initiatives’ trading systems would be put on hold in 2012. Even if a nationwide trading system is preferable to regional initiatives, it should be noted that the latter are currently far ahead of the national efforts (see the chapter “Climate policies at the state level,” pp. 31).

In addition, the ACES has set the first-ever national targets for the percentage of renewable energies in electricity generation: by 2012, every electricity utility selling at least 4 million megawatt hours of electric energy for purposes other than resale has to produce a minimum of six percent of its supply from renewable sources. As of 2020, this requirement will increase to 20 percent. Twenty-five percent of this amount can be met by demonstrating energy savings. Individual

states can request to raise the portion of energy savings to 40 percent of the overall goal. The individual states can reduce this percentage by increasing energy efficiency. If the law is passed by both houses of Congress, it would be the first binding nationwide renewable electricity standard in the history of the United States. Although the individual states would be allowed to keep or introduce their own quotas for renewable energies, these are not permitted to fall short of the federal minimum.

Plans also include the introduction of legal standards and financial subsidies for energy efficiency (for instance, the ACES includes higher efficiency standards for buildings) and for carbon sequestration and storage. The individual states are expected to pass building code standards to achieve a 50 percent improvement in the energy efficiency of private build-



ings by 2014 and of public buildings by 2015. If such standards are not introduced, the national standards automatically apply.<sup>74</sup> Ultimately, carbon offset projects amounting to up to two billion tons of carbon per year are planned (one billion tons of domestic offsets, another billion from international projects). Carbon offsets are designed to enable companies affected by emissions trading to undertake climate protection efforts outside of the emissions trading system.

Although the EPA would play a decisive role in administering the system, the majority of offset programs will be overseen by the Department of Agriculture. The agricultural sector, which is responsible for around seven percent of greenhouse gas emissions, is not covered by the emissions trading system. Yet carbon offsets can still be achieved in this sector: indeed, domestic offsets offer a lucrative new source of revenues for American agriculture.<sup>75</sup> In total, the EPA estimates that revenues will amount to approximately \$1.2 to \$18.8 billion dollars per year, depending on how much use is made of carbon offset opportunities in this sector.<sup>76</sup> Including the offset option for the agricultural sector in the bill was necessary to garner support for climate policy from the agricultural states in the Midwest.

The discussion of import tariffs on greenhouse-gas-intensive goods from countries with insufficient or no climate change policies was also important. The ACES states that the president is required to impose border adjustment measures starting in 2020. Obama has emphatically rejected such a regulation, which is widely opposed by important emerging economies and which may not be compatible with WTO rules. This target was vital, however, in order to mobilize the support of Democratic representatives from states with a high concentration of manufacturing industries.

<sup>74</sup> Alliance to Save Energy (ed.), *ACES vs. ACELA: A Comparison of Energy Efficiency Provisions*, Washington D.C., September 2009, [http://ase.org/uploaded\\_files/5748/aces\\_acela\\_side-by-side.pdf](http://ase.org/uploaded_files/5748/aces_acela_side-by-side.pdf).

<sup>75</sup> Christine Wörlen et al., *USA Energie- und Klimapolitik. Akteure und Trends im August 2009*, Heinrich-Böll-Stiftung, Berlin, September 2009, [http://www.boell.de/downloads/oekologie/USA\\_EnergieuKlimapolitik\\_09\\_2009.pdf](http://www.boell.de/downloads/oekologie/USA_EnergieuKlimapolitik_09_2009.pdf).

<sup>76</sup> EPA, *Economic Impact of S.1733: The Clean Energy Jobs and American Power Act of 2009*, Washington D.C. 2009, October 23, 2009, p. 8.

## Developments in the Senate

While the ACES was being discussed in the House of Representatives, Senator Jeff Bingaman introduced the American Clean Energy Leadership Act (ACELA) in the Senate. The Senate Energy and Natural Resources Committee, which is responsible for energy issues, approved the bill on June 17, 2009, in a bipartisan vote of 15 to 8. Up to now, the proposed legislation has not been voted on by the full Senate. The energy law corresponds largely to the energy provisions contained in the ACES. Like ACES, ACELA proposes a national target percentage for renewable energies in the field of electricity generation (15 percent by 2021), as well as legal standards and financial support for energy efficiency. However, the proposed bill does not contain an emissions trading system, in contrast to the ACES.<sup>77</sup>

Thus, Democratic Senators John Kerry, Chairman of the Senate Committee on Foreign Relations, and Barbara Boxer, Chairwoman of the Committee on Environment and Public Works, introduced comprehensive climate change legislation on September 30, 2009: the Clean Energy Jobs and American Power Act. In contrast to Bingaman's proposal, the Kerry-Boxer bill concentrates on establishing an emissions trading system and setting reduction targets. While their proposal does contain numerous additional measures, questions of energy policy are largely omitted. The first version of this law included numerous gaps and differences from the ACES. In contrast to the legislation passed by the House of Representatives, the ACELA contained greenhouse gas reduction targets of 20 percent by 2020 and of 83 percent by 2050. While the ACES envisages auctioning an increasing percentage of emissions certificates, the Kerry-Boxer bill contains no provision on this issue. The House and Senate proposals also differ in the distribution of auction revenues. In order to win over Republicans and fiscally conservative Democrats, the first Kerry-Boxer bill envisioned using 20 percent of proceeds to pay off the national debt. According to the ACES, the proceeds

<sup>77</sup> United States Senate, Committee on Energy and Natural Resources, *The American Clean Energy Leadership Act of 2009*, [http://energy.senate.gov/public/\\_files/TheAmericanCleanEnergyLeadershipActof2009.pdf](http://energy.senate.gov/public/_files/TheAmericanCleanEnergyLeadershipActof2009.pdf).

**Box 1**

**Climate policy as party politics**

Historically, environmental policy is not a party political issue in the US. This started to change in the 1980s, when, in the wake of Reagan's deregulation policy, environmental regulations gradually came to be seen as a burden on the economy and a hindrance to economic competitiveness. The result was that the parties began to diverge in the 1990s, and their differences became increasingly entrenched after George W. Bush took office in 2001, with Democrats tending to support and Republicans to oppose environmental protection. The policy gap between the two parties is particularly marked over climate issues.

As Table A2 in the Appendix (p. 42) shows, most of Congress's climate policy decisions of recent years have been made along party lines. Democrats who cross party lines come mainly from the southern states, the coal-producing states, and the rust belt areas of the Midwest that are characterized by a high percentage of manufacturing.

Riley Dunlap and Aaron McCright, "A Widening Gap: Republican and Democratic Views in Climate Change," *Environment*, September/October 2008, <http://www.environmentmagazine.org/Archives/Back%20Issues/September-October%202008/dunlap-full.html>.

should be returned to consumers and support technological advances.<sup>78</sup>

In late October 2009, Senator Boxer introduced a revised version of the Clean Energy Jobs and American Power Act, containing numerous specifications. The revised bill is less ambitious and also more favorable to the interests of the coal industry. Many differences from the ACES were not eliminated, however.<sup>79</sup> Aside from the various greenhouse gas reduction targets for 2020, the ACES and the revised Kerry-Boxer bill also differ with regard to the planned carbon offsets: the revised Kerry-Boxer bill provides for a larger percentage to be used for domestic projects. This is accompanied by a wider range of possible offset projects: coal mines, landfills (due to their methane emissions), and the natural gas sector were added. According to the proposed bill, companies should be allowed to earn offsets through projects (for instance, investments in improved energy efficiency) in these three sectors, which can then be used as a substitute for necessary emissions allowances.

Another difference between the ACES and the revised Kerry-Boxer bill is in the "strategic reserve" (sometimes referred to as the "market stability reserve") of emission allowances retained by the government. In the ACES, these 2.7 billion allowances—2.1 percent of the total amount—are used to

keep price volatility in check. The same is true in the revised version of the Kerry-Boxer bill, but the amount of allowances is increased (3.5 billion, 2.7 percent), while the reserves are used not just to reduce price fluctuations but also to combat persistently high prices. The price threshold where these corrective measures take effect is set at 28 dollars per allowance or ton of carbon and is increased incrementally (by 5 percent per year up to 2017 and by seven percent per year thereafter). In practice, this mechanism would function like a central bank: the allowances required to have a long-term impact on prices would be borrowed from future years or purchased from additional projects in other countries. The revised version of the Kerry-Boxer bill also envisions using a larger portion of auction proceeds to reduce the budget deficit. Provisions on the controversial border adjustment measures are not contained in the Kerry-Boxer bill, in contrast to the ACES.

The ACES and the Kerry-Boxer bill also differ with regard to the EPA's activities. Kerry-Boxer stipulates that up to 2020, the EPA is not allowed to set standards for emission sources that are not covered by the emission trading system but that could be used as targets of offset projects. The ACES, on the other hand, would completely strip the agency's authority to regulate greenhouse gas emissions from new and already existing stationary sources.<sup>80</sup>

<sup>78</sup> Pew Center on Global Climate Change, *American Clean Energy and Security Act of 2009 as passed by the House of Representatives – June 26, 2009 (Waxman-Markey)*, Arlington, <http://www.pewclimate.org/docUploads/Waxman-Markey-short-summary-revised-June26.pdf>.

<sup>79</sup> EPA, *Economic Impact of S.1733* (see n. 76), p. 8.

<sup>80</sup> Pew Center on Global Climate Change, *Clean Energy Jobs and American Power Act, Chairman's Mark introduced October 23, 2009*, Arlington, October 2009, p. 3.

In early November 2009, the markup was scheduled to start in the Senate Committee on Environment and Public Works. This process of negotiation over existing gaps in the proposed legislation—when committee members discuss the proposal, consult external experts who deliver reports, and propose amendments to the bill—generally functions as an important test run before bills go to other committees for consideration or before the full Senate for approval. The Senate Republicans boycotted the first day of the Senate markup on November 2 on the grounds that the EPA discussion paper on the economic costs of the proposal did not address their concerns (particularly regarding the effects on jobs). They were not alone in this opinion. As early as mid-October, when the Senate Finance Committee held a hearing on the economic costs of the proposed legislation, experts had criticized the speculative nature of the long-term forecasts. Representatives of the Congressional Budget Office (CBO), the Energy Information Administration (EIA), the EPA, and the Congressional Research Service (CRS) had also been invited to this hearing.

The Republican members of the Senate Environment Committee thus recommended postponing the vote until a reliable cost-benefit analysis could be produced. Only one Republican senator appeared at the Committee meeting—George Voinovich (R-Ohio)—and he did so only to read a statement outlining the reasons for his fellow party members' absence.<sup>81</sup> The EPA analysis, according to Voinovich, was based too heavily on the ACES, which differed in significant respects from the Kerry-Boxer bill. The EPA report had argued that the two pieces of proposed legislation were largely comparable, even if the costs of the Kerry-Boxer bill might differ slightly from those under the ACES. It was still possible, according to the report, that the cost effects of the different measures would balance each other out and result in broadly similar overall costs.<sup>82</sup>

In principle, a Committee can approve a bill with a simple majority vote, even in absence of the opposition of the minority party. But by doing so, the majority party risks fueling opposition in the full Senate and further polarizing the debate along party

lines. Negotiations over amendments are also not possible without two-thirds of the minority party being present—even for amendments proposed by the majority. Nevertheless, Boxer pursued precisely this strategy. On November 5, the Committee approved the bill by an 11 to 1 vote in the absence of the Republican Committee members. Senator Max Baucus of Montana was the only Democrat to oppose the bill: although he generally supports the climate legislation, he said that he would like to see targets lowered to 17 percent up to 2020—and only enact such legislation under the condition that other countries adopt similar measures.<sup>83</sup> Baucus is doubly important for the Senate climate debate. As Chairman of the Senate Committee on Finance, he is responsible for key provisions of the bill on the emissions trading system, particularly with regard to the use of auction revenues. Furthermore, his decisions have a signal effect for other senators from coal-producing states.<sup>84</sup>

With the bill's approval by the Senate Environment Committee, it could be sent on to the other relevant committees that have jurisdiction over parts of the proposal: Finance; Agriculture, Nutrition, and Forestry; Foreign Relations; Commerce, Science, and Transportation, and Energy and Natural Resources. The Democrats alone proposed 50 amendments that had to be negotiated. For instance, the head of the Agricultural Committee, Democratic Senator Blanche Lincoln, announced her reservations about the bill. Agricultural interests played a central role already in debates on the ACES. Since sparsely populated states have a greater weight in the Senate than in the House (every state elects two senators independent of its population), it is to be expected that agricultural and coal interests will have a stronger impact in the Senate than in the House.

It thus came as almost no surprise when Democratic Senator Debbie Stabenow introduced the Clean Energy Partnership Act on November 4. The bill envisions creating a national offset program for the agricultural and forest sector within the emissions trading system and providing financial subsidies

<sup>81</sup> United States Senate, Committee on Environment and Public Works, "Comments of Senator George V. Voinovich, 'Hearing on S. 1733, Clean Energy Jobs and American Power Act', June 8, 2009", [http://epw.senate.gov/public/index.cfm?FuseAction=Hearings.Statement&Statement\\_ID=ed62f8c2-9265-4fc9-9dad-97e8d23fc384](http://epw.senate.gov/public/index.cfm?FuseAction=Hearings.Statement&Statement_ID=ed62f8c2-9265-4fc9-9dad-97e8d23fc384).

<sup>82</sup> EPA, *Economic Impact of S.1733* (n. 76).

<sup>83</sup> Van Ness Feldman, "Democrats Report Kerry-Boxer Cap-and-Trade Bill from Senate EPW Committee; Sen. Stabenow Introduces Offsets Bill", Washington D.C./Seattle, November 2009, <http://www.vnf.com/news-alerts-410.html>; Coral Davenport, "Climate Bill Advances in GOP's Absence," in: *Congressional Quarterly Weekly*, November 7, 2009.

<sup>84</sup> Coral Davenport, "Baucus' Pledge of Support Adds Momentum to Climate Bill," in: *Congressional Quarterly Today*, November 9, 2009.

to expand and improve carbon sequestration and storage. The proposed offset program is significantly more flexible than the one described in the Kerry-Boxer bill, and is designed to ensure the support of moderate Democratic senators from the agricultural and coal states. The co-sponsors were Senators Max Baucus (D-Montana), Mark Begich (D-Alaska), Sherrod Brown (D-Ohio), and Amy Klobuchar (D-Minnesota).<sup>85</sup> Stabenow was not the only senator proposing alternatives to the Kerry-Boxer bill. Another proposal was put forward by Democratic Senator Maria Cantwell and Republican Senator Susan Collins.<sup>86</sup> This bipartisan effort aims at a reduction of greenhouse gases by 80 percent between 2005 and 2050. The Cantwell-Collins proposal applies a “cap-and-dividend” approach, pricing carbon in the upstream sector. Under such an approach, emissions permits would be auctioned on a monthly basis and auction revenues would be directly distributed to consumers.

As a result of these developments, the chances of passing Kerry-Boxer dropped dramatically. Not only was the content of the bill controversial and Boxer harshly criticized for her go-it-alone strategy, in a January 2010 special election, Republican Scott Brown won the Massachusetts Senate seat that had been held by Democrat Ted Kennedy up to his death in August 2009. With that seat, the Democrats lost their “super-majority” of 60 votes in the Senate—the number needed to prevent a filibuster by the opposing party. In addition, there was not even unanimous support for a climate bill among the Senate Democrats. A group of 15 Democratic senators known as the “Gang of 15” announced that their support for the Kerry-Boxer bill would depend on whether jobs in industry could be saved and whether the competitiveness of American industry could be increased. Many of these senators come from rust belt states like Michigan and Ohio or from coal states like West Virginia. Ten other Democratic senators are calling explicitly for the adoption of border adjustment measures. In order to win their support, the Democratic Party leadership will have to make further concessions. But catering too much to skeptical senators from their own ranks and from the opposition could also alienate Democrats with more ambitious ideas about US climate policy.

<sup>85</sup> Van Ness Feldman, “Democrats Report Kerry-Boxer Cap-and-Trade Bill” (see n. 83).

<sup>86</sup> Pew Center on Global Climate Change, *Summary of the CLEAR Act (Cantwell-Collins)*, <http://www.pewclimate.org/docUploads/summary-clear-act.pdf>.

Another climate policy proposal stems from a bipartisan effort initiated by John Kerry and Republican Lindsey Graham in a joint statement published in the *New York Times* in October 2009.<sup>87</sup> Many observers see it as crucial for a climate bill’s success that at least one leading Republican support it, since he or she would be in a position to credibly influence the rest of the party. In the legislative attempts of recent years, this role was played first by John McCain, and more recently by John Warner (both of them in partnership with Joe Lieberman). Warner has now left the Senate after declining to seek reelection in 2008; McCain, after losing the most recent presidential election, has now largely withdrawn from climate policy, a policy field heavily emphasized by his presidential opponent, Obama. Only in the discussion of nuclear energy has McCain continued to play an important role.

The Republicans demand weaker short-term targets for greenhouse gas reductions, financial support for nuclear energy and clean coal technologies, and an opening of coastal waters for oil and gas drilling.<sup>88</sup> These interests are, for example, also reflected in the Clean, Affordable, and Reliable Energy Act (CARE). In it, Republican Senator John Barrasso, together with other senators from the Western Caucus, a group of Republicans from the western states, call for the opening of the outer continental shelf in the Atlantic and Pacific and the Arctic National Wildlife Refuge for oil and gas exploration, for increased funding for nuclear energy, and for incentives for alternative fuels and improved energy efficiency.<sup>89</sup> While the Kerry-Boxer bill does address the issue of nuclear energy, important Republicans like John McCain and Lisa Murkowski rejected the provisions contained in it as inadequate. The Chairman of the Republican Conference, Lamar Alexander (Tennessee), called, on behalf of the Republican Party, for the construction of 100 new nuclear power plants.<sup>90</sup>

Many of these points are also contained in the initiative of Kerry and Graham. According to the two senators, nuclear energy is an “essential component”

<sup>87</sup> John Kerry and Lindsey Graham, “Yes We Can (Pass Climate Change Legislation),” *The New York Times*, October 11, 2009.

<sup>88</sup> Fischer and Holtrup-Moster, *Eines ist sicher* (see n. 71).

<sup>89</sup> GovTrack.us, S. 1333: *Clean, Affordable, and Reliable Energy Act of 2009*, <http://www.govtrack.us/congress/bill.xpd?bill=s111-1333>.

<sup>90</sup> Bart Jansen, “Senator Alexander Urges Democrats to Tackle Priorities One by One, in: *Congressional Quarterly Today*, September 1, 2009.

of the energy mix. Kerry and Graham not only strongly support clean coal technologies (“the United States should aim to become the Saudi Arabia of clean coal”), but also urge compromise in the exploration of additional oil and gas fields—which includes offshore drilling in previously protected areas of the outer continental shelf in the Atlantic and Pacific. They also call for border taxes on greenhouse-gas-intensive products from countries with less ambitious environmental standards. Finally, the two senators argue for establishing a floor and ceiling for the cost of emission allowances in the context of a national emissions trading system.<sup>91</sup> President Obama welcomed the initiative, saying that he supports the search for sustainable means of developing the country’s oil and gas reserves. He also emphasized that there is no technological reason why nuclear energy should not be able to be used in a safe and effective manner. While the Kerry-Boxer bill found itself caught in the crossfire of criticism, Senators Kerry and Graham, with the support of fellow Senator Joseph Lieberman, continued working on a bipartisan compromise proposal, with the support of the Obama administration as represented by Energy Secretary Steven Chu, Interior Secretary Ken Salazar, and Carol Browner, Director of the Office for Energy and Climate Change Policy. Just a few days before the Copenhagen Summit, Kerry and Graham submitted a concrete proposal to the president, also to serve as a point of orientation for negotiations: the mid-term target should be a 17 percent reduction of emissions (from 2005 levels). Further points touched on included support for domestic gas and oil production and nuclear energy, the creation of new jobs in the manufacturing sector (“technology for renewable energies”), and support for the agricultural sector.<sup>92</sup>

It ultimately came as no surprise that no legislative proposal was made prior to the climate summit. For one thing, the Senate’s workload was already extremely heavy, even without the climate bill: along with health reform and financial market regulation, a number of votes were scheduled to approve the budget for 2010. For another, there were the sharp differences of interests described above.

<sup>91</sup> Kerry and Graham, “Yes We Can (Pass Climate Change Legislation),” (see n. 87).

<sup>92</sup> Van Ness Feldman, “Weekly Climate Change Policy Update – December 7, 2009,” Washington D.C./Seattle, December 2009, <http://www.vnf.com/news-policyupdates-416.html>.

After the Copenhagen Summit, Graham, Kerry, and Lieberman’s initiative became the most hopeful undertaking in the Senate. This came at a price, however: The senators proposed replacing an economy-wide emissions trading system with a more decentralized approach. Senator Graham even announced that cap-and-trade was dead. This referred to the idea for an economy-wide emissions trading system covering approximately 85 percent of total US emissions. Nevertheless, cap-and-trade as a policy approach was still an important part of the new proposal. It identified three major sectors—electric utilities, industry, and transportation—that should be tackled separately. The first two of these would still be subject to an emissions trading system. While the system for electric utilities is supposed to start in 2012, industrial facilities would be subjected to such a system only from 2016 onwards. Emissions in the transportation sector, on the other hand, could be addressed by a fuel tax.<sup>93</sup>

However, in late April 2010 and only one day before the final bill was to be introduced, the only Republican co-sponsor, Lindsey Graham, withdrew his support. Graham was highly irritated about the Democratic leadership in Congress, which had announced that it would tackle immigration reform before dealing with climate policy. Immigration is a highly controversial issue among the Republicans. Graham perceived the Democrats’ change in priorities as a mere tactical move to secure votes from Hispanic voters in the midterm elections in November 2010. Nevertheless, Senators Kerry and Lieberman presented a discussion draft of the American Power Act on May 12, 2010.<sup>94</sup> Its greenhouse gas (GHG) emission reduction targets and timetables are comparable to those in the ACES: 17 percent by 2020 and 83 percent by 2050. As previously announced, they propose a sector-by-sector phased-in schedule of GHG regulation (electricity generation, industrial operations, natural gas distribution, and petroleum-based fuels). Electricity generation facilities and producers of refined petroleum products would both be covered by an emissions cap starting in 2013. While the former would be allowed to trade emissions permits, the latter would be

<sup>93</sup> Coral Davenport, “Outline of Senate Climate Change Bill Includes Sector-Tailored Regulations” in: *Congressional Quarterly Today Online News*, March 17, 2010.

<sup>94</sup> Pew Center on Global Climate Change, *Summary of the American Power Act (Kerry-Lieberman)*, <http://www.pewclimate.org/docUploads/Kerry-Lieberman-short-summary.pdf>; John Kerry, *American Power Act. Short Summary*, <http://kerry.senate.gov/americanpoweract/pdf/APAShortSummary.pdf>.

required to purchase these permits from the government at a set price—a compromise to win the support of the petroleum industry. Large industrial facilities and local natural gas distribution companies would only become subject to GHG regulation in 2016.

Kerry and Lieberman also reacted to the oil spill in the Gulf and to mounting opposition to offshore drilling by an increasing number of Democrats from coastal states—Florida’s Democratic Senator Bill Nelson, for example, had repeatedly threatened to filibuster any bill that proposed offshore drilling out of concern that the exploration of new oil and gas fields could damage the Florida coastline. While Kerry and Lieberman still propose an intensification of offshore drilling, states would be authorized to enact laws that “veto” such development within 75 miles of their coastlines. States would furthermore receive 37.5 percent of the revenues if they decide to allow for offshore drilling. In addition, the bill entails provisions in favor of nuclear power and clean coal. Politically, however, it is far from certain that these concessions will translate into actual support. Democrats, particularly those from coastal states, remain concerned about the risks of offshore drilling despite the restrictions and financial incentives included by Kerry and Lieberman. Republicans have already voiced their opposition. In early June, Republican Senator Richard Lugar introduced his Practical Energy and Climate Plan bill, which also addresses GHG emissions but does not impose a carbon price through a tax or a carbon cap. Instead, Lugar wants to reduce emissions through several measures such as improving energy efficiency in the transportation and building sector, setting diverse energy standards, requiring states to use clean energy sources, and creating a retirement program for heavily polluting coal-fired power plants. Senator Graham supported the Lugar proposal, announcing that he would vote against the Kerry-Lieberman bill in its current form.

While Senate Majority Leader Harry Reid wants to bring an energy bill to the Senate floor before the summer recess, a comprehensive US climate law is highly unlikely. Even if the Senate passed legislation, this is still not a final decision. The legislation of the two chambers of Congress will differ. Since the Senate and the House have to pass word-for-word identical pieces of legislation, the next step will be to vote on the proposals in a House-Senate conference. But the longer the voting on the legislation is postponed, the more likely it will be to collide with campaigns for Congressional midterm elections at the end of 2010.

## Climate Policy at the State Level

Whether or not the Obama administration is able to achieve its climate policy agenda depends not just on Congress, but also on the states. If national legislation fails, the role of states pushing US climate policy forward will once again take on greater importance.

### Climate policy initiatives at the state level

The states have proven to be dynamic and important actors in climate policy. The Bush administration did attempt to prevent the states from adopting their own climate policies: in 2007, the EPA prohibited California from limiting tailpipe emissions from cars. The EPA (under the Clean Air Act) is required to issue waivers to the states for the regulation of air pollution when these go beyond federal regulations—in California’s case, the agency refused to provide such a waiver. While there were no state-level regulations, the EPA argued that greenhouse gases are not air pollution and therefore do not fall under the regulatory boundaries of the Clean Air Act. The agency therefore argued that it did not possess the authority to regulate greenhouse gases and could not issue a waiver. The EPA took two and a half years to reach this decision, thereby delaying California’s climate policy. Furthermore, it was the first refusal of such a waiver in the history of the agency.<sup>95</sup> In a series of decisions, Supreme Court ruled in 2007 (in the case of *Massachusetts versus EPA*) that greenhouse gases do indeed fall under the Clean Air Act.<sup>96</sup> The EPA’s decision was therefore found to be invalid, and the agency had to either find new grounds to justify its decision or permit California to institute its own standards.

A number of states have also passed legislation on the reduction of greenhouse gases, including laws setting upper limits on emissions (California, Hawaii, Illinois, and New Jersey, among others). One of the most important energy and climate policy instruments at the state level has been the Renewable Portfolio Standards (RPS) introduced by 29 of the 50 states (see Figure 5, p. 32). Extreme differences exist between

the individual RPS systems in terms of minimum quotas, time horizons, geographic eligibility, penalties for noncompliance, and also technologies involved. The incentives for investments in renewable energies therefore vary to a similarly high degree.<sup>97</sup> Comparing the standards in the different states, they are particularly ambitious in California (20 percent by 2010 and 33 percent by 2020) and New York (25 percent<sup>98</sup> by 2013).<sup>99</sup> States with a high percentage of coal, gas, and oil in their energy production have so far failed to introduce RPS: these include states like Indiana (88 percent of total energy production was derived from coal in 2007) and Kentucky (2007: 95 percent of energy production from coal). Other political measures (efficiency and building standards) are also now widespread (see Table 2, p. 33). The objectives and regulations of the individual states depend heavily on their own energy production, energy mix, and economic structure.

The momentum for climate policy on the state level is reflected as well in the launch of three state initiatives for regional emissions trading systems: the Regional Greenhouse Gas Initiative (RGGI, since 2003)<sup>100</sup> on the East Coast, the initiative for the Midwestern Greenhouse Gas Reduction Accord (since 2007)<sup>101</sup> and the Western Climate Initiative

<sup>97</sup> WolfPeter Schill, Jochen Diekmann, and Claudia Kempfert, *Energie- und Klimaschutzpolitik: USA holen nur langsam auf*, Wochenbericht des DIW Berlin No. 46/2009, pp. 796–805, [http://www.diw.de/documents/publikationen/73/diw\\_01.c.342922.de/09-46-1.pdf](http://www.diw.de/documents/publikationen/73/diw_01.c.342922.de/09-46-1.pdf).

<sup>98</sup> 24 percent of this under the Main Tier, 1 percent based on Voluntary Green Market Programs.

<sup>99</sup> Pew Center on Global Climate Change, *Renewable & Alternative Energy Portfolio Standards*, [http://www.pewclimate.org/what\\_s\\_being\\_done/in\\_the\\_states/rps.cfm](http://www.pewclimate.org/what_s_being_done/in_the_states/rps.cfm).

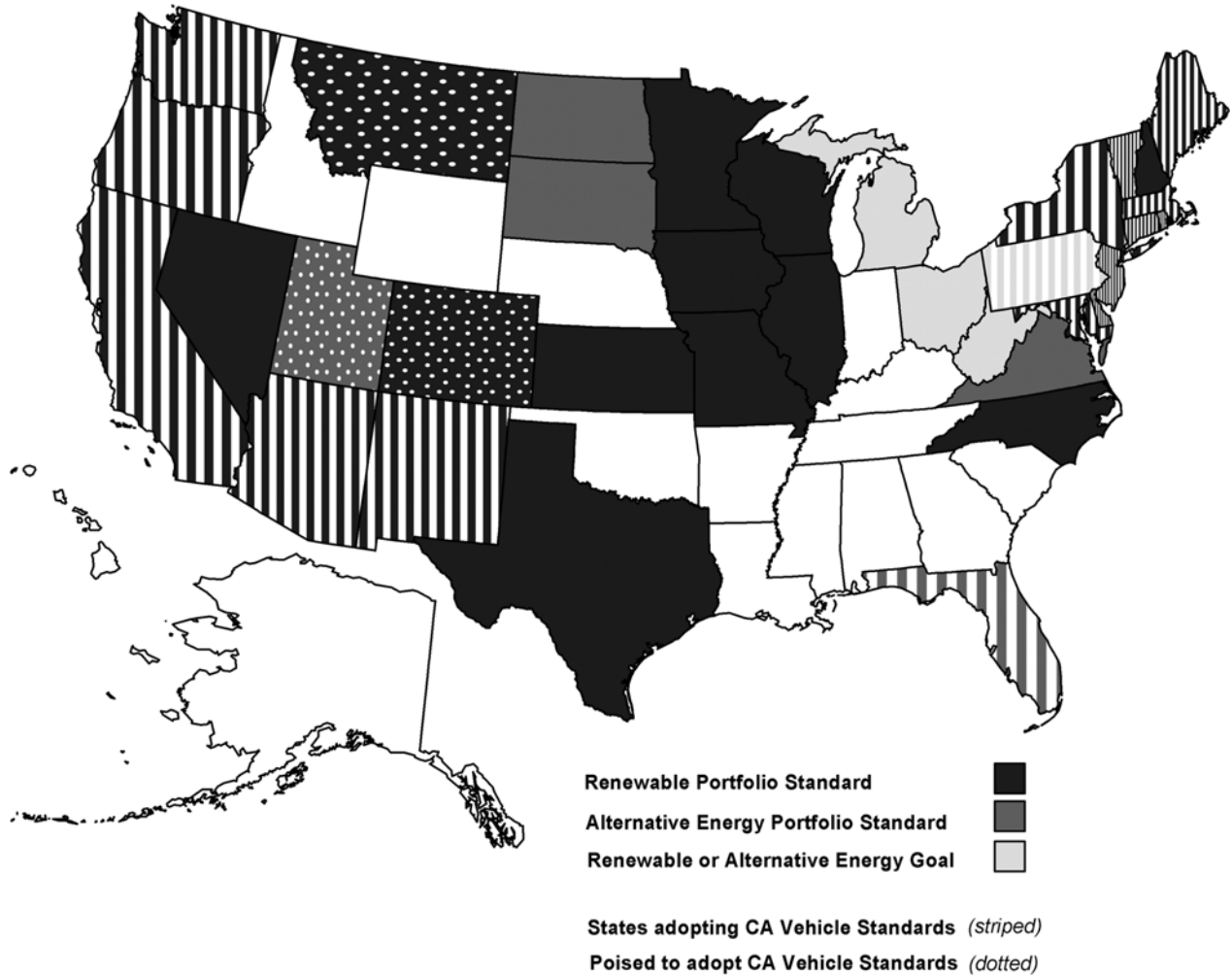
<sup>100</sup> The members are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

<sup>101</sup> The members are the US states of Iowa, Illinois, Kansas, Michigan, Minnesota, and Wisconsin as well as the Canadian province of Manitoba. Observers are Indiana, Ohio, Ontario, and South Dakota. Midwestern Greenhouse Gas Reduction Accord, <http://www.midwesternaccord.org/index.html>.

<sup>95</sup> Litz, *Toward a Constructive Dialogue* (see n. 41), p. 7.

<sup>96</sup> Knothe, “Straight Down the Dead End Street” (see n. 4).

**Figure 5**  
**Renewable and alternative energy portfolio standards, vehicle emissions standards**



Source: Pew Center on Global Climate Change, 2010.

(WCI, since 2007)<sup>102</sup> on the West Coast. The WCI, which is based on the 2003 West Coast Global Warming Initiative, the 2006 Southwest Climate Change Initiative, and a series of state initiatives, is especially ambitious. Along with carbon dioxide, it would also include other greenhouse gases in emissions trading. Furthermore, it would regulate not just emissions from power plants but also other greenhouse gas-producing industries, including the transport sector. Emissions trading is to begin in 2012. The Midwestern Regional GHG Reduction Accord (MGGRA) is still in the early stages, with six Midwestern US states and the

<sup>102</sup> The members are the US states of Arizona, California, Montana, New Mexico, Oregon, Utah, and Washington as well as the Canadian provinces of British Columbia, Manitoba, Ontario, and Quebec, <http://www.westernclimateinitiative.org/wci-partners-and-observers-map>.

Canadian province of Manitoba having signed on so far. The RGGI, on the other hand, is already being implemented. In 2008, Florida also enacted a law providing for the establishment of an emissions trading system. It is to be integrated into a larger context, either by joining one of the aforementioned initiatives or by establishing a similar initiative in the American Southwest. Table 3 (p. 34) summarizes the differences between the different regional emissions trading systems.

Despite their regional character, the initiatives mentioned should not be underestimated. In total, the states participating are responsible for around one-third of US emissions. They are also home to one in every two US citizens and produce approximately one-



**Table 2**  
**Selected political measures on the state level, as of 2009**

<i>Measure</i>	<i>Number of states that have implemented the measure</i>
Greenhouse gas register	41
Greenhouse gas inventories	43
Climate action plans (completed or under preparation)	36
Greenhouse gas targets	20
Greenhouse gas standards for motor vehicles	17
Mandates or initiatives to promote biofuels	39
Renewable portfolio standards	29
Energy efficiency/resource standards	21
Residential building codes	38
Commercial building codes	37

Source: Pew Center on Global Climate Change, [http://www.pewclimate.org/docUploads/AllStateInitiatives-01-27-09-a\\_0.pdf](http://www.pewclimate.org/docUploads/AllStateInitiatives-01-27-09-a_0.pdf).

half of US national income.<sup>103</sup> These diverse state initiatives not only have a direct impact on total US emissions, but also—due to the numerous differences between them—provide companies with an important incentive to advocate national standards in order to reduce costs and increase planning security.

Since Obama took office, activities at the state level have continued. For example, in mid-June 2009, representatives of the state of California, the RGGI, the MGGRA, and the WCI met for the first time to discuss linking the regional emissions trading systems in case the federal legislation pending before Congress should fail. In early October, the governors representing the eleven member states of the Midwestern Governors Association signed the Midwestern Energy Infrastructure Accord, an agreement aimed at promoting carbon capture and storage (development and deployment), smart grid, and other clean energy technologies in the region. In early October, Pennsylvania announced an action plan to reduce greenhouse gas emissions 30 percent by 2020. This is not insignificant, since Pennsylvania is the third-largest emitter in the US after Texas and California, followed by Ohio,

**103** This also covers three-quarters of the Canadian gross domestic product and of the Canadian population, as well as half of Canadian greenhouse gas emissions. See World Resources Institute (ed.), *State & Regional Climate Change Policy*, <http://www.wri.org/project/state-regional-climate-policy>.

Florida, and Illinois.<sup>104</sup> In December 2009, the governors of eleven states, most of them on the East Coast (including New York and Massachusetts), signed an agreement to promote the use of low-carbon fuels.<sup>105</sup>

A number of these agreements are not limited to the US. The Canadian province of Manitoba is, as mentioned above, a member of the MGGRA, and the province of Ontario has observer status. British Columbia, Manitoba, Ontario, and Quebec are Canadian members of the WCI, and the province of Saskatchewan is an observer in this initiative.

At the second Governors' Climate Summit in California in early October 2009, California, Wisconsin, and Illinois, as well as five Brazilian and three Indonesian states signed a memorandum on deforestation. Their aim was to petition their national governments to include regulations mandating sustainable forestry practices in a future international climate agreement. California and the Chinese province of Jiangsu reached an agreement focusing on clean energy cooperation and technology transfer. Finally, California signed a Statement of Intent with the United Nations Development Programme (UNDP) to assist African countries in developing low-carbon development strategies.<sup>106</sup>

## Tensions between state initiatives and the federal government

While the states have been pioneers in US climate policy up to now, a more aggressive federal climate policy under Obama could lead to tensions between the states and the federal government. These are likely to emerge in three areas: in the nationwide emissions trading system, in the national renewable energy standard, and in the modernization of the US electrical grid.<sup>107</sup>

**104** Environmental Protection Agency, *Energy CO<sub>2</sub> Emissions by State*, [http://www.epa.gov/climatechange/emissions/state\\_energyco2inv.html](http://www.epa.gov/climatechange/emissions/state_energyco2inv.html).

**105** *Northeast and Mid-Atlantic Low Carbon Fuel Standard, Memorandum of Understanding*, December 2009, <http://www.mass.gov/Eoeea/docs/eea/low-carbon-fuel-std.pdf>.

**106** Van Ness Feldman, "Weekly Climate Change Policy Update – October 5, 2009", Washington D.C./Seattle, October 2009, <http://www.vnf.com/news-policyupdates-395.html>.

**107** World Resources Institute, *State & Regional Climate Change Policy* (see n. 103).

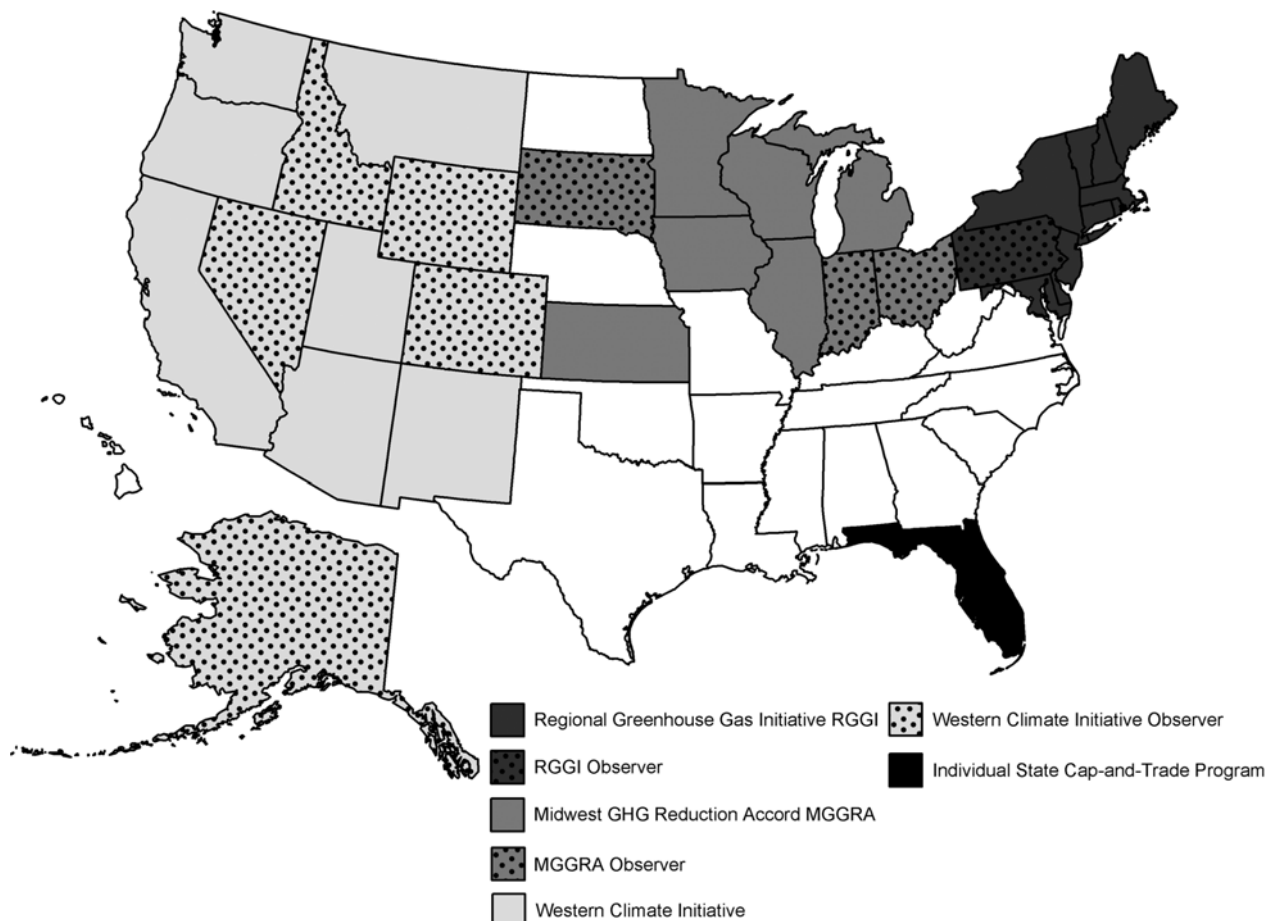
**Table 3**  
**Regional emissions trading initiatives**

	<i>Regional Greenhouse Gas Initiative (RGGI)</i>	<i>Western Climate Initiative (WCI)</i>	<i>Midwestern Regional GHG Reduction Accord (MGGRA)</i>
Start	January 2009	January 2012	January 2012
Greenhouse gases covered	Carbon dioxide	“Kyoto basket”*	“Kyoto basket”*
Percentage of total emissions	28% (power sector)	From 2012 on: 50% From 2015 on: almost 90%	Almost 90%
Reduction goals	2014: stabilization 2015–2018: -10% (base year 2009)	2020: -15% (below 2005 levels)	2020: -20% (possibly just by -18% if costs are too high) 2050: -80% (base year 2005)

\* The “Kyoto basket” includes the six greenhouse gases carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (laughing gas, N<sub>2</sub>O), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons/perfluorocarbons (HFC/PFCs), and sulphur hexafluoride (SF<sub>6</sub>).

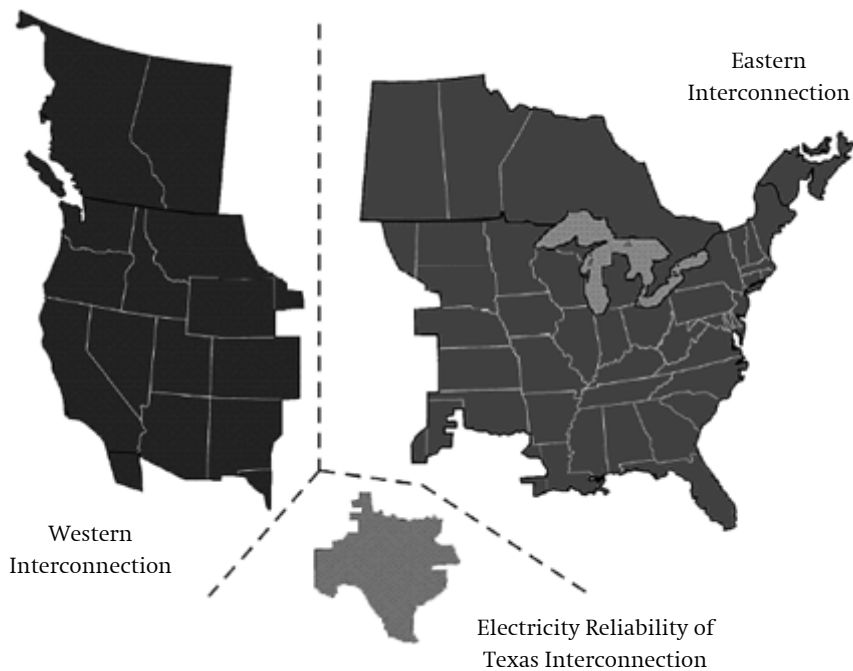
Source: World Resources Institute, <http://www.wri.org/chart/regional-climate-initiatives-united-states-and-canada>.

**Figure 6**  
**Regional emissions trading initiatives, members and observers**



Source: Pew Center on Global Climate Change, 2010.

**Figure 7**  
North American electricity transmission systems



Source: Department of Energy, 2010.

The American Clean Energy and Security Act envisions replacing regional initiatives with a nationwide emissions trading system. This would offer the advantage of bringing in the more hesitant states and avoiding unnecessary costs to industry due to different regulatory regimes. But the important question remains how such a system will relate to the regional initiatives already being planned. The governors of the participating states in the Midwestern Greenhouse Gas Reduction Accord have already taken action in anticipation of this. In mid-September 2009, they announced that they would withdraw from the initiative and instead focus on measures that would be complementary to federal efforts, such as the implementation of stricter standards for renewable energies.<sup>108</sup> But if a national emissions trading system is not established, this will have resulted in unnecessary delays to state initiatives.

In the area of renewable portfolio standards, the proposed legislation before Congress would put national standards into effect, allowing states flexi-

bility to set their own higher standards while establishing clear minimum standards for all the states. A nationwide regulation of this kind would not only help to promote renewable energies but would avoid discrimination between states. But resistance is already mounting against national standards, especially in those states that have had low standards up to now. With an appeal to “states’ rights,” they argue that electricity production is under their own jurisdiction and not that of the federal government.

Electrical power grids could also become a point of contention. The need to modernize the US power grid is evident. First, there are bottlenecks in transmission capacities that limit power trading; second, the power grid is much less stable in the US than in Germany, for example, and large-scale power failures are by no means rare. Bottlenecks occur especially in the East Coast region between the state of New York and northern Virginia, as well as in southern California.<sup>109</sup> Estimates show that power outages and fluctuations in transmission quality cost the US economy as much

<sup>108</sup> Van Ness Feldman, “Weekly Climate Change Policy Update – September 21, 2009,” Washington D.C./Seattle, September 2009, <http://www.vnf.com/news-policyupdates-389.html>.

<sup>109</sup> John Kemp, “The Fantasy of a U.S. Super-Grid,” *Reuters*, October 15, 2009; U.S. Department of Energy, *2006 National Electric Transmission Congestion Study*, Washington D.C., August 2006, [http://www.oe.energy.gov/DocumentsandMedia/Congestion\\_Study\\_2006-9MB.pdf](http://www.oe.energy.gov/DocumentsandMedia/Congestion_Study_2006-9MB.pdf).

as \$180 billion per year.<sup>110</sup> The American Society of Civil Engineers estimates that electric utility investment needs could be as much as \$1.5 trillion by 2030.<sup>111</sup> At present, the US power grid is divided into three regional networks. The eastern states are served by the Eastern Interconnection; the western third of the country is served by the Western Interconnection; and Texas is served by the Texas Interconnection (see Figure 7, p. 35). But between these networks there are only limited interconnections—this fragmentation, often referred to as the “Balkanization” of the transmission grid, is not only inefficient but expensive as well.

Obama and Congress therefore plan to modernize the nation’s power system utilizing super grid and smart grid technologies. This would ensure more reliable power transmission and maximize the clean energy generation. One basic problem with renewable energies is the difficulty in balancing energy generation and energy needs. The range of renewable energies available is subject to fluctuations, since sun and wind are not constantly available. In addition, the power plants for these energy sources are seldom located in the same places as the consumers. Rural areas like the southwestern US (for solar power) and the Midwest (for wind power) therefore need to be better connected to more densely populated regions. Up to now, electricity transmission has been accompanied by extremely high losses. A new, more efficient power network (super grid) would make it possible to reduce the percentage of energy lost during transmission. An intelligent network (smart grid) would also equip the power system with informational and communication technologies that would increase transparency and make it easier to control energy use. This would make it possible to better utilize the natural geographic potential of the United States.

If the planned project of a unified smart grid is to be realized, the federal government will need the cooperation of the states. Conflicts of jurisdiction between the states and the federal government over power sector regulation and differences in laws, technical standards, and the details of state-level regula-

tions will make it difficult to create such a super grid.<sup>112</sup> The hurdles are not just of a technical nature, but also the result of some states’ opposition to developing new transmission capacities and to the high investment costs of expanding the decentralized components of a smart grid. Some US states also fear that a super grid could increase competition from power generated in other states and hamper the development of their own renewable energy sectors.

In May 2009, the Western Governors’ Association sent a letter to the Chairman of the Senate Energy and Natural Resources Committee, Jeff Bingaman, urging support for the modernization and expansion of the electric grid.<sup>113</sup> In the same month, however, eleven governors from the Northeast states also sent a letter to Congress expressing their concern over the “significant risks posed by recent proposals regarding transmission.” These initiatives could, according to the governors, “jeopardize our states’ efforts to develop wind resources” (especially offshore projects) and would “inject federal jurisdiction into an area traditionally handled by states and regions.”<sup>114</sup> Specifically, the governors of the Northeast states fear competition from exporters of bulk power from the Midwest states, and therefore urge the adoption of regional standards for energy provision.

**110** Elisa Wood, “Supergrid for Renewables: Coloring the US Grid Green,” *RenewableEnergyWorld.com*, October 6, 2009, <http://www.renewableenergyworld.com/rea/news/article/2009/10/supergrid-for-renewables-colouring-the-us-grid-green>.

**111** American Society of Civil Engineers, *Report Card for America’s Infrastructure*, 2009, <http://www.infrastructurereportcard.org/fact-sheet/energy>.

**112** Wörlen et al., *USA Energie- und Klimapolitik* (see n. 75).

**113** Western Governors’ Association, *Letter to The Honorable Jeff Bingaman, Chairman Senate Energy & Natural Resources Committee*, May 1, 2009, <http://www.westgov.org/wga/testim/transmission5-1-09.pdf>.

**114** Governors’ Letter to Congress, May 4, 2009, <http://greendel.org/?p=9004>, see also: Wood, “Supergrid for Renewables” (see n. 110).

## Recommendations: Utilize the Opportunities – But Don't Expect Too Much

Comparing the climate policy of the Obama administration with that under President Bush, it is evident that not only have the conditions for effective action improved significantly, but there is also more vigorous action on climate policy at the national level. A binding international agreement with the US as envisioned by Europeans is not, however, within reach. Even if Congress were to pass climate legislation, there would still not be the majority needed to ratify an international treaty. It is far more likely that the US will pursue climate policy in accordance with national legislation. This was clearly confirmed in Copenhagen when Obama refused to improve on the US offer, contributing significantly to the Summit's failure.

It is not a solution to continue the UNFCCC process with no regard for the American position, thereby risking the failure of negotiations and pressing ahead—as in the Kyoto process—with a new agreement lacking Washington's support. Without the US, the country responsible for more than 20 percent of global carbon emissions, such an agreement would be unlikely to have any significant impact. If the US does not participate, China, too, will hardly be willing to join an effective international climate protection regime. Such an agreement would not only alienate the US; it would also justify inaction on the part of large developing countries.

The question of what form an agreement should take is still a crucial one, as the Copenhagen Summit clearly demonstrated. The EU strongly advocates the adoption of legally binding emissions reductions at the international level. The US administration emphasizes the necessity of reconciling international commitments with national legislation. Although Europeans might ask themselves whether, in view of the resistance from the US, pursuing a binding international treaty with quantified targets still makes sense, they should still by all means adhere to binding and substantial emission reduction targets in the medium and long term. After all, there are clear advantages to this approach: for other countries, it makes the efforts of negotiating partners visible and predictable. And in the best possible case, international regulations also entail sanctions. Furthermore, giving up this goal would mean a clear rejection

of the developing countries—who are no longer willing to let the big players in negotiations set all the conditions for them. That, too, was clearly seen in Copenhagen, where some developing countries refused to sign an agreement they felt was inadequate. Abandoning the idea of an internationally binding agreement would, like ignoring the US, result in a stalemate in the UN negotiations.

Due to the complicated situation, only slow progress can be expected in this process in the future as well. One crucial factor is the more active involvement of the US. But what are Europe's options for action in relation to the United States? In view of the overriding importance of domestic policy for American climate policy, Europe's options are limited. The EU will mainly have the task of continuing to lead by example and convincing the other parties in negotiations that the complicated situation can only be resolved through courage and political resolve. In preparation for upcoming international climate summits, the focus should be on measurement, reporting, and verification of the success of climate protection initiatives under the Copenhagen Accord. It stipulates that the climate protection efforts of developing countries should only be subjected to international scrutiny if they were carried out with international financial assistance. For national measures, however, the measurement, reporting, and verification duties are to be carried out by national agencies. Specifically, the accord stipulates that "Non-Annex I Parties will communicate information on the implementation of their actions through National Communications, with provisions for international consultations and analysis under clearly defined guidelines that will ensure that national sovereignty is respected."<sup>115</sup> In defining the provisions for consultations and analysis, efforts should be made to achieve the greatest possible transparency. Even without internationally binding targets, countries implementing measures can make these instruments and their successes visible and measurable for all the other partners in negotiations. This would comply with the demands of the US Senate and

<sup>115</sup> Decision -/CP.15 The Conference of the Parties, Takes Note of the Copenhagen Accord of 18 December 2009.

thus improve the chances of national climate legislation in the United States.

Alongside these measures relating to the UN process, Europeans have several bilateral instruments at their disposal to influence actors at the national level in the US, even if the chances of having an impact are fairly low. In general, the objective must be to convey to the key players that international climate protection is in their own interest—also economically. Points of convergence for transatlantic dialogue exist in the areas of technology transfer and the protection of intellectual property rights and in the joint development of standards for emissions trading, power grids, and electric-powered vehicles. By setting joint standards, export-oriented companies in the US and the EU could reduce their costs (different production lines at the company level create high additional costs) and increase their exports. Furthermore, transatlantic standards would make it possible to influence regulatory processes and standards in the developing countries more than when the US and EU compete with each other on this point. The compatibility of American emissions trading systems with the European trading system is also extremely important: different standards would impede the development of a global market for greenhouse gases in the long run.

There are a number of transatlantic institutions for dialogue in which these issues can be addressed. The Transatlantic Economic Council (TEC), founded in 2007, deals with mutual recognition and harmonization of standards; the EU-US Energy Council, founded in the fall of 2009, aims to boost transatlantic cooperation on energy policy. In this context, strengthening the role of Congress will be crucial. Since the states will remain key players advancing the cause of climate policy in the US, cooperation with the states should be maintained and intensified. A forum for exchange over emissions trading systems is the International Carbon Action Partnership (ICAP) founded in 2007; its members include the EU, Germany, and representatives of the Regional Greenhouse Gas Initiative and the Western Climate Initiative. The aim of this partnership is to work toward the compatibility of emission trading systems. Furthermore, the Transatlantic Climate Bridge initiated in late 2008 between Germany and the US can serve as a forum to strengthen climate policy networks with a broad group of key stakeholders in climate policy at the national level, to build climate policy networks, and thus to have an impact on public opinion in the United States. This opportunity should be utilized even more: in dealing

with the US, cooperation promises significantly greater success than confrontation.

# Appendix

## Tables

**Table A1**  
**Selected US Institutions in the decision-making process on climate policy**

**Executive**

<p>The White House Office of Energy and Climate Change Policy          Director:          CAROL BROWNER</p>	<p>The White House Office of Energy and Climate Change Policy is a new government entity created by the Obama administration to coordinate administration policy on questions of energy and climate change between different government agencies. Its director is Carol Browner, who was Administrator of the EPA during the Clinton administration. Browner is also President Obama's most important advisor on energy policy.</p>
<p>Special Envoy for Climate Change          TODD STERN</p>	<p>The Special Envoy for Climate Change is part of the US State Department and leads the American delegation at international climate talks, such as those at the UN. Todd Stern played an important role in the Clinton administration in negotiating the Kyoto Protocol. The Deputy Special Envoy is Jonathan Pershing.</p>
<p>Environmental Protection Agency (EPA)          Administrator:          LISA JACKSON</p>	<p>The EPA, as an agency of the federal government without cabinet status, is charged with the protection of human health and the environment (water, land, air). It was founded in 1970 as a single, independent agency out of several branches of federal agencies responsible for research, regulation, and monitoring. Its main headquarters is in Washington, D.C., and it has ten regional offices responsible for implementing agency programs at the state level. The EPA's responsibilities include setting and enforcing national standards under a range of environmental legislation and monitoring compliance with these standards. It also operates research laboratories, provides information to the public, and allocates funds for research projects. The EPA has 17,000 employees and an annual budget of 10.5 billion dollars (FY 2010).</p>
<p>Department of Energy (DOE)          Secretary of Energy:          STEVEN CHU</p>	<p>The Department of Energy is concerned with energy questions, as well as a number of environmental issues (particularly in the field of nuclear energy). It is responsible for further developing the energy infrastructure; this includes monitoring and research in the areas of fossil fuels and nuclear and renewable energy sources, energy efficiency, energy production, and waste disposal. The Department of Energy also issues guidelines and monitoring reports. Within the department, the Office of Policy and International Affairs' role is to deliver advice on international issues.</p>
<p>Federal Energy Regulatory Commission (FERC), Chair:          JON WELLINGHOFF</p>	<p>The FERC is a regulatory agency within the Department of Energy, but is largely independent in its decision-making. It regulates interstate energy trade and the interstate energy infrastructure, and is responsible for grid expansion at the state level.</p>
<p>Department of Agriculture (USDA)          Secretary of Agriculture:          TOM VILSACK</p>	<p>The Department of Agriculture is responsible for agriculture, food, and natural resource policy. It also manages several support programs for renewable energy projects.</p>



**Table A1**  
**Selected US Institutions in the decision-making process on climate policy (continuation)**

**Legislative**

<p><i>House of Representatives</i>          Select Committee on Energy Independence and Global Warming          Chair: EDWARD MARKEY</p>	<p>The House Select Committee on Energy Independence and Global Warming was created in 2007 by House Speaker Nancy Pelosi to place more weight on climate change issues in Congress. The committee does not have legislative authority, but does play a decisive role in the congressional climate policy debate by conducting numerous hearings on climate change issues. Its chair is Edward Markey, one of the two sponsors of the climate bill that passed in June 2009.</p>
<p><i>House of Representatives</i>          Committee on Energy and Commerce          Chair: HENRY WAXMAN</p>	<p>Within this House Committee, the Subcommittee on Energy and Environment, chaired by Edward Markey, is of key importance for issues of climate change and environmental protection. The chair of the Committee on Energy and Commerce is Henry Waxman, the co-sponsor of the climate bill that passed in June 2009.</p>
<p><i>Senate</i>          Committee on Energy and Natural Resources          Chair: JEFF BINGAMAN</p>	<p>The Subcommittee on Energy is the Senate subcommittee responsible for questions of climate change. Its chair is Maria Cantwell. The Senate Energy and Natural Resources Committee is chaired by Jeff Bingaman, and Lisa Murkowski is the ranking member.</p>
<p><i>Senate</i>          Committee on Environment and Public Works          Chair: BARBARA BOXER</p>	<p>This committee addresses questions of climate change, particularly through its two Subcommittees on Clean Air and Nuclear Safety, and on Green Jobs and the New Economy. The full committee is chaired by Barbara Boxer, and James Inhofe is the ranking member. A large part of Senate negotiations on the proposed legislation take place in this committee before being brought before the full Senate.</p>
<p>Other committees</p>	<p>The Senate Committees for Finance; Agriculture, Nutrition, and Forestry; Foreign Relations; and Commerce, Science, and Transportation all have a direct influence on climate policy legislation—by, among other things, examining proposed legislation and proposing amendments. They deal mainly with subsections of the bills that fall under the particular committee’s jurisdiction.</p>

Source: Authors’ summary.

**Table A2**  
**Voting behavior of Democrats and Republicans on selected climate and energy bills**

	Voting in the	Bill/amendment climate-friendly (Yes/No)	Bill/amendment passed (Yes/No)	Yes-votes		No-votes	
				total	Republicans	total	Democrats
Amendment 2028 to Climate Stewardship Act of 2003	Senate	Yes	No	43	6	55	10
McCain-Lieberman Amdt. (No. 826) to Energy Policy Act of 2005	Senate	Yes	No	38	6	60	12
Motion To Table Bingaman Amdt. (No. 866) 2005 to Energy Policy Act of 2005	Senate	No	No	44	42	53	41
Energy Policy Act of 2005	House	<sup>1</sup>	Yes	275	200	156	124
Energy Independence and Security Act of 2007	Senate	<sup>1</sup>	Yes	74	48	26	19
America's Climate Security Act/Lieberman-Warner Bill of 2007	House	Yes <sup>2</sup>	Yes	264	36	163	4
	Senate	Yes <sup>2</sup>	Yes	65	19	27	4
Lieberman-Warner Climate Security Act (S. 3036) of 2008	Senate Committee on Environment and Public Works	Yes	Yes	11	1	8	0
American Clean Energy and Security Act of 2009	House	Yes	No	48	7	36	4
Clean Energy Jobs and American Power Act	Senate Committee on Environment and Public Works	Yes	Yes	219	8	212	44
			Yes	11	0	1	1

<sup>1</sup> Not conceived of as climate legislation.

<sup>2</sup> Basically an energy bill, but more climate friendly than the Energy Policy Act of 2005.

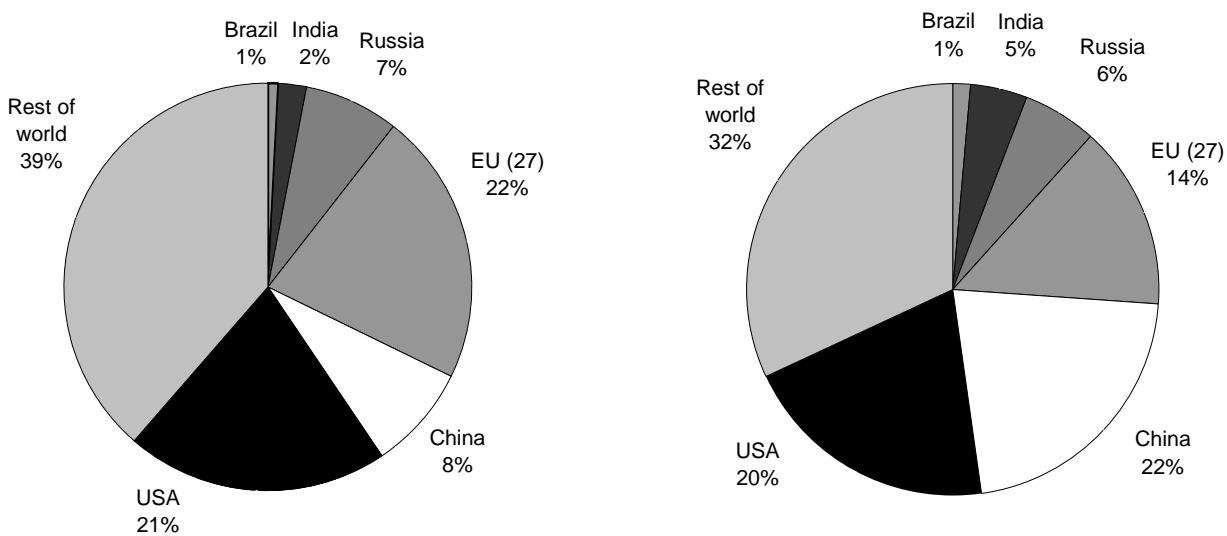
<sup>3</sup> Voting on an end of the debate on the Boxer Amdt. No. 4825, in order to come to a vote (invoke cloture); 60 yes-votes would have been needed.

### Greenhouse gas emissions in the United States

US carbon emissions between 1850 and 2000 were almost as high as the emissions of all 27 Member States of the European Union put together. The US has also played a major role in the more recent past: in

2005, the US was responsible for more than 20 percent of carbon emissions worldwide (see Figure A1). Only in 2007 was the US overtaken by China as the world's largest carbon emitter.

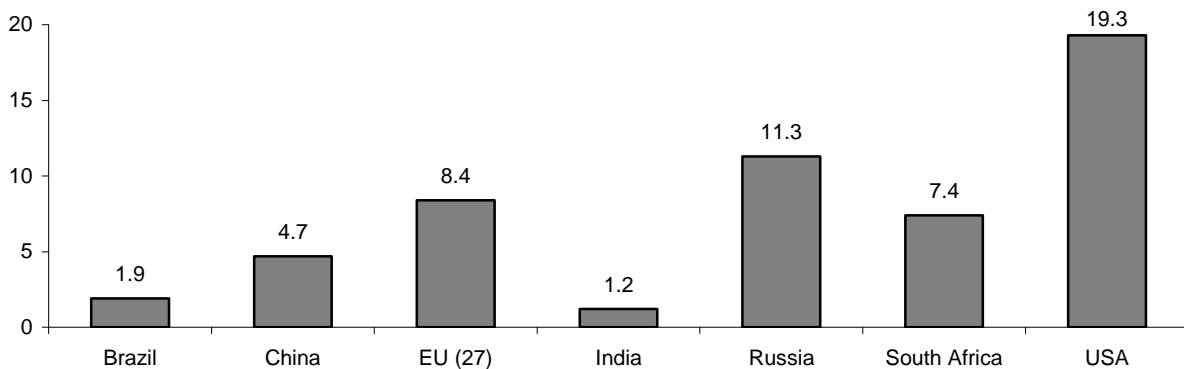
**Figure A1**  
Global distribution of carbon emissions 1850–2000 (left) and in 2005 (right)



The importance of the US in climate protection is even more evident when looking at per capita emissions. In 2006, the US was in ninth place in per capita carbon emissions with 19.9 tons after Qatar, the United Arab Emirates, Kuwait, Bahrain, Luxemburg,

Trinidad and Tobago, the Antilles, and Aruba. American per capita emissions were more than twice the EU average in 2005 and almost five times as high as China's.

**Figure A2**  
International comparison of per capita emissions in 2005 (in tons of CO<sub>2</sub>)

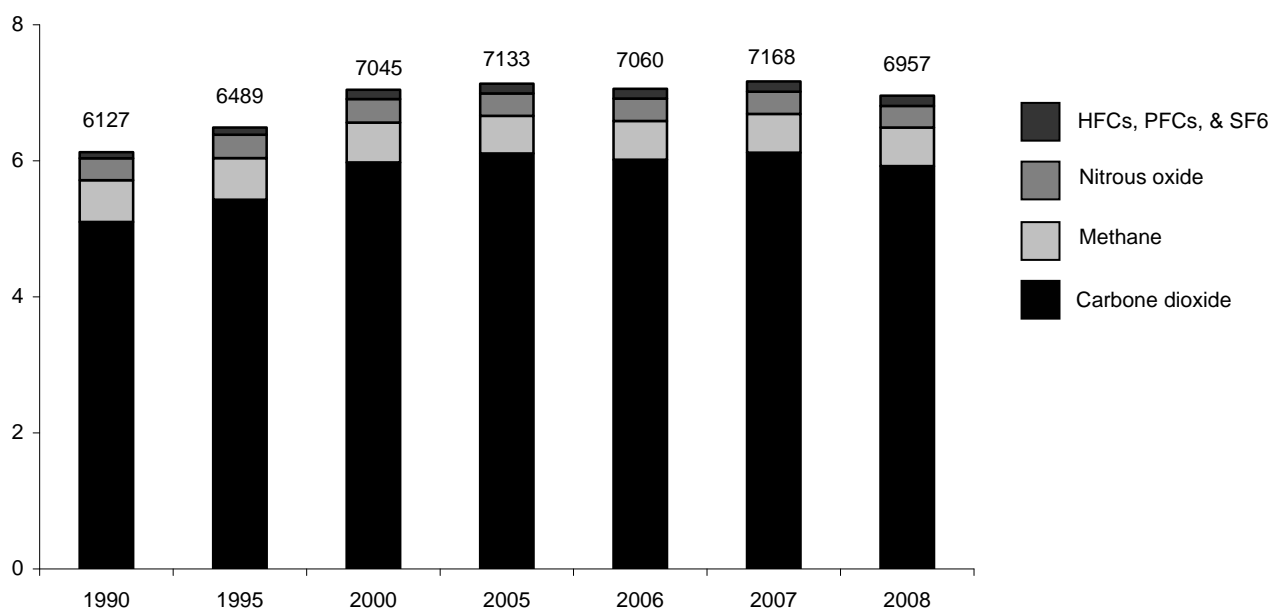


Source for Figures A1/A2: Climate Analysis Indicators Tool (CAIT) Version 6.0 (Washington, D.C.: World Resources Institute, 2009).

While carbon emissions fell in Europe from 1990 to 2005, they rose by 14 percent in the US to 7,108 megatons of carbon equivalent annually. According to the EIA, reason for the increase in total emissions—despite the US economy’s reduced carbon intensity (see Figure A5)—was the high economic growth of 3 percent annually. Emissions have been increasing at a slower rate since the recession of 2001 that followed the

bursting of the “new economy” bubble. The EPA blames the 1.4 percent increase in emissions between 2006 and 2007 on weather conditions: colder winters and hotter summers are increasing the need for heating and air conditioning, and thus increasing the demand for electricity and fossil fuels. According to the EIA, emissions fell significantly in 2008 in the wake of the economic and financial crisis by 2.2 percent.

**Figure A3**  
Trends in US greenhouse gas emissions 1990–2007 (carbon equivalent in millions of tons)

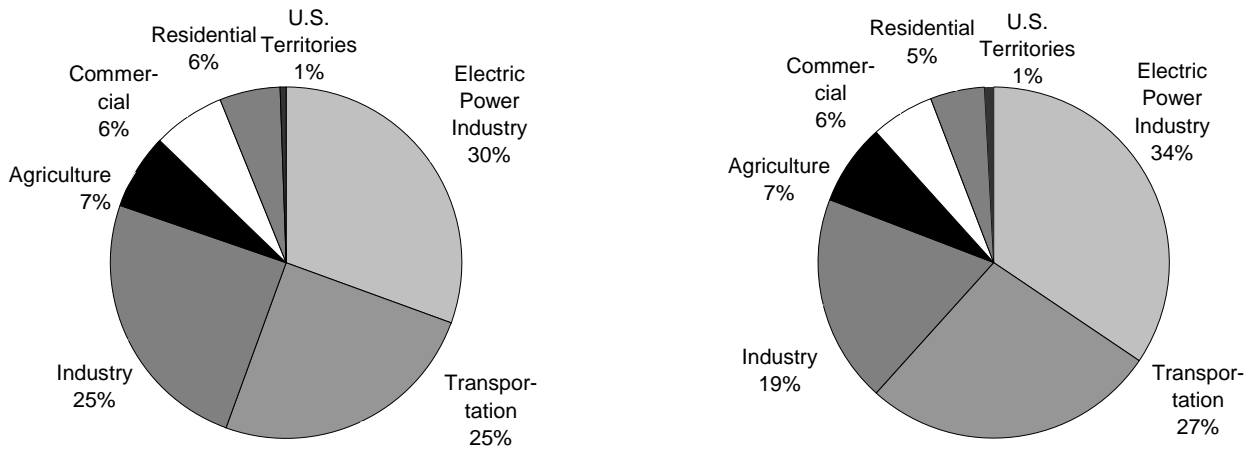


Source: EPA, Greenhouse Gas Emissions, <http://www.epa.gov/climatechange/emissions/>.

Categorized by end user, the US economy’s emissions are distributed as follows: around 34 percent come from energy production, 28 percent from the transport sector, 19 percent from industry, and just

5 percent from private households (see Figure A4). Energy production and transport are thus central to an effective US climate policy.

**Figure A4**  
 US greenhouse gas emissions by sector: 1990 (left), 2008 (right)

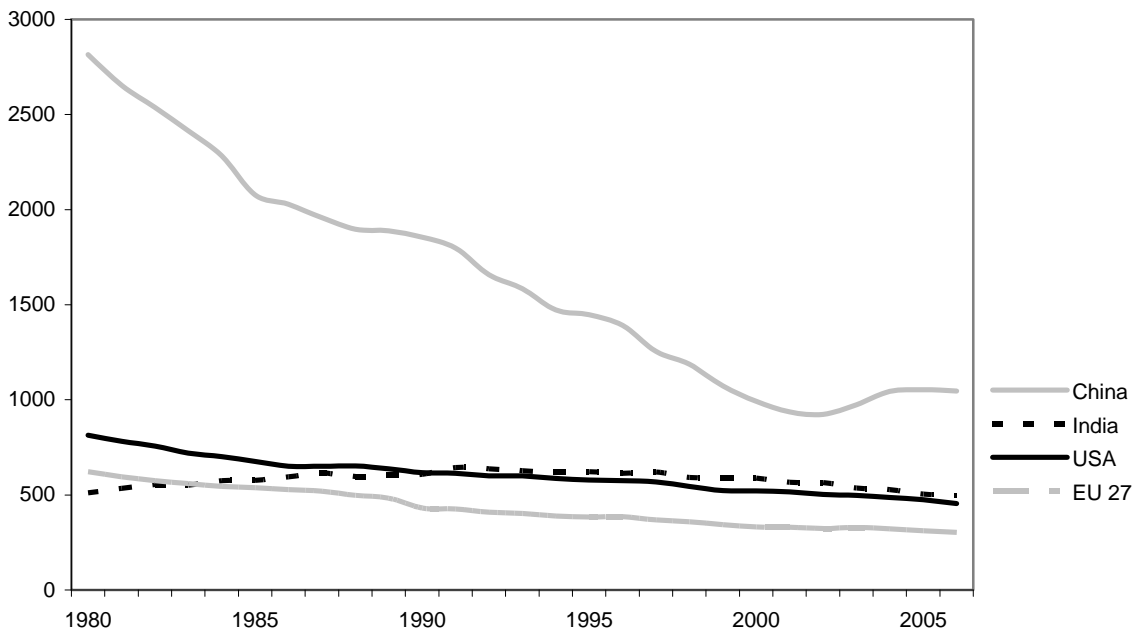


Source: EPA, Greenhouse Gas Emissions, <http://www.epa.gov/climatechange/emissions/>.

The distribution of emissions among the individual sectors of the US economy has remained almost unchanged since the early 1990s. Emissions of the most important greenhouse gas, carbon dioxide (CO<sub>2</sub>), for example, increased at a fairly constant rate in the

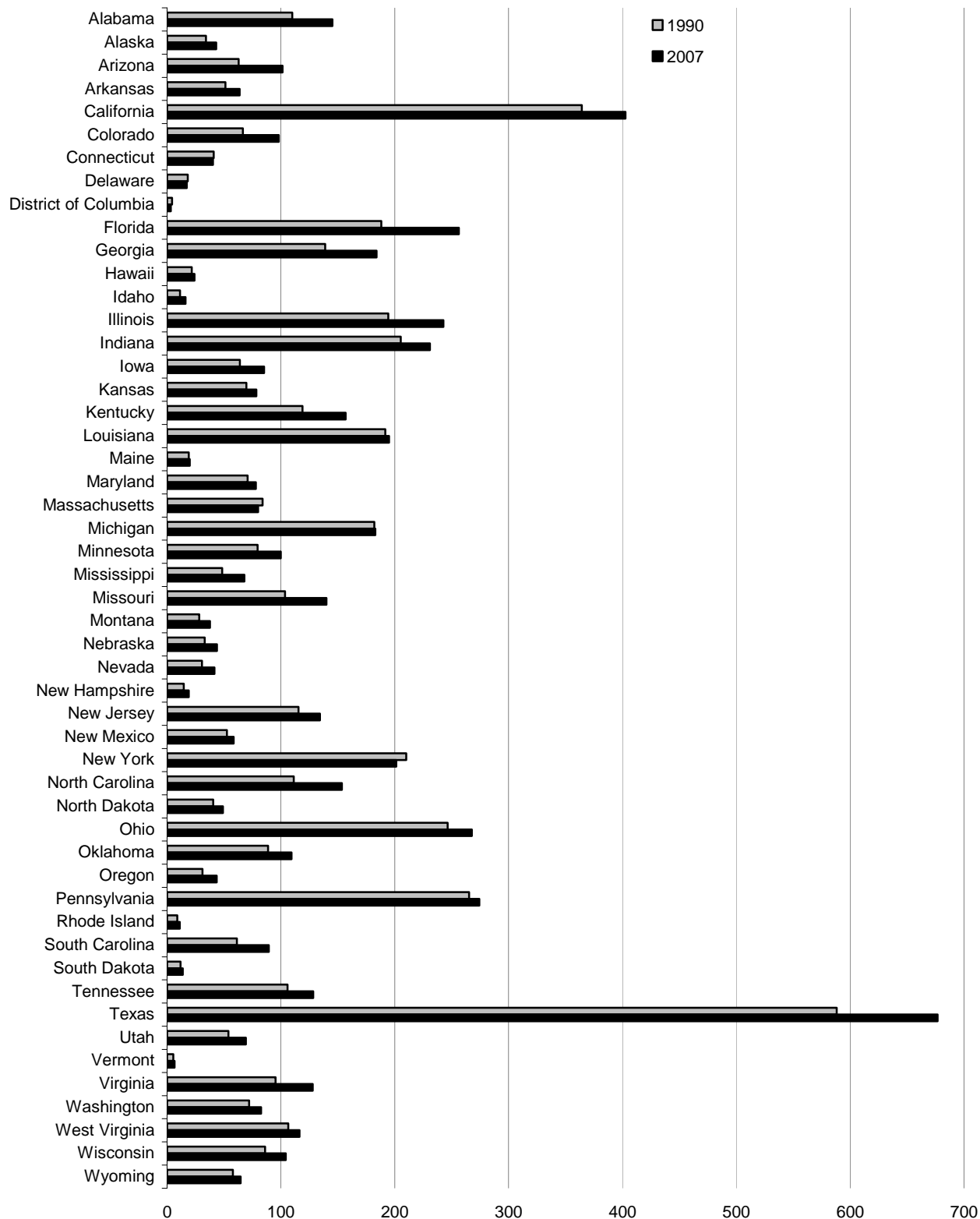
energy sector (by 1.7 percent annually) and transport (by 1.4 percent annually). Carbon emissions differ widely from state to state. They are especially high in Texas, followed by California, Pennsylvania, and Ohio (see Figure A6).

**Figure A5**  
 Carbon intensity of different economies  
 (in tons of CO<sub>2</sub>/US dollar GDP)



Source: World Resources Institute, 2009.

**Figure A6**  
**State carbon emissions 1990/2007 (in millions of metric tons)**



Source: EPA, *Greenhouse Gas Emissions*, [http://www.epa.gov/climatechange/emissions/downloads/CO2FFC\\_2007.pdf](http://www.epa.gov/climatechange/emissions/downloads/CO2FFC_2007.pdf).

## Acronyms

ACELA	American Clean Energy Leadership Act
ACES	American Clean Energy and Security Act
ACSA	America's Climate Security Act
APEC	Asia-Pacific Economic Cooperation
APP	Asia-Pacific Partnership on Clean Development and Climate
ARRA	American Recovery and Reinvestment Act
BDI	Bundesverband der Deutschen Industrie (Federation of German Industry)
CAA	Clean Air Act
CAFE	Corporate average fuel economy (efficiency standards for cars and small trucks)
CARE	Clean, Affordable, and Reliable Energy Act
CBO	Congressional Budget Office
CCS	Carbon capture and storage
CH <sub>4</sub>	Methane
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon equivalent
CRS	Congressional Research Service
DIHK	Deutscher Industrie- und Handelskammertag (German Chambers of Industry and Commerce)
DIW	Deutsches Institut für Wirtschaftsforschung (German Institute for Economic Research)
DOE	Department of Energy
EIA	Energy Information Administration
EPA	Environmental Protection Agency
FAO	Food and Agriculture Organization (of the United Nations)
FERC	Federal Energy Regulatory Commission
GDP	Gross Domestic Product
GHG	Greenhouse Gases
HFC	Hydrofluorocarbon
HCFC	Hydrochlorofluorocarbons
ICAP	International Carbon Action Partnership
IPCC	Intergovernmental Panel on Climate Change
LDC	Least developed countries
MEF	Major Economies Forum
MGGRA	Midwestern Regional GHG Reduction Accord
N <sub>2</sub> O	Carbon monoxide
NAMAs	Nationally Appropriate Mitigation Actions
NGO	Non-governmental organization
NOAA	National Oceanic and Atmospheric Administration
PFC	Perfluorocarbons
RGGI	Regional Greenhouse Gas Initiative
RPS	Renewable portfolio standard
SF <sub>6</sub>	Sulphur hexafluoride
TEC	Transatlantic Economic Council
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
WCI	Western Climate Initiative
WRI	World Resources Institute