Columbia Business School

ChazenInstitute
The Jerome A. Chazen Institute
of International Business

Event Report
Community Forum on Climate Change

NOVEMBER 19, 2009

On November 19, 2009, Columbia Business School held its Community Forum on Climate Change to explore the burgeoning field of environmental policy and climate change. Moderated by Chris Mayer, Senior Vice Dean and Paul Milstein Professor of Real Estate at Columbia Business School, the discussion featured Kevin Parker, Global Head of Deutsche Asset Management; Geoffrey Heal, Paul Garrett Professor of Public Policy and Business Responsibility at Columbia Business School; Bruce Usher, CEO of EcoSecurities and adjunct professor in the Finance and Economics Division and Social Enterprise Program at Columbia Business School; and Elke Weber, Jerome A. Chazen Professor of International Business and Co-Director of the Center for Decision Sciences at Columbia Business School.

As espoused by the panelists of Columbia Business School's Community Forum on Climate Change, there is more than one way to solve the climate crisis. Policymakers must promote a regulatory environment that fosters investment in renewable energy technologies. Halting the destruction of the world's forests is also crucial, and incentives like UN-REDD, the United Nations Collaborative Program on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries, are pivotal to driving such action. Other market mechanisms such as the Clean Development Mechanism spur the development of clean energy initiatives and flow of capital to renewable energy technologies. Finally, addressing the climate crisis means raising awareness and reshaping public opinion.

To underscore the gravity of the climate change problem, Kevin Parker highlights Deutsche Asset Management's real-time carbon calculator (the first of its kind), which estimates that there are currently 3.65 trillion tons of greenhouse gases in the atmosphere, with 800 tons being added per second. Moreover, a recent MIT study estimates that in a do-nothing scenario there is a 50 percent chance of a five-degree temperature increase by the end of the century. Such an increase

implies the extinction of humans, yet only 30 percent of the U.S. population recognizes climate change as a problem.

Mr. Parker argues that capital formation is crucial to solving the climate crisis, and regulation is what drives capital formation. For example, Germany has taken the lead in establishing comprehensive regulation to build an investor-friendly environment of transparency, longevity and certainty. As such, renewable energy investment in Germany has achieved a compound annual growth rate of 55 percent from 2000 to 2008. Today, nearly 15 percent of electricity in Germany is from renewable sources, putting this country well ahead of schedule in achieving EU targets.

Mr. Parker claims that the U.S. regulatory reforms have been more short term than those of Germany, and this has had a negative impact on U.S. renewable energy investment. For example, the United States employs a series of expiring production tax credits (PTCs) covering wind power generation; whenever these PTCs expire, there are enormous drops in installation rates. Such short-term volatility impedes investment in the sector. By contrast, Germany's regulations span 20-year periods, reducing volatility and increasing investment incentives. The lesson from Germany is that capital will ultimately flow to countries with the least regulatory risk, so bolstering renewable energy investment to de-carbonize electricity requires building regulatory regimes characterized by transparency, longevity and certainty.

In addition to de-carbonizing the world's electricity, Professor Geoffrey Heal of Columbia Business School argues that stopping deforestation is essential to solving the climate crisis, as deforestation generates 20 percent of the greenhouse gases emitted by human activity. Reducing deforestation represents "low-hanging fruit," requiring no substantial investments or new technologies. Indonesia and Brazil are the third- and fourth-largest greenhouse gas emitters (behind China and the United States). This may seem strange, as Indonesia has relatively little industrial output and Brazil satisfies most of its electricity needs through renewable resources. However, the deforestation practices of Indonesia and Brazil cause these countries to be among the leading greenhouse gas emitters.

Professor Heal recounts his collaborative efforts with Kevin Conrad, a former Columbia EMBA student, to structure incentives to stop deforestation. Mr. Conrad, an American who grew up in Papua New Guinea, served as an informal advisor to his country's Prime Minister. As Mr. Conrad was leaving for Columbia, the Prime Minister issued the following request: "When you go to New York, see if there is some way we can make money from our forests without cutting

them down." Mr. Conrad, under Professor Heal's mentorship, advised the Prime Minister to address the United Nations Framework Convention on Climate Change in Montreal in December 2005 and modify the Kyoto Protocol. The proposal involved structuring a system that effectively paid countries for the carbon captured and stored within its forests, ultimately leading to the formation of UN-REDD.

Bruce Usher, CEO of EcoSecurities, highlights another incentive to reduce greenhouse gas emissions: the Clean Development Mechanism (CDM). The CDM, an arrangement under the Kyoto Protocol, allows parties to invest in clean energy projects that reduce carbon emissions in developing countries. In doing so, these investors are rewarded with carbon credits. This system is attractive for investors in developed countries that have high emissions and must reduce them below a specified cap.

The drawbacks of the CDM, Professor Usher asserts, come from the requirement of "additionality." To gain approval, each CDM project must prove that it would not have been built in the absence of the CDM. The subjectivity of additionality means that project approval and thus return on investment is uncertain. Professor Usher believes that this uncertainty can be mitigated by replacing project-based additionality with broader sectoral standards. He also argues that the project approval process should be automatic, as is the case with the more efficient Renewable Portfolio Standards in the United States and the Feed-in Tariffs in Europe.

While innovations such as UN-REDD and the CDM provide compelling incentives to reduce greenhouse gas emissions, Professor Elke Weber of Columbia University asserts that if human behavior is driving the climate change problem, then changes in behavior are required to address the problem. Climate change is not a risk that people are hard-wired to be concerned about because future threats are slow, intangible, uncertain, statistical and not caused by external antagonists. When people don't worry, they don't take action.

According to Professor Weber, preferences are not stable and can indeed be reshaped; therefore, policymakers must lead public opinion rather than follow it. Polls have shown that the population's degree of worry over the climate change problem has varied considerably over time, but the overall perception of the climate change threat has not changed. By relabeling options and changing defaults, the climate change problem can be reframed and preferences can be reconstructed. Thus, Professor Weber argues that broad-based behavioral changes should not be ignored; in fact, they should be combined with technological solutions to address climate change.

The panelists' diverse perspectives demonstrate that there are multiple avenues to address the climate change problem. Mr. Parker maintains that regulatory reforms are necessary to build sustainable capital formation in renewable energy technologies. Professor Heal adds that stopping deforestation may be the most effective and achievable step in addressing climate change. Professor Usher states that market mechanisms are extremely effective at motivating entrepreneurs to develop emission-reduction projects and that investors are extremely quick to allocate capital to this new sector. Finally, Professor Weber asserts that solving the climate change problem relies on changing human behavior, so technological solutions must be combined with efforts to reshape public opinion.

ADRIAN ALMAZAN MBA '10
Columbia Business School