Program Moderators:
Susan Mac Cormac, Morrison & Foerster, CTC3 Co-Chair
Kenneth Markowitz, Akin Gump Strauss Hauer and Feld, CTC3 Co-Chair

Program Panelists:
Jeff Cohen, Environmental Protection Agency and California Air Resources Control Board
Cara Horowitz, Executive Director of UCLA’s Emmett Center on Climate Change
Michael Wara, Law Professor and Research Fellow for Stanford’s Program on Energy and Sustainable Development (PESD)

This article summarizes CTC3’s program on federal and state climate change legislation and its potential impact on clean technology at the ABA’s annual meeting in Chicago, Illinois. The program began with introductory remarks from Gill Wittamore, the past section chair for the Section of Science and Technology Law of the ABA, Susan Mac Cormac, and Ken Markowitz, Co-Chairs of the CTC3, and an introduction of the other panelists – Michael Wara, Cara Horowitz, and Jeff Cohen.

While each of the panelists provided commentary on several of the various issues discussed throughout the program, the specific areas focused on by each of the panelists were as follows: Michael Wara focused on the issue of funding resources for the deployment of clean technologies; Cara Horowitz focused on recent national, state, and local climate change regulations and the interplay between them; and Jeff Cohen focused on the lessons learned from the Montreal Protocol.

The substantive program opened with a general overview of recent climate change legislation from an international, national, and local perspective. The history of international collaboration to reduce greenhouse gas emissions was traced from the creation of the United Nations Framework on Climate Change in 1992 to the passage of the Kyoto Protocol to the current international negotiations to establish new targets and timetables to further reduce emissions, as the commitments made in Kyoto expire at the end of 2012. The success of these current negotiations hinges on developed and emerging economies, such as China, Brazil, and India, striking a balance between making emission reduction commitments, facilitating technology transfer, and providing financing. Most importantly, the international community must put solutions before
politics and create a new and meaningful legal framework to mitigate greenhouse gas emissions and ease the adaptation to climate change.

At the national level, the recent passage of the American Clean Energy and Security Act (ACESA), also known as the Waxman-Markey Bill, by the House was discussed. Also, at the local level, California’s passage of AB 32 and the northeast’s Regional Greenhouse Gas Initiative known as “RGGI,” which represents the nation’s first operational cap-and-trade program, were highlighted. Additionally, the recent passage of the American Recovery and Reinvestment Act (also known as the stimulus package), which commits significant resources to the development of clean technologies and presents opportunities for technological advancement to combat climate change was also discussed as a significant piece of new legislation. Following this general overview, the panel of presenters was asked a series of questions about the impact that this new legislation will have on the development of clean technologies. The panelists’ responses are summarized below.

**New Climate Regulation and Cleantech: Impacts and Opportunities**

**Q: What are the current funding sources and tax incentives for clean technology, and are they successful?**

Historically, the deployment of renewable energy has been dependent on a production tax credit (PTC) given to wind and solar developers who actually build plants and sell power as well as an Investment Tax Credit (ITC) given to companies to incentivize renewable energy projects. Given the recession and the corresponding drop in tax liabilities, these credits are less valuable to renewable developers than in the past. In response, the American Recovery and Reinvestment Act provides for a grant program from the Treasury that allows for the conversion of either the PTC or the ITC into a direct grant – with the ITC grant worth 30% of the infrastructure costs of newly deployed renewable technologies. Approximately $3 billion has been allocated to this program, but no funds have been disbursed as of yet. This grant program represents a key component of the stimulus package with regard to the deployment of clean technologies.

Additionally, clean technology developers also receive loan guarantees under a program established by the Bush administration. However, the funding for these loans is limited—$6 billion for renewable energy projects, and $25 billion under the Advanced Technology Manufacturing program. Competition for these guarantees is significant; therefore, companies are advised to apply early if they want to take advantage of this funding opportunity.

Lastly, direct funding is also available under the stimulus package itself, and applications have just recently become available. Like the funding from the renewable energy loan guarantee program, these funds will run out very quickly. Therefore, companies are advised to apply early for this funding as well. Applying for federal funding is a time-consuming process that is very expensive. Companies applying for federal funding should work with people in government relations to shepherd them
through the funding application process in addition to seeking legal advice from attorneys.

While additional funding sources are an important piece of new deployment of clean tech, traditional siting issues remain a large hurdle – a hurdle that could retard the growth of clean tech deployment. Therefore, even though funding sources have become more plentiful, the deployment of new clean energy technologies will continue to be constrained by traditional environmental laws and regulations.

**Q:** Will the Treasury grant program provide support for clean tech deployment on a long-term horizon?

The program is designed to allow for ITC conversion until the end of 2012. Further, the stimulus package also renewed the PTC until the end of 2012, which will become a valuable piece of the package for deployment of large-scale renewables once corporate profits recover.

**Q:** What technologies can receive funding under this grant program?

A broad array of technologies are eligible for funding under the Treasury grant program, and the program is not limited to traditional wind, solar, and geothermal technologies. Any technology that is going to help reduce energy consumption or mitigate emissions is eligible for funding under the program.

**Q:** How would recent federal legislation—and potentially new regulations based upon ACESA—interact with existing State and local programs with regard to clean technology?

There are two fundamental challenges that are currently facing clean technology: (1) the breakthrough challenge of stimulating new technologies that will result in lower emissions of greenhouse gases and (2) the challenge of ramping up the adoption of existing technologies.

ACESA does three things to address these challenges. First, it commits a lot of financial resources to the problem by providing direct subsidies to clean technology developers. Second, it imposes regulatory mandates that require that a certain percentage of the energy produced be produced from renewable sources and that certain energy efficiencies, lighting efficiencies, and building efficiencies be met. Third, the bill creates a cap-and-trade program for carbon emissions, thereby creating market incentives to reduce carbon emissions. Both of these regulatory programs will put pressure on industry, both to increase market penetration of existing clean technologies and to fund breakthrough clean tech research.

The states have taken similar actions to respond to the breakthrough challenge and the challenge to increase the adoption of existing clean technologies. California, in particular, has taken the lead in this area, providing direct subsidies to clean technology developers and establishing regulatory mandates for renewable energy production by 2020. California’s AB-32 program will also institute cap-and-trade regulation. Other
states have also taken actions to reduce carbon emissions, including the twelve states that belong to the western climate initiative that adopted a cap-and-trade program. The states in the northeast are also operating the nation’s first cap-and-trade program (the Regional Greenhouse Gas Initiative, RGGI, or “Reggie”).

Federal-state interactions under ACESA would be relatively simple—the only state regulations that will be preempted are cap-and-trade programs, and those programs would only be preempted from 2012 to 2017. All direct subsidies and regulatory mandates at the state level will still be effective, and states will be allowed to go further in their carbon emission regulations than the mandates set forth in ACESA. Therefore, the only limitation placed on state regulations by the legislation would be that states will not be allowed to establish independent cap-and-trade programs.

One panelist commented that this limitation would not be significant because out of the three regulatory tools used to encourage the development of clean technology, cap-and-trade programs are the least likely to be successful in encouraging new technology and technology transitions. Thus, there does not appear to be any major problems that would impede the development of new clean technologies based on the current interrelationship between federal and state legislation.

**Q: When is there going to be regulatory certainty with respect to carbon emission regulations?**

While it is unclear what is going to happen on the federal level with ACESA, California has provided some regulatory certainty for companies trying to comply with new emissions standards. By 2020, California wants to reduce its greenhouse gas emissions by about 175 million tons of carbon dioxide, and these reductions largely will be accomplished by direct regulation. Therefore, even if California’s cap-and-trade program is pre-empted by federal legislation, companies can rely on regulatory mandates from Sacramento with regard to emissions standards.

Even if Congress were to fail to pass a national-level emissions regulation program on the model of ACESA, there would still likely be national-level regulation from a different source—the Environmental Protection Agency (EPA). The EPA has made a determination that greenhouse gases are an endangerment to the environment—a decision prompted by a 2006 Supreme Court case (*Massachusetts v. EPA*), and proceeded by considerable controversy. Therefore, the EPA currently has the authority to regulate the emission of greenhouse gases under the auspices of the Clean Air Act, and could establish regulations that pre-empt state regulations.

Thus, regulatory uncertainty remains prevalent with regard to emission standards, and will continue to have a negative impact on capital investment in clean technologies.

Even once a cap-and-trade program is established, significant regulatory uncertainties will persist. Specifically, the lack of a unified accounting system for carbon as an asset or as a liability for companies, and the corresponding challenge of figuring out corporate disclosures under the federal securities laws provide examples of such
uncertainties. Advising clients on these issues will require significant attorney competence and research.

**Q: What is the interplay between the committees within the U.S. government that are currently working on greenhouse gas emission issues?**

While there has been an attempt at coordination, there are differing perspectives on how emissions should be regulated by the various Congressional committees tasked with producing energy and climate legislation. Specifically, some favor cap-and-trade programs, while others prefer increasing funding, and others still would like to see more traditional command and control regulations. Each committee also has a slightly different viewpoint on what the proper mix of these three regulatory tools should be in order to most effectively regulate carbon emissions.

There are also widely disparate views on the appropriate level of financial regulations to be placed on any resulting emissions trading market, should a national cap-and-trade program be established. All the panelists concurred that with the current backdrop of the collapse of the mortgage-securities market, the size and scope of any carbon market regulation is likely to be a hotbed of dispute. Also, jurisdictional issues in the Senate create further hurdles for emissions regulation. Panelists specifically noted the divide between the Energy Committee and the Committee on the Environment and Public Works (EPW); the Energy Committee has already put out a draft bill dealing with the renewable energy aspects of ACESA, but because EPW has jurisdiction over any cap-and-trade program, the two committees will have to see eye-to-eye on these issues in order for a bill to reach the floor. Additionally, both the Foreign Affairs and Finance committees will also have to get on board if any bill is to be passed in the Senate on these issues—due to Senate rules about funding and cross-border regulations. In short, efforts are beginning to bring these groups into concert, but more coordination will be required in order for comprehensive federal legislation to be passed.

**Q: What can the example of the Montreal Protocol teach us about creating a cap-and-trade program for greenhouse gas emissions?**

The Montreal Protocol was an international agreement to limit the emission of harmful ozone depleting chemicals such as CFCs, HCFCs, and methyl bromide. Some of the enduring lessons from the Montreal Protocol that can be applied to the current international efforts to limit carbon emissions are as follows: (1) the policies implemented by the protocol were calibrated and reviewed on an annual basis by all of the countries who were signatories to the protocol, which allowed for policy adjustments based on scientific advances; (2) a multilateral fund was created by industrial countries, including the United States, to pay for the transfer of technologies to developing countries in order to phase out the use of harmful ozone depleting chemicals; and (3) scientific knowledge, expertise, and engineering services were also transferred to developing countries in order to ensure that the phase out of harmful technologies was successfully implemented. These lessons can each be applied to the current efforts to globally reduce carbon emissions.
Q: What kind of affect will any massive energy price increases have on the political momentum for a cap-and-trade program?

One positive aspect of a cap-and-trade system is that it creates a very valuable asset in terms of carbon emission allowances. Depending on how the system is implemented, this will allow for economic costs to be distributed relatively evenly across geographic regions. However, it will be unacceptable if certain regions of the country are forced to pay much higher energy costs than others and if certain low income consumers are forced to spend much more of their total budget on energy costs than other consumers. Any sort of regional discrepancies in burdens could endanger a potential regulatory regime.

Q: Does ACESA direct the money that is produced to low-income consumers?

A fraction of the allowance pool goes to low income consumers and a fraction of the allowance pool goes to local distribution companies of electricity to distribute to their rate base. A key issue will be how local distribution companies use these funds. If they use them simply to keep power rates low, there will be no incentive to change energy consumption behaviors. However, if they use them to fund rebate checks to consumers separate from their power bills, the incentives to change energy consumption behaviors will be preserved while at the same time limiting the economic impacts of these changes on consumers.

Q: Some states have publicly elected energy regulators. How will they be affected when deciding how to use allowance funds from cap-and-trade programs?

The entire panel agreed that this poses a potential problem with the current cap-and-trade program as outlined in ACESA. The lack of specificity in the bill regarding how the fraction of revenue provided by allowance funds is to be used by the states is a big concern. Because the bill gives no guidance to state regulators about how to distribute the revenue in a way that minimizes the economic impacts of the program but doesn’t destroy the incentives that the program needs to be successful, it risks being ineffective (particularly in those states with elected public utility regulators.)

Multiple panelists noted that the issue really turns on the timeframe for when the American people are willing to pay for these technological changes—now or in the future. In the Stern report developed in Great Britain, an economic analysis of the costs of acting now versus the costs of acting in the future purported to show that every year we fail to act, the costs of taking effective corrective action increase significantly. As one panelist noted, the argument for paying now as opposed to in the future is also supported by the relatively low cost of acting now—regulatory analyses have shown that the cap-and-trade program outlined by ACESA is relatively cheap—it would cost an American household only about $145 a year.
Q: What are the possible solutions being discussed in the international community with regard to how to facilitate technology transfers from the developed to developing countries while still protecting intellectual property interests?

In another moment of agreement, the panel saw that protection of intellectual property rights (IPR) would be a key component of any effective technology transfer program. Other issues, however, such as the ability to secure sufficient funding to implement these technologies in developing countries, could become more significant barriers to successful implementation.

With regard to protecting IPR, the panel noted a number of different areas of negotiation: first, the idea, floated in international negotiations, that licenses would be compulsory clean technologies by (and in) developing countries. Second, the panel also outlined the current state of international negotiations, noting that they give rise to an incredibly ironic situation, where developing countries such as China and India, who are the focal points for technology transfers, are themselves developing their own IPR on clean energy technologies while at the same time calling for loosening of developed world IPR on transferred technology. Therefore, while the public sectors of these countries are demanding technology transfers in exchange for a reduction in emissions, the private sectors of these countries are themselves attempting to develop their own clean technologies. Finally, the panel noted that these conflicting interests are a large sticking point in the current negotiations for an international agreement regarding technology transfers. As several panelists noted, however, recent bilateral agreements, like those between the United States and China and Great Britain and China, regarding technology sharing represent positive developments in terms of technology transfers.

Q: What is next for climate change regulations and clean technology? What should we be excited about?

According to the panel, there are a number of potentially “hot” areas that lawyers should be watching:

- **Increased Certainty on National-Level Emissions Regulation.** Even if Congress fails to act this year, there is a considerable likelihood that concrete regulatory programs will be adopted as the EPA and the states continue to develop implementation strategies for carbon emission restrictions.

- **International Collaboration.** For the past two years, the international community has been negotiating a successor agreement to the Kyoto Protocol and has targeted a meeting in Copenhagen, Denmark this December of 2009 to finalize a new draft framework. The outcome of discussions at this meeting will go a long way toward pointing to the future of international regulation of carbon emissions.

- **Corporate Acknowledgement of the Importance of Carbon Emissions.** Tying into the likelihood of increasing regulatory certainty, companies are likely to begin calculating their emission-related liabilities. More and more companies are likely
to create pre-compliance reductions programs after taking a serious look at their emissions levels in anticipation of future regulations.

- **Financing.** Following Copenhagen, the biggest challenge to implementing a global program to reduce carbon emissions will be securing sufficient financing to fund the necessary technology transfers, emissions reductions, and adaptation strategies.

- **Regulatory Developments.** As the EPA ramps up on emissions reduction (either under the mandate of the Clean Air Act or new climate legislation), it will be interesting to watch what new regulations are established regarding greenhouse gas emissions. It will also be interesting to watch how national and state governments continue to work on legislation regarding climate change.

- **Impact on Law Firms and Attorneys:** These issues are becoming more and more important to clients, and it will become more and more important for attorneys to become expert in climate change issues in the coming months and years.