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Climate Change, Foreign Policy, and Higher Education

Key Notes

The United States accounts for about 15 percent of global greenhouse gas emissions, leaving the rest outside the scope of domestic measures. Clearly, domestic policy alone is not enough: a new U.S. foreign policy to tackle climate change is also essential.

Marked differences across the countries that produce the most greenhouse gas emissions today highlight the importance of understanding the context from which each of them approaches climate change issues.

U.S. strategy for confronting climate change must begin at home: strong domestic policies are a prerequisite to international leadership. The United States then can leverage its actions at home to advance an effective policy abroad.

The nation's colleges and universities, given their expertise, long-term horizons, tradition of cooperation with their counterparts around the globe, and most of all their unique ability to influence millions of young people, harbor great potential to make crucial contributions to confronting climate change.

Over time, unchecked climate change will have wide-ranging and potentially disastrous effects on human welfare, sensitive ecosystems, and international security. This urgent challenge demands that the United States and the world take comprehensive action to limit the buildup of greenhouse gases in the atmosphere and address the consequences of any unavoidable climate change. The United States accounts for about 15 percent of global greenhouse gas emissions, leaving the rest—a growing fraction of which comes from emergent economies like China and India—outside the scope of domestic measures. Clearly, domestic policy alone is not enough: a new U.S. foreign policy to tackle climate change is also essential. Michael Levi, the David M. Rubenstein senior fellow for energy and environment at the Council on Foreign Relations, directed the Council's Independent Task Force established to examine climate change strategy, especially those dimensions that involve foreign policy. Levi reviews the findings and recommendations of the Task Torce. Joseph Mullinix, Deputy President (Administration) at the National University of Singapore (NUS), notes that the population of Asia dwarfs that of the United States and that the effort to address climate change must be global in scope if it is to succeed. Mullinix outlines ongoing NUS initiatives with international groups of universities. His view is that the biggest impact universities can have in is realm may be through educating their millions of students, many of whom who will becomes the business and government leaders of the next generation.

Council on Foreign Relations Independent Task Force

The Council on Foreign Relations is an independent, nonpartisan organization that, among its many activities, sponsors Independent Task Forces that focus on current issues of critical importance to U.S. foreign policy. Task Force members are diverse in their backgrounds and perspectives, yet strive to reach meaningful consensus so as to help shape the public debate on the foreign policy issue at hand. The Independent Task Force on Confronting Climate Change, chaired by former governors George Pataki of New York and Thomas Vilsack of Iowa, released its report in mid-2008. The Task Force took a comprehensive look at climate change, particularly in terms of the broader context of economic policy, foreign policy, and energy policy in which its recommendations necessarily would play out.

Climate Change

The basics of climate change are straightforward: Carbon dioxide (CO_2) and other greenhouse gas emissions—from the burning of fossil fuels such as coal and oil, and from deforestation as well as other changes in how people use land—get pumped into earth's atmosphere and stay there for a long time. As more greenhouse gasses are emitted, their concentration in our atmosphere increases, trapping heat and causing global temperatures to rise.

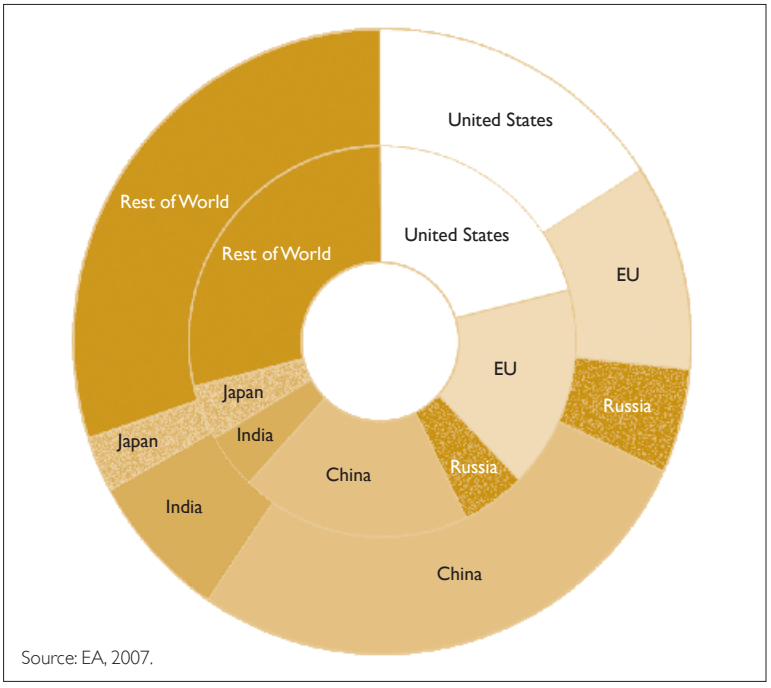
Carbon dioxide is long-lived, and some of the natural processes that ultimately remove the gas from the atmosphere take centuries or more. Lowering CO_2 emissions, therefore, will

not immediately yield lower atmospheric concentrations because even though emissions may be lower, the fact is that gases still will be emitted faster than they can be eliminated. Their concentration in the atmosphere will continue to rise, as will global temperatures.

Thus, while it is difficult to predict the globe's future climate, it is clear that some climate change is inevitable. The important task of mitigating the expected increase in global temperature becomes one of risk management—which is hard to do because emissions are increasing quickly and they're coming from a variety of sources around the globe.

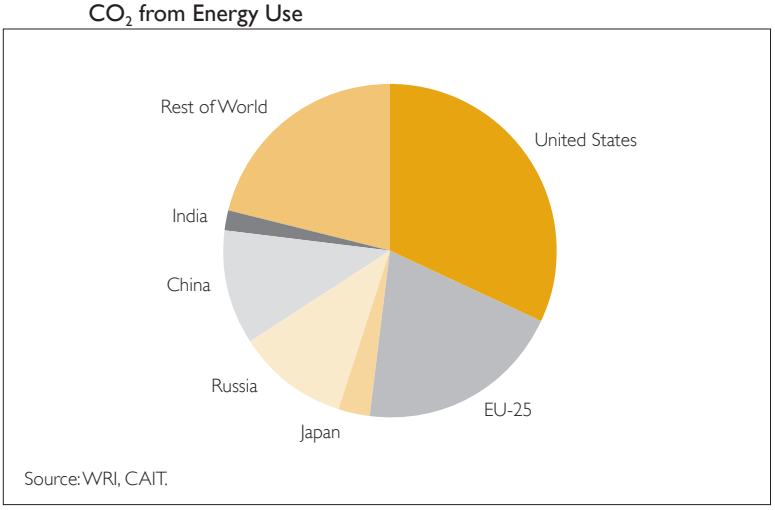
The International Atomic Energy Agency estimated in late 2007 that global CO_2 emissions from energy use grew by roughly 30 percent between 1990 and 2005; those emissions are likely to increase by a similar fraction in the coming ten years and will likely be double 1990 levels by 2030. Emissions from deforestation, which are difficult to quantify, currently add about 20 to 25 percent to the global total. That baseline stands in sharp contrast with the frequently discussed goal of cutting global emissions to half of 1990 levels by 2050—and signals the extraordinary level of ambition that will be required to reach any target close to that.

Figure 1. Carbon Dioxide Emissions from Energy Use
Inner Circle: Current (2005) and Outer Circle: Projected (2030)



Source: EA, 2007.

Figure 2. Cumulative Emissions: 1850-2004
CO_2 from Energy Use



Source: WRI, CAIT.

Figure 1 shows the sources of CO_2 emissions from energy use in 2005 and projected in 2030.

Advanced industrial countries (approximated by OECD totals) are responsible for roughly 40 percent of current annual global CO_2 emissions, while the five largest emitters outside this group—Brazil, China, India, Indonesia, and Russia—are, if emissions from deforestation and land use changes are included, responsible for a similar amount. Together, these countries contribute roughly three-quarters of global CO_2 emissions. By 2030, the United States is projected to produce a smaller share, Europe about the same size share, and India and Russia larger shares. China is projected to produce an enormously larger share of global greenhouse gas emissions in 2030 than it does currently. Clearly, this evolving distribution complicates the effort to reduce emissions.

The historical context of emissions further complicates the picture. Figure 2 shows the cumulative CO_2 emissions from energy use from 1850 to 2004.

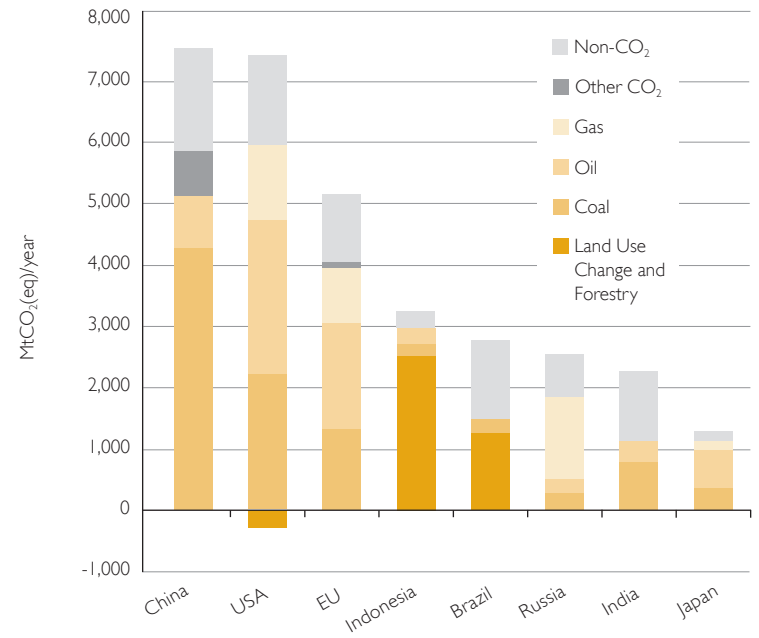
The developed world has emitted most of the greenhouse gases that are now heating up our atmosphere. The Task Force believes that the developed countries have a responsibility to help the societies that are most affected and least adaptive to the harm that has been caused by the industrialized world.

Figure 3 shows the eight countries that produce the most greenhouse gas emissions today. The differences across these eight countries highlight the importance of understanding the context from which each of them approaches climate change issues.

Different countries are motivated by different concerns—e.g., energy security, public health, economic growth, and environmental issues. The key is to line up those concerns with efforts to mitigate climate change. China, for example, is very much concerned about energy security: the more that lower emissions options can be lined up with China's energy security, the more progress will be made. Other factors also affect strategic options. In Brazil, for example, where deforestation is the largest source of emissions, no one owns the forest. The challenge there lies in social change associated with land use patterns and property rights.

The Task Force recognized the tension between critical objectives such as strengthening energy security and mitigating climate change. It noted, however, that many potential synergies among objectives could be tapped by developing a foreign policy strategy that integrates key goals.

Figure 3.



Source: IEA, WRI.

Key Task Force Recommendations

The Task Force emphasized that U.S. strategy for confronting climate change must begin at home: strong domestic policies are a prerequisite to international leadership. To that end, the Task Force recommended that the United States adopt a *cap-and-trade* system that begins reducing U.S. emissions now and sets a course for cuts of between 60 percent and 80 percent from 1990 levels by 2050; those targets that should be periodically revisited and revised as necessary. A cap-and-trade system would let the market find opportunities to reduce emissions and remove greenhouse gases from the atmosphere at the lowest possible cost. It can and should be designed so as to avoid shocks to the economy and not impose undue burden on any particular segment of society.

The cap-and-trade system should be buttressed by steps to reduce U.S. dependence on foreign oil; improve energy efficiency through targeted traditional regulation; support research, development and demonstration projects; and improve energy infrastructure, such as building a more robust electric grid that will support low-carbon energy.

The Task Force further recommended that the United States leverage its actions at home to advance an effective policy abroad. It noted the critical importance of reaching a post-Kyoto UN deal to provide a strong foundation for global efforts. As part of a new UN deal, the Task Force said that the United States should be willing to commit, along with other advanced industrial countries, to its own near-term numerical targets for cutting emissions, but that it should seek commitments to specific policies and measures, rather than to emissions caps, from developing countries. The Task Force also outlined a detailed set of negotiation principles for the United States to adhere to as a new UN deal is forged.

The Task Force noted that the need for a legal foundation for emissions trading is so great that should the UN efforts along these lines fail, then the United States, the European Union, and others should be prepared to create a smaller agreement among countries that are able to implement robust and reliable domestic emissions caps and want to use emissions trading. This would ensure that the foundation for linking national systems into an international trading arrangement is not lost upon the expiration of the Kyoto Protocol.

Further, to complement and strengthen UN efforts, the Task Force recommended formation of a *Partnership for Climate Cooperation* in concert with the world's largest emitters to implement aggressive emissions reductions. Its focus would be on practical actions and implementation of specific reduction strategies.

A Climate Strategy Toolkit

The Task Force recognized that the sheer volume of states and activities responsible for greenhouse gas emissions can easily overwhelm efforts to craft and implement an effective foreign policy to limit emissions and spur development of technologies

that will make ever-larger reductions less expensive in the future. There are six basic greenhouse gases and more than 180 countries worldwide. However, 80 percent of the world's emissions are carbon dioxide. Those emissions come primarily from coal use in power and industry, oil use in transportation and elsewhere, and tropical deforestation. Moreover, a limited number of advanced industrial countries—mainly the United States, European Union, and Japan—along with Brazil, China, India, Indonesia, and Russia contribute together roughly three-quarters of global CO_2 emissions.

Strong domestic policies are a prerequisite to international leadership. They will require American leaders to clearly, honestly, and consistently communicate the challenges and opportunities involved in tackling climate change.

Thus, the Task Force recommended that U.S. foreign policy initially (though not exclusively) focus on emissions from coal, oil, and deforestation in a small number of the world's largest emitters. This approach would address roughly three-quarters of global emissions and, if pursued with diligence and in a context that continues to engage the rest of the world, would also lay the groundwork for increasingly inclusive and effective global policy. Moreover, it would provide additional payoffs: shifting to cleaner power, for example, could deliver big health benefits; controlling oil use could alleviate energy security concerns by reducing global demand; and conserving forests would deliver biodiversity benefits.

The Task Force presented several findings and recommendations on a wide range of incentives and tools that the United States and other countries might use as part of their foreign policy efforts to combat climate change. Those tools include, among others:

- Improving understanding of climate change vulnerabilities
- Increasing technical cooperation
- Increasing research, development, and demonstration (RD&D) cooperation
- Establishing climate funds
- Strengthening security of low-carbon fuel supply
- Crafting appropriate trade, export, and tariff regulations
- Providing adaptation assistance

Levi noted that U.S. colleges and universities could play a role in helping to improve the understanding of countries' vulnerabilities to climate change—which would help those countries address the challenges they face head-on. This could mean, for example, collaborative efforts with universities in other countries to conduct local-level, careful analyses of the impacts of climate change on different populations. Myriad opportunities exist for technical cooperation, in broader terms, with regard to governance models and legal codes related to emissions regulations and enforcement. Further, opportunities for cooperation among universities in research, development, and demonstration of projects to confront climate change around the globe are abundant.

The complete Task Force report, *Confronting Climate Change: A Strategy for U.S. Foreign Policy,* is available at http://www.cfr.org/content/publications/attachments/Climate_ChangeTF.pdf.

Global University Leadership Groups

Given the global nature of climate change and the disparate levels of understanding and commitment to sustainability objectives throughout the world, several international groups of universities are working together to develop broader global reach and assist universities in their efforts. The National University of Singapore is involved with three such groups: the International Alliance of Research Universities (IARU), the Global University Leaders Forum (under the auspices of the World Economic Forum), and the International Campus Sustainability Network. These groups have extensive overlapping membership and are developing plans to coordinate their efforts. It is important and noteworthy that they involve Asian universities as well as their American and European counterparts, given the population and economic growth occurring in Asia.

The IARU's agenda is largely based on the Kyoto Protocol; that is, it focuses on emissions reductions. One key suggestion from the IARU is to base the assessment of emissions levels on outputs—for universities, for example, on emissions per degree awarded—so as to provide a comparable base from which to assess progress.

With regard to university responses to climate change, the three groups have outlined similar agendas:

- ***Education.*** Educate future business and government leaders, as well as technical experts (architects, engineers, planners, etc.) on sustainability issues.
- ***Research.*** Promote research to provide better understanding of sustainable issues and methods to mitigate and/or accommodate the adverse impacts of climate change, and facilitate the application of research.
- ***Public Service.*** Provide education and leadership to the broader community on these issues and assist in developing appropriate responses.

- ***Sustainable Campus Operations.*** Assure that campuses practice and promote the best sustainable practices in their planning, design, development and operation.

It is likely that the biggest impact universities can have in confronting climate change is through educating their millions of students, many of whom will lead the next generation. If higher education fails to do at least that, it will have lost an enormous opportunity.

Conclusion

The Council on Foreign Relations' Independent Task Force outlined an approach to confronting climate change that demands much of U.S. leaders. Strong domestic policies are a prerequisite to international leadership. They will require American leaders to clearly, honestly, and consistently communicate the challenges and opportunities involved in tackling climate change. Advancing effective foreign policy will require leaders to draw upon tools from well beyond the traditional environmental sphere and balance climate policy with other first-order foreign policy objectives. Diplomacy will not be restricted to a single intense negotiation or a small set of deals; rather, true success will require constant engagement, sustained over decades, at the highest levels. The nation's colleges and universities, given their expertise, long-term horizons, tradition of cooperation with their counterparts around the globe, and most of all their unique ability to influence millions of young people, harbor great potential to make crucial contributions to confronting climate change.

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