Climate Negotiations Briefing Book

A straightforward guide to the complexities of the UNFCCC negotiations process and the role of the United States

- Need to Know Basics and Quick Guide to Doha
- 10 Issue-specific Policy Briefs
- Latest Reports on Climate Action in the United States
The US Climate Action Network was created in 1989 as a forum for cooperative strategy development and coordination around climate action and policy in the US. With more than 80 member organizations, USCAN has grown to include a broad cross section of advocates with members from environmental, faith, academic, business, development, and youth organizations. USCAN’s mission is to support and strengthen civil society organizations to influence the design and development of an effective, equitable, and sustainable global strategy to reduce greenhouse gas emissions and ensure its implementation at international, national, and local levels. USCAN is the national affiliate for Climate Action Network International and the Global Campaign on Climate Action.

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Letter from the Executive Director

November 2012

Delegates from the United States and more than 190 other nations will gather in Doha, Qatar this November 26 to December 7, 2012 to continue work toward an international agreement to avert climate change. Hundreds of public interest organizations and thousands of activists from around the world will join them to advocate for a fair, ambitious, and binding agreement.

Just as in Rio in 1992, Kyoto in 1997, and Durban in 2011, the United Nations Climate Change Conference in Doha, the 18th meeting of Conference of the Parties (COP 18), is another opportunity for the world to consider the environment, the economy, and the dire consequences of rising global temperatures.

*The Doha Climate Negotiations Briefing Book* is designed to help climate advocates, members of the US Congressional Delegation, as well as reporters and editors, gain a clear understanding of the international treaty negotiating process.

The intent of this briefing book, prepared by the US Climate Action Network (USCAN) and its partner organizations, is to make the complexities of global negotiations easier to understand and to follow. The documents and endnotes in *The Doha Climate Negotiations Briefing Book*, also found on the USCAN Website, usclimatenetwork.org, provide powerful evidence of how critical it is to reach that goal.

The briefing book provides the following:

- Vital background material on the UNFCCC process, players, and political context
- Ten policy briefs on key negotiating issues
- Status report on climate action in the US

A year ago, delegates met in Durban with the expectation that the alarming science and hopes for a better world would compel the creation of a new international climate agreement. In Durban, countries agreed on a road map1 that, for the first time in the history of the United Nations Framework Convention on Climate Change (UNFCCC), set up a process to negotiate a comprehensive and balanced legal instrument to avert climate change. The legal instrument, which would come into force by 2020, will require more decisive action in emission reductions from all major emitters of greenhouse gases. The outcome of COP 17 in Durban was a success politically and revived confidence in the international negotiations. However, the outcomes of COP 17 fell short of adequately addressing current levels of ambition to reduce greenhouse gas emissions and the goal of restricting global warming to 2°C. In that sense, a lot of expectation rests upon the process of negotiations between now at the 2012 Doha talks (COP 18) and 2015 when negotiations for the new agreement are expected to be concluded. Doha is another important step in the goal of a fair, ambitious, and binding agreement that will address the pervasive and catastrophic impacts of climate change.

USCAN is actively engaged in the negotiations during these two weeks in Doha. Look to me, our staff, and our many partners for assistance with any facet of the process. Success in Doha means considerably advancing the hard work of mitigating the impacts of climate change on our planet and its inhabitants, and accelerating a clean energy economy around the world.

Peter Bahouth
Executive Director
US Climate Action Network
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Qatar is an interesting venue for the climate talks this year, as it is an oil-rich nation with plans to diversify into renewable energy and is eager to take on regional climate leadership.

Qatar’s voluntary initiatives to address climate change and sustainable development objectives, in addition to its investments in renewable energy, could be viewed as inspirational to other nations in the Middle East to boost climate action. Qatar’s National Vision 2030, lists various investment programs and voluntary measures to reduce its greenhouse gas emissions. This is also reflected in Qatar’s initial National Communication to the United Nations Framework Convention on Climate Change (UNFCCC).

The Qatar National Convention Centre (QNCC) is the official venue for Conference of Parties (COP 18). Built to the Gold Certification of the US Green Building Council’s Leadership in Energy and Environment Design (LEED), the QNCC is the greenest venue for COP meetings so far.

Qatar: Key Facts

The State of Qatar is a sovereign Arab State located in the Middle Eastern peninsula bordering the Persian Gulf and Saudi Arabia. Although a very small nation (with an area slightly smaller than the state of Connecticut), Qatar’s per capita gross domestic product (GDP) ranks among the highest in the world at US$92,501 (current US$, 2011).

- **LAND AREA:** approximately 11,500 sq kilometers
- **POPULATION:** 1.8 million (as of 2011)
- **CURRENCY:** Rial
- **LANGUAGE:** Arabic
- **VALUE OF EXPORTS:** $107.10 billion*
- **VALUE OF PETROLEUM EXPORTS:** $44.75 billion
- **EXPORTS OF PETROLEUM PRODUCTS:** 508,800 barrels per day
- **NATURAL GAS EXPORTS:** 113.70 billion cubic meters


Climate Change and Qatar

Climate change is both a threat and an opportunity for Qatar. It is a low-lying, small, semi-island state, with all its developments along the coast. Qatar’s terrain is classified as a hot, subtropical desert characterized by semi-arid temperatures and the absence of rivers or lakes. Hence, Qatar is especially vulnerable to the impacts of rising global temperatures on an arid terrain, including the impacts of sea level rise and percolating salinated waters into the hinterland. According to recent results of World Bank studies, Qatar is by far the most exposed country of the Arab region in terms of its percentage land area affected by sea level rise.*

* The use of $, throughout the book, indicates amount in United States dollar (USD).
Qatar’s long-term vision, also outlined in the government’s National Vision 2030 document⁹ has increased focus on developing solar and wind technologies with financing from local banks and partnerships with local technology providers.

**Major Solar and Wind Projects**

Since 2010, Qatar Solar Technologies (QSTec), a joint venture between The Qatar Foundation for Education, Science, and Community Development, SolarWorld, and Qatar Development Bank, was formed with the objective of cultivating solar technologies. The company’s first project—Qatar’s first polysilicon (the material that helps harness solar power) plant—is scheduled to start production in late 2013 with an increased production capacity of over 8,000 tons of polysilicon to cater to the growing demand for solar technologies in the Middle East and North Africa region.¹⁰

In 2011, Vodafone Qatar and Alcatel-Lucent announced plans to jointly deploy additional hybrid-powered base stations in rural areas to harness solar and wind energy. As an indicator of progress, the first 1 kilowatt station has been carrying traffic since 2010, with a 2.5 kilowatt turbine and 3 kilowatt solar array providing 90 percent of its power. If the company is successful in deploying in the targeted 100,000 hybrid-powered stations by 2012–2013, it could save up to 7 million tons of carbon dioxide emissions on an annual basis.¹¹

Qatar also has reasonable potential for wind energy. The upcoming Qatar-Bahrain causeway project is considering wind turbine installations in an effort to improve project sustainability.¹²

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### Solar Energy

- Solar energy has been rated by energy analysts to be the most feasible renewable energy source for Qatar;
- As a result of Qatar’s recent focus on solar energy, the Qatar Foundation Convention Center already uses solar power to contribute 12 percent of its total energy consumption;
- By 2022, Qatar plans to use solar energy as the primary source to cool its stadiums as host of the World Cup;
- The Government is aiming for solar power to account for 10 percent of total energy consumption in Qatar by 2018.¹³
COP 17: Launching a Process for a New Global Climate Change Agreement

The 17th meeting of the Parties to the UNFCCC in Durban ended on Sunday December 11, 2011 making it the longest Conference of Parties (COP) in the history of the UN climate talks. Delegates worked into the early morning hours of the second day after the talks were expected to end in order to broker a set of agreements that renewed the Kyoto Protocol and launched a negotiation track for a new agreement—the Ad-hoc Working Group on the Durban Platform (AWG-ADP). Parties agreed to a second commitment for the Kyoto Protocol that would begin in 2013. The Durban Platform set up a process to negotiate a new comprehensive and balanced legal instrument to avert climate change by 2015 that would come into force by 2020, after the second commitment of the Kyoto Protocol ends. The “agreed outcome with legal force under the convention applicable to all Parties” will require more decisive action in emission reductions from all countries, including emerging economies like China and India. Water and Environmental Affairs Minister Edna Molewa of South Africa hailed the new Durban Platform as a significant political achievement that managed to keep the negotiating process alive.

“We realized in Durban that, given the current social, developmental, economic, and political context, trying to force countries to do more than they are willing and able to contribute is a recipe for the complete failure of the international effort to genuinely address climate crisis and would have resulted in a no deal in Durban, not only killing the Kyoto Protocol but possibly even the UN Convention on Climate Change itself.”

The agreements in Durban were a political success, but they fell short of adequately addressing current low levels of domestic action to mitigate emissions and the goal of restricting global warming to 2°C. For example, countries agreed that binding targets would probably not come into force until 2020 and there was no clarity on how countries intended to cut greenhouse gas emissions before then. COP 17 also failed to reach agreement on sources of long-term finance for the Green Climate Fund (GCF) thus leaving GCF an ‘empty fund’. The GCF is set to provide the finances necessary to assist developing and vulnerable countries adapting to climate change and help them move toward a low carbon development pathway. Negotiations on other sources of finance, such a shipping levy on maritime industry, were so contentious that they failed to make it into the final text. In this sense, there is a very
high bar for realizing expectations at the negotiations between COP 17 and the Doha talks (COP 18), and the COP 21 meeting in 2015.

During subsequent negotiations in 2012, the spirit of cooperation demonstrated by Parties in Durban at the end of COP 17 was not carried over at the Bonn intercessional meetings held in May. Two weeks of agenda fights and deadlock over how to move forward on the AWG-ADP made the breakthrough at the famous last minute, early morning “indaba” almost irrelevant. Parties in Bonn eventually agreed on an agenda that will guide the AWG-ADP negotiations through 2015. And countries made some strides, albeit inadequate, toward providing support to developing countries on technology transfer, finance, and capacity building to adapt to climate change. Countries also made modest progress on decisions related to the second commitment period of the Kyoto Protocol. Later, at the September Bangkok talks, progress was made on extending mitigation ambitions for developed country parties from 2013–2020 under the Kyoto Protocol. Parties recommended an amendment that would allow a second commitment period to Kyoto to start immediately on January 1, 2013. The biggest issue remaining for COP 18 is whether key countries such as Australia, Ukraine, and New Zealand will be on board for the second commitment period of Kyoto.

Countries also continued roundtable discussions on their visions for the new comprehensive post-2020 agreement to be negotiated by 2015, as well as plans for increasing mitigation ambition and exploring opportunities for bridging the ambition gap. In Bangkok, the most contentious discussions involved talks to move forward on climate finance, technology transfer, and adaptation. It is increasingly clear that it will be a difficult four years of negotiating the new agreement that will bind all nations to curtail greenhouse gas emissions after 2020.

What is Expected at COP 18?

At the Doha climate talks, Parties are expected to continue to build upon discussions related to the new negotiation track launched in Durban, agree on the rules and regulations related to the second commitment period of the Kyoto Protocol and to finalize and close the working group on Long-Term Cooperation and Action (AWG-LCA). In addition, discussions on how parties will increase their targets to mitigate climate change before 2020 are expected to continue. Difficult issues such as the meaning of equity and fairness within the new agreement are expected to continue to bring heated discussions. In Doha, countries will also work on clarifying and moving forward on issues such as climate finance, technology transfer, adaptation, mitigation, shared vision, accounting and reducing emissions from deforestation and degradation.

CAN-International has called for an AWG-ADP work plan at COP 18 with clear timelines, milestones and deadlines for agreeing on key issues on the pathway to negotiating a fair, ambitious, and binding global agreement in 2015. More detail and desired outcomes for Doha can be found later in this briefing book under Section Three: Building Blocks of the Climate Agreement.

Role of the United States

The positioning of the US in international climate policy talks will continue to play a key role in realizing a successful international climate regime. Current US positioning has slowed international negotiations and the UN process. In the absence of domestic legislation, the US is reluctant to commit to any binding targets or meaningful international climate policy. Without participation of the US, however, it is difficult for other nations to commit to an international climate regime. In addition, a stronger commitment by the US on its emission reduction targets is required, along with more clarity on how they intend to reach their goal. The current US administration seeks a national policy to reduce emissions by 17 percent by 2020 and by 83 percent by 2050, compared to 2005 levels, well below what is required under the Convention from a major emitter of greenhouse gas emissions. The agreement in Durban has the potential to politically facilitate an increase in emissions reduction goals from the world’s largest greenhouse gas emitters, including the US, India, and China. Some countries such as Mexico and South Korea already enacted climate legislation in 2012 and have committed themselves to a low carbon economy. In addition, China recently included an ambitious climate change plan in its 12th five year development plan. It is essential that the US plays a constructive role to ensure that the negotiation process between now and 2015 results in a strong international agreement to avert climate change. Several large barriers remain, however, including agreements regarding short term emission reduction goals from developed and developing countries and developed country finance obligations to assist countries lacking the capacity tackle the effects of climate change. There is a need for crucial commitments from the United States to limit its carbon emissions further and contribute financially to a global low-carbon economic transition and to building resilience to unavoidable impacts.
1 The Basics
This section provides answers to many of the frequently asked questions regarding the United Nations climate change negotiations. This year the climate negotiations will be held from November 26 to December 7, in Doha, Qatar.

What is the UNFCCC?
The United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty that the US ratified in 1992. The convention established a long-term objective of stabilizing greenhouse gas (GHG) concentrations below harmful levels and set a voluntary goal for developed countries of reducing emissions to 1990 levels by 2000, but contained no mandatory limits. Recognizing that stronger action was needed, participating countries negotiated the Kyoto Protocol to the UNFCCC in 1997. The US is not a Party to the Kyoto Protocol.

Why is the Doha Meeting Called a COP?
Each year, a Conference of the Parties (COP) to the UNFCCC is convened to enable environment ministers (equivalent to US cabinet members) from around the world to discuss developments in the Convention and coordinate international actions to combat global warming. This year's meeting will be the 18th meeting of the Parties to the UNFCCC and it will take place November 26 through December 7, 2012 in Doha, Qatar. The meeting is organized by the Secretariat of the UNFCCC, hosted by the Government of Qatar, and will take place at the Qatar National Convention Centre.

It is expected that more than 17,000 participants will attend the two-week session. They include more than 190 government delegations headed by the Ministers for the Environment or Climate Change, as well as international institutions, environmental business, non-governmental organizations (NGOs), and media.

The Science
The UNFCCC negotiations are guided by the best available scientific evidence. The Intergovernmental Panel on Climate Change (IPCC), established by the United Nations Organization and World Meteorological Association in 1988, is the scientific body of the UNFCCC. To date, the IPCC has released four assessment reports (AR1, 2, 3 and 4) since 1995, each of which has examined the progression of anthropogenic climate change and its impact on humankind.

The Fifth Assessment Report (AR5), to be finalized in 2014, is expected to take the analysis further and more broadly than prior reports. It will include significant advances in the science of climate change since the AR4, including new detailed scenarios for analysis.
of emissions, sea level and monsoon analysis, more regional detail on climate change impacts and risk management analysis, and framing of a response. The recent Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) presents even stronger scientific evidence that links anthropogenic climate change with increasing heat waves, coastal flooding, and other extreme weather events.

How are the Negotiations Structured?

There are currently three different negotiating tracks at the COP: a Kyoto track for countries that ratified the Kyoto Protocol (KP); a Convention track for those countries who are not a Party to Kyoto (the US is in this track); and a new track for all countries to negotiate a new agreement by 2015.

Kyoto Track: Ad-hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol (AWG-KP)

The AWG-KP was established by Parties to the Protocol in Montreal in 2005 to consider commitments of industrialized countries under the Kyoto Protocol beyond 2012. The mandate of this track is to negotiate the details of the second commitment period of the Kyoto Protocol, which among other things, sets binding targets for the reduction of greenhouse gas emissions by developed countries consistent with the principle of common but differentiated responsibilities. At COP 17 in Durban, countries agreed on a second commitment period for the Kyoto Protocol. At the September 2012 talks in Bangkok, progress was made under the Kyoto Protocol on extending mitigation for developed country parties from 2013–2020. Parties recommended an amendment that would allow a second commitment period to start immediately on January 1, 2013. This negotiating track is expected to close in Doha. The biggest issue remaining is, of course, whether key countries such as Australia, Ukraine and New Zealand will be on board for the second commitment period.

Convention Track:

Convention Track: Ad-hoc Working Group on Long-term Cooperative Action Under the Convention (AWG-LCA)

Created by the Bali Action Plan in 2007, the AWG-LCA reflects a recognition that all countries will have to be part of the solution to climate change in a post-2012 regime, including the US, which did not ratify the Kyoto Protocol. Its mandate consists of a number of forward-looking decisions that represent the various elements essential to strengthening international action on climate change such as mitigation, adaptation, finance, technology, capacity building, and reducing emissions from deforestation and forest degradation (REDD). In the context of mitigation, AWG-LCA provides the space for developed country Parties (for example, the US) to take on “mitigation commitments or actions, including quantified emission limitation and reduction objectives” and for developing country Parties to undertake “mitigation actions” supported by requisite finance, technology, and capacity building. Upon agreement on some very difficult issues, this negotiating track is expected to close at the Doha talks.


The AWG-ADP was established by the Conference in Durban in 2011 to develop a new agreement that would replace the Kyoto Protocol. The mandate of this negotiating track is to develop a legally-binding agreement for all countries that would deliver deep cuts in greenhouse gas emissions. In Bonn (June 2012), an agenda was agreed upon that will guide negotiations surrounding the Durban Platform through 2015. Once an Instrument or Protocol is agreed upon, it must go into effect by 2020.

How Does the Actual Work of the Conference Get Accomplished?

Much of the actual negotiations do not take place in large groups. As the need arises, smaller working groups splinter off into Subsidiary Bodies (what would be called “committees” in the US), which then advise and report back to the COP.

SBSTA and SBI: The Convention established two permanent subsidiary bodies: the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI). These bodies give advice to the COP and each has a specific mandate. As its name suggests, the SBSTA’s task is to provide the COP with advice on scientific, technological, and methodological matters. The SBI gives advice to the COP on all matters concerning the implementation of the Convention.
Process and Players

Who are the Key UN Figures in the UNFCCC Negotiations?

Ban Ki-moon is the United Nations Secretary General and his job is to oversee the entire UNFCCC process.24

Christiana Figueres is the Executive Secretary of the UNFCCC. Her job is to help shepherd the Framework Convention on Climate Change toward a global agreement that reduces greenhouse gas emissions.25

Bin Hamad Al-Attiyah is the President of COP 18 and the Director of the Qatar Administrative Control and Transparency Authority. The COP President is often a senior official or minister from the state or region hosting the meeting. The President may not participate in the negotiations as a representative of their home country.26

Aysar Tayeb of Saudi Arabia is the Chair of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA).27


Harald Dovland was previously the lead negotiator for Norway and also chaired the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP). Harald now serves as a co-chair of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP).30

Todd Stern is the Special Envoy for Climate Change at the State Department and will serve as the chief climate negotiator during High-Level Segments for the US.

Jonathan Pershing is the Deputy Special Envoy for Climate Change and serves as the negotiator during the majority of UN negotiations for the US.

Madeleine Diouf of Senegal is the Chair of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP).28
What are the Main Negotiating Bodies in the UNFCCC?

Each Party to the Convention is represented at negotiating sessions by a national delegation, consisting of one or more officials empowered to represent and negotiate on behalf of their government. In addition to individual parties, groups of parties negotiate together to increase their negotiating strength. Below is a list of traditional negotiating bodies:

**Group of 77 (G-77) and China:** Developing countries generally work through the G-77 to establish common negotiating positions. The G-77 was founded in 1964 in the context of the UN Conference on Trade and Development (UNCTAD) and now functions throughout the UN system, with more than 130 members. The country holding the Chair of the G-77 in New York (which rotates every year) often speaks for the G-77 and China as a whole. However, because the G-77 and China are a diverse group with differing interests on climate change issues, individual developing countries also intervene independently in debates. Additionally, smaller coalitions form within the G-77, including groups such as the African UN regional Group, the Alliance of Small Island States, and the group of Least Developed Countries.

**The Alliance of Small Island States (AOSIS):** The Alliance of Small Island States is a coalition of 43 low-lying and small island countries that are particularly vulnerable to sea level rise. AOSIS countries, most of which are members of the G-77, are united by the threat that climate change poses to their survival and frequently adopt a common stance in negotiations. They were the first to propose a draft text during the Kyoto Protocol negotiations, calling for cuts in carbon dioxide emissions of 20 percent from 1990 levels by 2005.

**Least Developed Countries (LDC):** The 50 countries defined as LDCs by the UN regularly work together in the wider UN system. They have become increasingly active in the climate change process, often working together to defend their particular interests, for example, with regard to vulnerability and adaptation to climate change.

**European Union (EU):** The 27 member states of the EU meet in private to agree on common negotiating positions. The country that holds the EU Presidency—a position that rotates every six months—speaks for the European Community and its 27 member states in the UNFCCC negotiations. As a regional economic integration organization, the European Community itself can be, and is, a Party to the Convention. However, it does not have a separate vote from its members.

The Umbrella Group is a loose coalition of non-EU developed countries, which formed following the adoption of the Kyoto Protocol. Although there is no formal list, the Group usually consists of Australia, Canada, Japan, New Zealand, Norway, the Russian Federation, Ukraine, and the US.

**The Environmental Integrity Group (EIG):** Formed in 2001, this coalition is comprised of Mexico, the Republic of Korea, and Switzerland.

**BASIC:** Formed in 2009, this group has played a major role in the negotiations since COP15 at Copenhagen. It is comprised of the four large developing countries: Brazil, South Africa, India, and China.

**LDC, ALBA, and African Group:** This alliance was announced at the UNFCCC Intersessional meeting held in Panama in October 2011. The 15 members nations of ALBA—Bolivarian Alliance for the Peoples of the Americas—include Antigua and Barbuda, Bolivia, Cuba, Dominica, Ecuador, Nicaragua, Saint Vincent and the Grenadines, and Venezuela.

**OPEC Countries:** Formed in 1960, the Organization of the Petroleum Exporting Countries strives to unify and coordinate the petroleum policies of its Member Countries. OPEC is comprised of 12 oil producing nations including Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Indonesia, Libya, the United Arab Emirates, Algeria, Nigeria, Ecuador, Gabon, and Angola.

**Like-Minded Group (LMG):** in September 2012, an unlikely alliance of oil producing, developing and emerging economies formalized a new negotiating block called the Like-Minded Group. This Group is expected to become a very powerful force at Doha as they are ardent proponents of equity, the concept of common but differentiated responsibilities and respective capabilities (CBDRRC), climate finance, and more ambitious emission reductions from the developed world. The LMG includes Argentina, Philippines, Malaysia, China, India, Pakistan, Egypt, Saudi Arabia, Venezuela, Ecuador, Bolivia, Cuba, Democratic Republic of Congo, and Mali.
USCAN is part of larger international structure—The Climate Action Network. The Climate Action Network (CAN) is a worldwide network of over 700 non-governmental organizations (NGOs) in more than 90 countries, working to promote government and individual action to limit human-induced climate change to ecologically sustainable levels. If you are a CAN member, this section of the document should help you understand the larger CAN structure and show you how to plug into it. If you have questions or would like more information, contact Susan Tambi Matambo at stmatambo@climatenetwork.org

**Structure and Working Groups**

Climate Action Network Capacity Building and Strategy Sessions: CAN International will hold a capacity building session for new attendees and individuals looking to gain more knowledge around the negotiating process. A strategy session will follow the morning capacity building session that will further outline what to expect in the coming week and how CAN members can best influence the negotiations. This program is offered once before the negotiations begin and repeated at the end of the first week. CAN members are encouraged to attend as much of these sessions as possible.

**Climate Action Network Daily Meetings**

CAN will hold a daily debriefing meeting (typically from 2pm–3pm). This meeting is strongly recommended for those members attending the negotiations who are seeking a daily review on all of the happenings within the negotiations.

**USCAN Strategy Meetings**

These meetings will also be held regularly throughout the two weeks of negotiations. Notices of these meetings will be sent to the temporary Doha list serve.

**CAN Working Groups**

CAN has established working groups to focus on specific pieces of the negotiation process, such as adaptation or mitigation. These groups track the developments within their content area, produce documents to help further their goals and meet with official parties to discuss concerns revolving around their focus. If you are interested in influencing any of the substantive policy issues in the negotiations,
join the appropriate CAN working groups. For the most part, the working groups relevant to the negotiations are CAN International working groups and so are open to USCAN or CAN members only. Meetings occur on a regular basis during the negotiations, with meeting notices distributed to the relevant listserv and announced at the daily CAN meeting.

CAN’s Political Coordination Group (PCG) meets each morning at 9 AM. These meetings are not open, but rather, participants are picked based on regional and other factors in order to guarantee broad representation.

Global Campaign for Climate Action meetings will also occur regularly to translate the intelligence from the negotiations and political strategy discussions into campaigning material.

**Additional Ways in Which CAN Members Can Engage in the Doha Negotiations**

**Coordination with the US Negotiating Team:** The US negotiating team will likely host briefings for US NGOs on a regular basis. In the past, Jonathan Pershing, US Deputy Special Envoy for Climate Change, has held an introductory briefing followed by a question and answer period.

**Press Briefings:** Doha is a great press opportunity and some print, radio, and television media are expected to attend the meeting. Your organization can meet with the media in informal discussions or through official press conferences held in pressrooms that can be arranged through the Secretariat. In general, press briefings can be either open or closed to the general conference participants and are listed in the daily program.

**ECO:** ECO is the daily NGO newsletter that comments on the happenings of the negotiations and is produced at the COP by CAN members. Each day there is an opportunity to draft articles, edit text, and help with morning distribution. Past ECO issues can be found here: http://www.climatenetwork.org/eco-blog

**Fossil of the Day Award:** The Fossil of the Day Award is given to countries that undermine progress at the UN Climate Change Negotiations. Each day a winner is determined at the CAN daily meeting through a process of nomination and voting. The top three winners are presented the award at 6:00 pm and press releases are sent out. The Fossil of the Day Award has proven to be an effective media tool for highlighting the obstructionist tactics used by many countries. For more information see: http://www.climatenetwork.org/fossil-of-the-day

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**Useful Online Resources**

Listed below are some helpful online tools and websites to follow during the negotiations:

**US Climate Action Network**
- [http://www.usclimatenetwork.org/](http://www.usclimatenetwork.org/)
- [http://twitter.com/#!/uscan](http://twitter.com/#!/uscan)

**Climate Action Network International**
- [http://www.climatenetwork.org/](http://www.climatenetwork.org/)
- [http://twitter.com/#!/CANIntl](http://twitter.com/#!/CANIntl)
- [http://www.facebook.com/CANInternational](http://www.facebook.com/CANInternational)

**UNFCCC**
- **UNFCCC Facebook Page**—[http://www.facebook.com/UNclimatechange](http://www.facebook.com/UNclimatechange)
- **UNFCCC Climate Talks Twitter**—[http://twitter.com/#!/UN_climatetalks](http://twitter.com/#!/UN_climatetalks)
- **UNFCCC Negotiator iPhone and iPad Application**—[http://unfccc.int/iphoneapp](http://unfccc.int/iphoneapp)

**More information on the UNFCCC Process and Foundational Documents**
- **UNFCCC Convention Text**—[http://unfccc.int/resource/docs/convkp/conveng.pdf](http://unfccc.int/resource/docs/convkp/conveng.pdf)

**More information on the UNFCCC Process**
- **History of UNFCCC**—[http://www.iisd.ca/process/climate_atm-foccintro.html](http://www.iisd.ca/process/climate_atm-foccintro.html)
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
<th>Notes</th>
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<tbody>
<tr>
<td>May 14–16</td>
<td>Earth Summit (Rio +20)</td>
<td>Rio De Janeiro, Brazil</td>
<td>Earth Summit 2012 set out to focus on the green economy and an institutional framework for sustainable development. Ultimately, the 20th anniversary meeting was deemed a political failure due to the weak targets and commitments of the Rio+20 Declaration. The Declaration did, however, recognize the greenhouse gas mitigation ambition gap, the 2°C target to prevent runaway climate change, innovative sources of climate finance, and the UNFCCC Durban outcome.</td>
</tr>
<tr>
<td>May 14–25</td>
<td>Bonn Climate Change Conference 2012 (Intersessional #1)</td>
<td>Bonn, Germany</td>
<td>The Intersessional meetings held in Bonn, Germany were fraught with agenda fights and deadlock regarding how to move forward on the Durban Platform. Eventually, the parties were able to agree on an agenda that will guide the Durban negotiations in Doha and through 2015.</td>
</tr>
<tr>
<td>May 15–22</td>
<td>G8 Summit</td>
<td>United States</td>
<td>The US hosted the 2012 G8 summit in Chicago in May. The G8 is an unofficial annual forum for the leaders of Canada, the European Commission, France, Germany, Italy, Japan, Russia, the United Kingdom, and the US. The 2012 G8 summit focused on economic issues with food security as a priority. The G8 summit reiterated the support to international efforts to combat climate change, the phasing out of fossil fuel subsidies, and action to reduce short lived climate pollutants.</td>
</tr>
<tr>
<td>June 18–19</td>
<td>G-20 Summit</td>
<td>Mexico</td>
<td>Mexico hosted the seventh meeting of the G-20 heads of government in a series of on-going discussions about financial markets and the world economy. Under the leadership of President Felipe Calderon, Mexico sought to expand the scope of the G-20’s development and climate focus. The G20 Summit issued Declaration that reiterated support for global action to combat climate change and welcomed the outcome of the COP 17 talks held in Durban in 2011.</td>
</tr>
<tr>
<td>August 30– September 5</td>
<td>Informal Additional Sessions of the Ad Hoc Working Groups</td>
<td>Bangkok, Thailand</td>
<td>The informal sessions included the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP), the Ad Hoc Working Group on Long-term Cooperative Action Under the Convention (AWG-LCA), and the Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP). The goal of the sessions was to allow the ad hoc working groups to continue the work carried over from their meetings held last May in Bonn, Germany, while also preparing them for resumed sessions at COP 18 in Doha. Parties recommended an amendment that would allow a second commitment period to start on January 1, 2012, immediately after the close of the first commitment period. Countries also continued roundtable discussions on their visions for the new comprehensive post-2020 agreement, to be negotiated by 2015, as well as plans for increasing their emissions reduction goals and to explore opportunities for bridging the ambition gap.</td>
</tr>
<tr>
<td>November 26– December 7</td>
<td>UNFCCC 18th Conference of Parties (COP 18)</td>
<td>Doha, Qatar</td>
<td>Parties will meet in Doha Qatar for the UNFCCC COP 18 negotiations. This briefing book provides for detailed discussion on COP 18.</td>
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# Looking Ahead to 2013

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
<th>Details</th>
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<tbody>
<tr>
<td>April 19–21</td>
<td>Annual IMF-World Bank Meeting</td>
<td>Washington, DC, United States</td>
<td>Thousands of government officials, private sector journalists, civil society representatives, and other interested parties will gather to discuss the progress of the work of the IMF and the World Bank. The meetings are comprised of numerous events focused on the global economy, international development, and the world’s financial markets.</td>
</tr>
<tr>
<td>June 13–14</td>
<td>G8 Summit</td>
<td>United Kingdom</td>
<td>The United Kingdom will host the 2013 G8 summit in June. The G8 is an unofficial annual forum for the leaders of Canada, the European Commission, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States.</td>
</tr>
<tr>
<td>September</td>
<td>G-20 Summit</td>
<td>St. Petersburg, Russia</td>
<td>Russia will host the eighth meeting of the G-20 heads of government in a series of on-going discussions about financial markets and the world economy.</td>
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Post-Durban Climate Politics

Post Durban, the UNFCCC negotiations continued to be overshadowed by the eurozone crisis, a presidential election year in the US, and political revolutions in the Middle East. Little progress was made by Parties at the intercessional talks in June and September of 2012, in terms of reaching agreement on some difficult, largely political issues that remained unresolved from Durban. Also in the spotlight is the evolution of a new geopolitical dynamic following the formation of new sets of political alliances and associated major new negotiating blocks.

These recent shifts in geopolitical dynamics have directly impacted climate politics and the UNFCCC negotiations by setting forth a new set of political alliances over the last few years. Since Copenhagen, the emerging economies have been coordinating together in groups such as BASIC (Brazil, South Africa, India, China), and are now a more powerful economic and negotiating force within the UNFCCC negotiations. As of 2005, BASIC represented approximately 28 percent of the world’s greenhouse gas emissions (China—16.36 percent, Brazil—6.47 percent, India—4.25 percent, South Africa—0.98 percent), and BASIC country emissions are likely to grow; China’s emissions are expected to double US emissions by 2020. At the same time, in the recent years BASIC countries as a group have committed to significant emission reduction goals and announced measures to that end. According to a 2011 study by the Stockholm Environmental Institute, 60 percent of emissions cuts by 2020 are expected to be made by developing countries such as Brazil, India, China, Indonesia, Mexico, South Africa, and South Korea. The BASIC group, thus, will likely have a significant effect on the negotiations in the coming years.

Newer alliances which seem to be based on common levels of economic growth and vulnerability to climate change have also emerged and are likely to have a bearing on future negotiations. These include alliances such as the African Group, the majority of the Alliance of Small Island States (AOSIS) and alliances among least developed countries (LDCs). More recently, the May 2012 Intercessional meeting at Bonn was noted for the emergence of a “Like-Minded Group” of developing countries making joint statements. This group included Argentina, Philippines, Malaysia, China, India, Pakistan, Egypt, Saudi Arabia, Venezuela, Ecuador, Bolivia, Democratic Republic of Congo, and Mali. This group registered as a formal negotiating bloc in September 2012.
Where Countries Stand

**Negotiating Stances**

**EU Position:** Historically, the EU has advocated an international treaty with binding emissions reduction targets and has supported the second commitment period of the Kyoto Protocol. In Durban, the EU grouped with at least 80 nations, primarily Small Island States and Least Developed Countries (LDCs), in a new “rainbow coalition” to push for stronger mitigation targets. Currently, the agreement within the EU to adhere to the 20 to 30 percent reduction in emissions below 1990 levels by 2020 has stumbled due to the Polish government’s apprehensions about its impact on its coal-producing and coal-burning economy.43

**Japan, Russia and Canada:** These countries have indicated that they are willing to sign a treaty that includes major developing country emitters but have made clear that they will not take on commitments after 2012 in the Kyoto Protocol. Their position remained the same during the Bangkok Intercessional in September 2012. These countries are also part of the loose coalition of non-EU developed nations known as The Umbrella Group, formed post-Kyoto Protocol.

**Australia, New Zealand and Ukraine:** These countries (also part of the Umbrella Group) are yet to decide whether or not they will continue to participate under the Kyoto Protocol.

**The United States:** The US has maintained a position that it is open to entering into negotiations on a new legally-binding instrument provided that similar binding commitments are made by other major emitting countries, such as China and India. This is established in the Durban Platform.

**BASIC Countries:** The BASIC countries—China, India, South Africa, and Brazil—support the second commitment period of the Kyoto Protocol. They were somewhat split on the Durban mandate for a new round of negotiations towards a 2020 treaty with legally-binding commitments for a broader range of countries, with India most opposed. Still, in the end, they all accepted the compromise language in Durban.

**LDCs and AOSIS:** LDCs and the AOSIS (many part of the G-77) strongly support the extension of the Kyoto Protocol and were champions in pushing for a mandate for negotiating a new legally-binding instrument under the AWG-LCA track, as well as efforts to raise pre-2020 ambition.
<table>
<thead>
<tr>
<th>Country</th>
<th>Pledge/Target</th>
<th>Conditions</th>
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<tbody>
<tr>
<td>China</td>
<td>China pledged to reduce its carbon dioxide emissions per unit of GDP by 40% to 45% from 2005 levels.</td>
<td>National legislation • Successful roll-out and integration of carbon and other trading schemes</td>
</tr>
<tr>
<td>United States</td>
<td>The US pledged to reduce its own national emissions to 17% below 2005 levels by 2020; 42% below 2005 levels by 2030; and 83% below 2005 levels by 2050.</td>
<td>Bipartisan support within the US Congress • Ratification of a cap-and-trade regime in the US Congress • Post-election agenda</td>
</tr>
<tr>
<td>European Union</td>
<td>EU pledged to reduce emissions by 20% below 1990 levels by 2020.</td>
<td>Similar action by other countries</td>
</tr>
<tr>
<td>Brazil</td>
<td>Brazil pledged to reduce emissions growth by 36% to 39% below business as usual levels by 2020. Included with this pledge is a commitment to cut deforestation by 80% from historic levels by 2020.</td>
<td>Requisite financial support from developed nations for addressing deforestation, clean technology transfer, and capacity building</td>
</tr>
<tr>
<td>India</td>
<td>India committed to reduce its emissions per unit of GDP 23% to 25% below 2005 levels by 2020.</td>
<td>Proposed domestic actions are voluntary in nature and will not have a legally-binding character • Context of its voluntary mitigation action was the Bali Action Plan</td>
</tr>
<tr>
<td>South Africa</td>
<td>South Africa pledged to reduce around 34% by 2020 and by around 42% by 2025. This level of effort enables South Africa’s emissions to peak between 2020 and 2025.</td>
<td>Conditional on financial and technology support from developed nations.</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Indonesia announced a target to reduce emissions by 26% by 2020 from business as usual levels.</td>
<td>Conditional on financial and technology support from developed nations.</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Ukraine pledged to reduce 20% emissions over 1990 levels.</td>
<td>Retention of flexibility mechanisms under the Kyoto Protocol</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand pledged a target of 20% reduction in emissions over 1990 levels by 2020.</td>
<td>Effective sets of rules for LULUCF and the creation of a broad and efficient international carbon market</td>
</tr>
<tr>
<td>Australia</td>
<td>Australia pledged a target of 5% (unconditional) up to 15% or 25% emission reductions relative to 2000.</td>
<td>15% target: Conditional on access to deeper and broader functional carbon markets (Target has been met according to government reports) • 25% target: Conditional on global action that mobilizes greater financial resources, including from major developing economies, and results in fully functioning global carbon markets</td>
</tr>
<tr>
<td>Mexico</td>
<td>Mexico announced a target to reduce its greenhouse gas emissions up to 30% as compared to business as usual levels by 2020 and 50% by 2050.</td>
<td>Contingent on adequate financial and technology support • Mexico has a detailed action plan and domestic legislation in place (General Climate Bill)</td>
</tr>
</tbody>
</table>
Climate Cooperation: Processes Around the UNFCCC

The new global deal sought by the UNFCCC process will not actually come into full effect until 2020. Hence, it is crucial to look into other international processes that could increase short-term ambition and, in the long term, positively affect the UNFCCC regime.

Rio+20

“Rio+20” is the short name for the United Nations Conference on Sustainable Development which took place in Rio de Janeiro, Brazil in June 2012, 20 years after the landmark 1992 Earth Summit in Rio. The Conference on Sustainable Development, Rio+20, is a separate process from the UNFCCC meetings but the outcome document included several direct and indirect references to climate change, which could potentially bolster UNFCCC negotiations.

A few highlights from the agreed outcome in Rio

“We recognize the importance of the three Rio conventions for advancing sustainable development and in this regard we urge all parties to fully implement their commitments under the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, and the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, in accordance with their respective principles and provisions, as well as to take effective and concrete actions and measures at all levels and to enhance international cooperation.”

“(W)e underscore that combating climate change requires urgent and ambitious action in accordance with the principles and provisions of the United Nations Framework Convention on Climate Change.”

G20

The Group of Twenty Finance Ministers and Central Bank Governors (G20) is a group of officials from 20 major economies. It is an influential group, comprised effectively of two sub-groups including industrialized nations and the emerging economies (including China, India, Brazil, South Africa, Mexico, Argentina, Indonesia, South Korea, and Saudi Arabia), and can play a positive role in facilitating and setting the stage for success on climate finance.

In 2009, the G20 pledged to remove fossil fuel subsidies. In 2011, climate finance was on the agenda of the G20, and in 2012, “green growth” is slated to be the theme of the meeting of finance ministers.

Climate and Clean Air Coalition (CCAC)

The CCAC is a multi-lateral coalition that was formed in February 2012 by the United Nations Environment Programme (UNEP). The Coalition was created in collaboration with the governments of Bangladesh, Canada, Ghana, Mexico, Sweden, and the United States to collectively address the mitigation of short-lived climate pollutants (SLCPs), which as a group, are the most important contributors to anthropogenic climate change, after carbon dioxide. SLCPs stay in the atmosphere for a much shorter length of time than carbon dioxide but are much more potent in terms of their ability to trap heat in the atmosphere. Methane, for example, is over 20 times more effective in trapping heat in the atmosphere than carbon dioxide over a 100-year period.

According to a 2011 UNEP/WMO study, immediate action to reduce short-lived climate pollutants, especially methane and black carbon, has the potential to slow down the warming expected by 2050 by as much as 0.5°C.

The Coalition’s membership has grown from 6 to 18 countries since it was launched, including all G8 countries and the European Commission. Other new partners include the World Bank and NGOs. The CCAC’s recent initiatives include the launch of a learning network to help local governments reduce methane from waste and a global awareness campaign on action to reduce SLCPs.

While this initiative does not claim to solve the problem of climate change or set reduction targets as of now, it aims to bring in multilateral and grassroot financial institutions in a global effort to address SLCPs.
2 The Building Blocks of the Climate Agreement
Scientists around the world are in the process of developing the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC), due out in 2013–2014. There have been significant advances in the science of climate change since the Fourth Assessment Report (AR4) in 2007, including observations of climate change happening today and refined projections for the future. A selection of these observations and projections are provided below.

**Happening Now: Hotter Weather**

2011 came in as the 11th hottest year on record. This is remarkable because it occurred during a strong La Nina event, which typically results in globally cooler temperatures. Further, 2011 comes on the heels of 2010, which tied with 2005 for the hottest year globally since record keeping began in 1880.

In addition, the period from August 2011 to July 2012 ranked as the warmest 12-month period on record for the continental US. In July 2012, 60.55 percent of the US experienced very warm temperatures with none experiencing very cold temperatures. During 2011, almost half of the country (48.80 percent) experienced very warm temperatures with only 1.93 percent experiencing very cold temperatures. A longer-term study found that for the US, record high temperatures outpaced record low temperatures by more than 2 to 1 in the 2000s, and this ratio has been increasing over the past few decades.

Another more recent study looked at global temperature anomalies (how a measured temperature differs from the average for a location) and how they have been changing over time. This study found that over the period of 1950-1980, hot, cold, and normal temperatures occurred roughly equally. Since then, however, hot temperatures in both summer and winter have been increasing as cold and normal temperatures have been declining. The picture, based on such historical observations, is that global warming is “loading the dice” toward hotter temperatures.

**Happening Now: Melting Sea Ice**

Over the course of a typical year, Arctic sea ice accumulates and melts, reaching its minimum in September. However, in recent years, the annual minimum extent of sea ice (the area of ocean with at least 15 percent sea ice) has been significantly lower than the historical average. This trend has continued to the current year. Preliminary measurements as of mid-August, show that 2012 has set the record for minimum sea ice extent weeks ahead of the typical September minimum. In addition to this year’s record minimum, the six lowest incidents of sea ice extent measured in the satellite era have occurred over the past six years.

**Graph 1: Arctic Sea Ice Extent Graph. National Snow and Ice Data Center, 2012**

Decreased amounts of sea ice in the Arctic lead to increased warming of the Arctic because the ocean surface does not reflect sunlight as well as an ice surface and consequently stores more solar heat. This warming accelerates global warming overall and may affect weather patterns throughout the Northern Hemisphere in addition to local impacts in the Arctic itself.

**Happening Now: Ocean Heat Increase and Acidification**

The heat content of the oceans is increasing. The upper depths of the oceans have shown a generally increasing trend over the period of observations (since the mid-1950s). The observation network has been expanding its coverage over time, increasing confidence in the authority of the measured trends. There is also now evidence that an increasing heat trend is present at lower ocean depths. More heat being mixed into the deeper parts of the oceans is an explanation for periods of slower surface warming rates, such as from 2000–2009.

The oceans contain enormous mass and an ability to store a great deal of heat. In fact, the oceans have taken up over 90 percent of the heat being trapped in the Earth system from greenhouse gas emissions. This trapped heat would have otherwise gone into heating ice sheets, sea ice, glaciers, continents, and the atmosphere. The oceans provide a delay on the full amount of temperature increase expected from greenhouse gas emissions.
The oceans also take up roughly one third of carbon emissions to the atmosphere, providing yet another break on warming from human activities. However, this service comes at a cost, as the carbon dioxide has large effects on ocean chemistry. Since the Industrial Revolution began in the 19th century, the acidity of the oceans has increased by roughly 30 percent. Under continued emissions projections, the acidity could increase by upwards of 150 percent by the end of the century. Increased acidity has potentially important adverse impacts on species (including ecological keystone species such as corals) that build shells and skeletons from calcium carbonate in seawater.

Updated Expectations: Sea Level Rise

As the climate warms, the global sea level rises due to the thermal expansion of ocean waters and the melting of land ice. While models can accurately simulate thermal expansion, potential sea level rise due to the melting of mountain glaciers and ice sheets has been difficult to model. The IPCC Fourth Assessment Report estimated a global sea level rise of 18 to 59 centimeters from 1990 to the end of the century. These may be low estimates, however, as they do not include contributions from the melting of the Greenland and Antarctic ice sheets.

Recent studies, in an attempt to more accurately predict sea level rise, have examined the effect of warming on land ice. These studies relate the rate of observed sea level rise to the amount of observed warming and then apply this historical relationship to future climate change. Results of these studies have reproduced past sea level rise well and their projections of sea level rise are consistently higher than those in AR4 (See Graph 2).

Graph 2: Comparison of projections of sea level rise in the 21st century using semi-empirical approaches to the projection of sea level rise in IPCC Fourth Assessment Report.

Updated Expectations: A 4°C World?

Current emissions reduction pledges fall short of what is required to put the world on track for a limit of 1.5°C or 2°C below pre-industrial levels. In fact, scientists have warned that current emissions reduction pledges put the world on track for a 3–4°C warming by the end of this century. Scientists have been refining what changes might result from such a warming. Some changes in climate and associated impacts due to global warming can be linear, such that the relationship between degree of change and amount of warming is constant. In addition, “tipping points” reside in the climate system, meaning that once thresholds are reached, abrupt changes can result from subsequently small increases in temperature.

For each degree Celsius of warming, the following changes are expected:

- 5–10 percent changes in precipitation in many areas
- 3–10 percent increases in the intensity of heavy precipitation events
- 5–10 percent changes in stream flow for many river basins
- 5–15 percent reductions in crop yields as the crops are currently grown
- 15 percent and 25 percent reductions in annual and September Arctic sea ice, respectively
- 200–400 percent increase in wildfire area burned in parts of western US

Figure taken from Rahmstorf (2010).
Executive Summary

The severity of the global climate crisis and the need for greater collective action among the world’s nations requires that two mileposts be met in Doha: (i) the Parties to the Kyoto Protocol formally adopt the second commitment of the Kyoto Protocol, while (ii) the Parties to the UNFCCC successfully close negotiations under the long-term cooperative action (AWG-LCA) track and lay out a clear work plan to complete the new climate agreement by 2015, as promised by the Durban meeting last year. Successful negotiations in Doha can foster confidence in the international system and lead to comprehensive outcomes in future negotiations.

Current State of Play


Last year’s meeting in Durban launched new negotiations of the AWG-ADP, with a deadline of 2015 for concluding an agreement on a “PALIOALF”, i.e., in the words of the Durban conclusions, “a protocol, another legal instrument, or an agreed outcome with legal force,” applicable to all Parties, that would take effect from 2020. The Durban agreement also recognized “that fulfilling the ultimate objective of the Convention will require strengthening the multilateral, rules-based regime under the Convention,” thus signaling a transition away from the unilateral “pledge and review” approach of the Cancun Agreements.

The Durban decision does not define the scope of the 2015 agreement in much detail; it leaves that for future years. What is known is that the agreement will include some very general provisions (mitigation, adaptation, finance, technology, capacity building) and that the process is required to “raise the level of ambition” of the Parties.

Thus far, the Parties have displayed little appetite for elaborating specific legal options for the 2015 agreement from among those listed as possibilities in the Durban agreement. Many Parties have indicated that exploratory discussions and brainstorming should precede any detailed discussions on the elaboration of legal form, and those discussions will likely continue in Doha.

Looking Forward to Doha

At this time, it is crucial to build confidence and trust in the international process. The Durban agreement
depended on a balanced package of agreements on the Kyoto Protocol and AWG-LCA track that resulted in the successful creation of the AWG-ADP. Without adoption of the amendments necessary to begin a second commitment period of the Kyoto Protocol, and a decision that addresses Parties’ concerns about pending issues in the AWG-LCA, progress on the AWG-ADP will be difficult to achieve in Doha.

At COP 18, the Parties will need to lay out a clear work plan toward 2015, including progress on key issues, marked by clear milestones and deadlines. The AWG-ADP will need to agree on two distinct work streams—one to increase ambition before 2020, and a separate work stream to work toward a fair, ambitious, and legally-binding 2015 agreement. As climate change worsens, and as countries ramp up mitigation efforts, a solid legal architecture will become increasingly necessary. The international legal system requires clear, binding rules to deal with a challenge this great in scope and significance.
Mitigation: Closing the Gigatonne Gap

Mitigation refers to human interventions to reduce greenhouse gases emitted into the atmosphere or to increase the removal of these gases by “sinks,” such as forests.

The Intergovernmental Panel on Climate Change (IPCC)’s Fourth Assessment Report found that to keep planetary warming below an average of 2°C over pre-industrial levels, global emissions must be reduced to 50–85 percent below year 2000 levels by 2050. The report also found that, to be consistent with a 2°C target, developed countries, with the highest cumulative emissions, including the US, need to reduce their emissions the most, on the order of 80-95 percent below 1990 levels by 2050. In turn, developing countries would need a substantial deviation from their business as usual emissions, in line with a global carbon budget consistent with the 2°C goal.

Routes to Mitigation

The Durban outcomes provide for pre-2020 mitigation through the Kyoto Protocol and for post-2020 through the AWG-ADP.

- The Kyoto Protocol: In Durban, Parties agreed to agree to a second commitment period of the Kyoto Protocol beginning in 2013. This will extend mitigation action from some industrialized countries through 2020. The length of the commitment period will be a significant issue in Doha, with some groups of countries (AOSIS and LDCs) asking for a five-year commitment, while developed countries are asking for eight years. Since the US is not Party to the Kyoto Protocol, it is an observer of these negotiations.

- The Ad-Hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP) has two strands. The Durban outcome includes an agreement to negotiate a comprehensive legal agreement by 2015, to enter into effect by 2020, that would bind all countries to mitigation action, including major emitters. In addition, Parties agreed in Durban to discuss their vision for near-term mitigation action and ambition between 2012 and 2015. Since global emissions need to peak by 2015 or as soon as possible thereafter, increasing near-term ambition is an imperative.

- The Ad Hoc Working Group on Long-term Action (AWG-LCA): Created by the Bali Action Plan in 2007, the AWG-LCA provides space for developed countries that are not Party to the Kyoto Protocol (essentially the US) to take on “mitigation commitments or actions, including quantified emission limitation and reduction objectives” and for developing country Parties to undertake “mitigation actions” supported by requisite finance, technology, and capacity building. With the AWG-ADP launched, the Parties at Durban gave an end date to the AWG-LCA track of the negotiations—at COP 18 in Doha. It remains to be seen at Doha what will happen with issues that remain unresolved and are currently being discussed in the AWG-LCA.

The Gigatonne Gap

Currently, the world is on track to emit roughly 56 gigatonnes of carbon dioxide equivalent (GtCO₂e) in 2020. To stay below an average global temperature increase of 2°C, scientists estimate that we need to reduce our annual global emissions roughly 12 GtCO₂e by 2020.

Not Pulling Their Weight

Developed countries need to reduce their emissions by at least 25–40 percent compared to 1990 by 2020 if the world is going to remain on track for a 2°C target. Some developed countries’ 2020 pledges are in the recommended range, including:

- Norway: Unconditional pledge of 30 percent below 1990 levels
- Japan: 25 percent below 1990 levels (under review, post-Fukushima)
- Some of the EU Member States, such as Germany (40 percent below 1990 levels) and UK (34 percent below 1990 levels) are also among the more ambitious, but these are part of the EU effort sharing agreement.

Others are not, including:

- European Union: 20 percent below 1990 levels (30 percent conditional)
- Australia: 5 percent below 2000 levels unconditionally (25 percent below 2000 levels conditional)
- US and Canada: (17 percent below 2005 levels conditional), equivalent to 3 percent below 1990 levels
On the whole, developed countries’ pledges fall far short of what’s needed. Meanwhile, an Oxfam study shows that over 60 percent of pledged emissions cuts by 2020 are likely to be made by developing countries, which have least-contributed to climate change.96

The Ambition Gap

Currently, the low end of existing pledges from 56 developed and developing countries would reduce emissions by approximately three GtCO₂e, putting the world on track for at least 3.2°C of warming and leaving an annual gigatonne gap of roughly 9 GtCO₂e or 6–11 GtCO₂e in 2020, according to the United Nations Environment Programme (UNEP) 2011 “Bridging the Emissions Gap Report.”97 98 Countries need to step up to the plate if we are to prevent the worst effects of climate change. Agreement at Durban opened the possibility of turning this around and putting the world on a low emissions pathway, ready to take advantage of the opportunities offered by new markets and clean technology-driving innovation, investment, employment and economic growth. Fulfilling this potential requires decisive action at COP 18 in Doha. Near-term ambition must be increased, including the means to help developing countries follow low-carbon development trajectories, capacity building, finance, and technology, and a pathway mapped to drastically reduce emissions post 2020.

Closing the Gap

As of September 2012, most Parties have recognized the issue of the gigatonne gap, but no concrete steps have been taken to resolve it.

There are multiple ways of closing the gigatonne gap, including:

- Increasing the overall ambition of developed countries’ targets to 40 percent below 1990 levels by 2020 and ensuring developing countries are on track for 15–30 percent reductions from business as usual, including through provision of necessary support;
- Targeting sectors currently unregulated by the Kyoto Protocol, such as international aviation and shipping; and
- Closing existing loopholes, such as improving new rules in land-use, land-use change, and forestry (LULUCF) and ending double-counting of emissions reductions through offsets and the use of surplus assigned amount units (AAUs, or ‘hot air’).

Pre 2020 Mitigation Ambition

Opportunities for developed countries to raise their ambition to reduce emissions between now and 2020 do exist. Most recently in Bangkok, Parties to the Kyoto Protocol agreed on an amendment to allow countries to raise their ambition through 2020. Countries such as Australia recently passed historic legislation on an emissions trading scheme.99 South Korea and Mexico recently passed new climate laws that will help decrease greenhouse gases. China recently included an ambitious climate change plan in its 12th Five Year Plan. Similar action by more countries, including the US, is needed urgently to close the ambition gap.

Nationally Appropriate Mitigation Actions (NAMAs)

Negotiations at COP 16 in Cancun in 2010 formalized a new model for mitigation parallel to the Kyoto Protocol, wherein developed countries put forth economy-wide 2020 mitigation pledges and developing countries submit Nationally Appropriate Mitigation Actions (NAMAs). NAMAs recognize developing countries’ responsibility to reduce emissions without being bound to absolute emissions targets. Countries have submitted various types of NAMAs, including sectoral emissions goals, emissions intensity goals, and policy reforms. A NAMA Registry Prototype is currently in development and is anticipated to be deployed in November 2012.100 It is expected that this Registry will serve as a forum for all developing countries to register NAMAs.

The Importance of Common Accounting

In order for mitigation pledges to be meaningful, countries must agree on common accounting rules for emissions. Accounting rules for economy-wide pledges would provide guidelines for quantifying and reporting greenhouse gas emission reductions. For NAMAs, clarification and common guidance is needed on estimating projected emissions reductions from national actions. Common accounting rules for all countries will allow pledges to be compared and the progress towards them evaluated, while avoiding ambiguities that misrepresent the actual levels of emission reductions achieved by countries. This can help give all countries the confidence that all others are making fair levels of effort to reduce their emissions and not trying to hide inaction behind accounting tricks. Such common frameworks are an essential element of the global response to climate and the 2015 global deal.
What is Needed from the United States

The US is a critical player in shaping an effective international plan to reduce emissions and close the gigatonne gap. The US needs to clarify and demonstrate how it will meet its target reaffirmed in the Cancun Agreements. Though the target is inadequate, the US must utilize all of the legal and administrative tools at its disposal to meet, or ideally exceed it, in absence of federal climate legislation. This includes:

- Preserving and using existing laws and authorities, such as the Clean Air Act
- Preventing lock-in of carbon intensive sources of energy and investing in cutting-edge solutions for clean energy innovation
- Supporting a legally-binding global mechanism for aviation and shipping
- Supporting the phasing out of fossil fuel subsidies
- Continuing support for reducing short-lived climate pollutants, recognizing that action on these is no substitute for action on the ‘traditional’ greenhouse gases, especially carbon dioxide, but, rather, a complement
- Increasing US financial support to developing countries to enable more ambitious mitigation actions

Furthermore, the negotiations in Doha represent a new opportunity for the US to help close the gigatonne gap by supporting common accounting rules and clarifying assumptions behind its target.
International climate change investments are at a critical juncture. Increased funding resulting from commitments made in Copenhagen is beginning to produce significant results for securing climate finance. In addition, the United States must look towards the commitment it made with the rest of the developed world to mobilize at least $100 billion per year by 2020,\textsuperscript{101} which will likely necessitate US government investments. Resources for the Green Climate Fund (GCF) will be an important piece of this long-term commitment.

We have a limited window of time to help countries reduce emissions while simultaneously preparing for climate change impacts. Inaction not only jeopardizes existing and expected development gains but also yields a developing world overwhelmed with humanitarian crises rather than planning for long-term growth. Current investments are preparing us for the impacts of today and mitigating the consequences of tomorrow.

**Build Resilience**

- The consequences of a changing climate are already fast pushing communities, particularly the world’s poorest and most marginalized, beyond their capacity to respond. Targeted and well-planned US climate change investments are helping communities build resilience to impacts such as severe weather events, decreased water availability, and shifting seasons and disease vectors. Data on efforts to reduce disaster risk show that up-front investments could result in $7 in cost savings for every $1 spent, while climate resilience efforts also help to reduce instability in developing countries.\textsuperscript{102}

- Climate change has the ability to alter ecosystems and the services they provide. This can, in turn, affect the supply of international commodities, such as coffee, rubber, or cotton, in climate-vulnerable regions.\textsuperscript{103} Investments that bolster the resilience of ecosystems and the communities on the front lines of climate change can help to provide stability for American companies doing business around the world.\textsuperscript{104} US multi-national businesses are also positively affected by adaptation investments in urban infrastructure around the world, as preparations for climate-related disaster impacts can keep transportation and telecommunications services up and running in climate-vulnerable centers of international business; when floods shut down Bangkok or Manila, it is not good for US businesses. Such business losses can be reduced if governments have the resources and capacity to prepare for the increased frequency or severity of extreme weather.
Protect Forests

As the largest terrestrial store of carbon, forests have a vital role to play in the fight against climate change. Deforestation is one of the largest sources of carbon emissions globally—accounting for as much as one fifth of global carbon emissions; more than the world’s entire transportation sector.105 Combating deforestation and degradation is vital for sustaining wildlife, natural resources, and ecosystem services at every level, providing sustenance and income for more than a billion people.

Promote Clean Technology Cooperation and US Investments

- Investments in clean energy infrastructure in developing countries reduce global emissions and improve global energy security by helping those countries move toward reliable, diversified, and cost-effective energy supplies. The clean energy economy has been surging around the world—having grown over 539 percent since 2004—and clean energy investments in developing countries are expected to total more than $20 trillion over the next 25 years.106 According to one study, the US could create 280,000 to 850,000 new jobs if it captured just 14 percent of the clean technology market in the developing world.107

- The US economy stands to benefit from American-led mitigation efforts abroad. Developing and manufacturing mitigation technologies in the US and deploying them in developing countries would create domestic jobs while helping developing countries enact policies that make the business environment more conducive for investment. These technologies would also help build and open new markets for clean technology goods and services in developing countries.108

What are the Potential Sources of Climate Finance Beyond Annual Climate Finance Appropriations?

In 2010, the UN Secretary General, the World Bank, and the International Monetary Fund set up a high-level UN advisory group on climate change financing at the request of G20 finance ministers. The UN group has put forward several innovative and market-based mechanisms to supplement public sources of funding and provide reliable sources of finance. These include measures to address emissions in the shipping and aviation sectors that generate revenue, imposing a tax on international financial transactions and currency trades (FTT), and use of IMF Special Drawing Rights (SDRs).109

Looking Towards Doha

The following issues will be the basis for climate finance negotiations in Doha.

- A decision will likely be made on the host country for the Green Climate Fund (GCF). The GCF is the climate change equivalent of the Global Fund to fight AIDS, Tuberculosis, and Malaria. Established by the Cancun Agreements, the GCF will serve as a global climate fund, and is expected to manage the climate finance commitment made by developed countries in Copenhagen. The climate finance commitment was made to address the adaptation and mitigation needs of developing countries. The board of the GCF is made up of equal representation of developed and developing countries. The charter for this Fund was adopted in 2011, and board meetings were first held in August 2012 and again in October 2012.110 Seed money has been provided by a number of countries to cover the administrative expenses associated with setting up the fund. The US has not yet made monetary pledges to the Fund.

- The Work Program on Long-term Finance will report to the Parties on progress in their workshop held in July 2012. A decision will be made regarding whether to continue this work program.

- The Standing Committee on Finance will report to the Parties and a board for this committee will be appointed. The Standing Committee was established to ensure the GCF does not sit empty and will assist the COP in mobilizing financial resources and measuring, reporting, and verifying their delivery. Decisions may be made regarding what authority this committee will have and whether this Committee will be a successor to the Work Program described above.
International aviation and maritime transport are major and fast-growing sources of greenhouse gas emissions. There is high potential to reduce these emissions globally, beyond the energy efficiency measures adopted under the International Maritime Organization (IMO) and considered under the International Civil Aviation Organization (ICAO). Carbon pricing can be a fair and effective means of addressing this situation and could raise considerable funds to support climate action in developing countries, as well as within the maritime and aviation sectors themselves. A successful outcome in Doha regarding aviation and maritime issues could clear the way for progress in addressing emissions from these sectors in the IMO and ICAO.

**State of Play**

The IMO and ICAO are the UN agencies, or sectoral bodies, responsible for developing policies to address emissions from international transportation. These organizations have been pursuing measures to regulate emissions from aviation and shipping. Because the emissions from international aviation and shipping cannot be said to belong to one country only, various market-based mechanisms (MBMs) have been proposed to control these emissions.

Currently, negotiating positions of many Parties with regard to regulating emissions from aviation and maritime transportation have remained frozen in time for the past decade or so. The current positions range from the US and Japan, that want the IMO and ICAO to proceed with no input from the UNFCCC, to a group of developing countries that want the UNFCCC principles to override those of the sectoral bodies, which are independent and autonomous bodies under the UNFCCC.

**Maritime**

Maritime emissions, also known as bunker fuels, account for 3 percent of global carbon dioxide emissions. A proposed way to regulate this sector while avoiding net incidence on developing countries is with a universal maritime carbon-pricing policy, coupled with rebates for developing countries. This solution could alleviate both the gigatonne gap and the problem of climate financing.
Aviation

Total carbon dioxide emissions from the aviation industry are approximately 2 percent of global greenhouse gas emissions.\textsuperscript{114} If no action is taken to curb this trend and current growth rates in the industry are allowed to continue, aviation emissions are expected to increase 150 percent by 2030.\textsuperscript{115} Negotiations to regulate emissions from the aviation sector globally have been stalled at the ICAO for over a decade. Motivated by the ICAO’s failure to reach agreement on regulating emissions from the aviation sector, the European Union passed legislation to include aviation in the EU’s Emissions Trading Scheme (EU-ETS) in 2008. In January 2012, this legislation came into effect and requires all airlines to account for greenhouse gas emissions flying to and from the EU, regardless of the point of origin.\textsuperscript{116} The EU-ETS directive on aviation represents the only concerted attempt to regulate emissions from the aviation sector globally.

Allocation of Funds

A report published by the World Bank and International Monetary Fund calculated that a carbon price of $25 per tonne applied to fuel would produce revenue of about $25 billion in 2020; about $12 million from the aviation sector.\textsuperscript{117} The report found that as much as 40 percent of this revenue could be returned to developing countries as rebates. The rebate funds would ideally be used to cushion the effect of rising and volatile prices on the most vulnerable residents of those countries.\textsuperscript{118} The remaining revenues from such carbon pricing mechanisms could be channeled to the Green Climate Fund (GCF) as international climate finance, although only the part attributed to developed countries (according to agreed criteria) should be counted towards the fulfillment of the financial commitment to mobilize $100 billion annually by 2020.

International Transportation Under the UNFCCC Negotiations

Negotiations have stalled under the UNFCCC due to differences in opinion among Parties as to whether the principle of common but differentiated responsibilities and respective capabilities (CBDRRC) can be applied to a global deal under IMO or ICAO.\textsuperscript{119} To enable progress at COP 18, a UNFCCC decision needs to clarify how the principle of CBDRRC may be operationalized in these inherently global and complex sectors, without distorting competition and avoiding carbon leakage. The most promising option is through uses of revenues generated by carbon pricing to address potential burden on poor countries.

However, other approaches may also be explored, such as:

- \textit{De minimis} clauses
- Mechanisms for distributing emission allowances under an Emissions Trading Scheme (ETS) mechanism (in the less than optimal outcome of partial free allocation of allowances) to ensure equitable distributional effects for developed and developing countries
- Phase-in periods
- Providing technical support to developing countries in complying with the agreed measures.

Possibilities for Doha

Greenhouse gas emissions from international aviation shipping are large and growing quickly. There is great potential to reduce those emissions, but a key factor blocking progress is the shared and overlapping jurisdiction between the UNFCCC and the specialized agencies of the ICAO and IMO, each with different conventions and regulations. It is clear that the principles of one body should not take precedence over another, yet arrangements can be found that reflect the principles and customary practices of both. To this effect, Parties to the UNFCCC should agree under the AWG-LCA in Doha to send a signal to the IMO and ICAO on how to reconcile the respective principals and customary practices of the different bodies. While the UNFCCC should set the climate targets, ICAO and IMO could develop global measures to reduce greenhouse gas emissions from international aviation and maritime transport (bunker fuels), and develop and implement measures based on fairness and efficiency in addressing the collective challenge of mitigating and adapting to climate change. COP 18 could adopt a decision supporting ICAO and IMO efforts to complete the development of global policy frameworks for greenhouse gas emissions from international aviation and maritime transport, respectively, including carbon pricing of their emissions, by COP 19.
**Importance for the United States**

The US position is critical for setting the tone for success in regulating global aviation and maritime emissions. Under the current global economic climate, an emissions mechanism for international shipping and one for international aviation could generate substantial revenues that could be channeled to the GCF as international climate finance.

Regulation of emissions from the aviation sector has been a particularly controversial topic, as the US airlines have protested the EU-ETS directive on aviation. In addition, the US Congress passed two bills this year that could potentially shield US airlines from complying with the EU-ETS law. In the meantime, US airline companies are “complying under protest.” Earlier this year, Delta Airlines became the first US airline to impose a $3 charge on tickets to and from EU airports. Other US airlines that operate flights to the EU have followed suit. No payment to the EU-ETS scheme is due until 2013; thus, there is an opportunity at the ICAO meetings in November 2012, for the US to show a willingness to negotiate a global binding agreement on emissions from the aviation sector.

The US administration has also remained silent on the issue of climate finance being generated from the global shipping sector in the context of IMO discussions on market-based mechanisms (MBM). It is not clear whether the US would be willing to move forward on this issue if President Obama wins a second term.

**Economic and Trade Implications**

A July 2012 study by the Brookings Institution indicates that a global maritime greenhouse gas emissions system would not have a significant adverse effect on shippers or consumers and businesses in the US and would have significant social benefits. A MBM for international maritime transportation could provide the US with significant credit toward the GCF, while imposing a minimal burden on trade. The US receives roughly 15.9 percent of global imports shipped by sea. If a carbon price of $25 per tonne were applied to bunker fuel, the US would be credited up to $3.9 billion per year to the GCF.\textsuperscript{120}

A carbon price of $25 per tonne on bunker fuels would raise fuel costs by up to 10 percent.\textsuperscript{121} To put this projected price increase into perspective, the price of bunker fuels has fluctuated more than 300 percent in the past five years and during one 2.5 year period increased by approximately 200 percent. Given the historical price fluctuations of bunker fuel, this increase is anticipated to have a minimal effect on trade.\textsuperscript{122} For aviation, under the current EU-ETS directive on aviation, many studies have shown that airlines will likely make a significant profit from the policy from now until 2020 and that the EU’s aviation law was actually designed to minimize costs for airlines in the early years of its implementation. In any case, the optimal solution for regulating emissions from the aviation sector would be a globally implemented mechanism under ICAO.

The US can help to ensure that progress is made to regulate emissions from the aviation and maritime sectors, by:

- Supporting an agreed market-based mechanism to regulate emissions under ICAO and IMO
- Actively pursuing and supporting a global deal on aviation emissions at the ICAO assembly in 2013
- Supporting a clear signal from the UNFCCC to the IMO and ICAO recommending that revenues resulting from carbon pricing of international transport should be used to support global action on climate change.
REDD+ policies create economic incentives for developing countries to reduce emissions from deforestation and forest degradation and promote other pro-forest activities (REDD+) within their borders. Since it was first proposed at COP 11 in Montreal, the REDD umbrella has expanded to include “REDD+” activities such as forest carbon sequestration and sustainable forest management. REDD+ is considered to be one of the most cost-effective ways of mitigating climate change. In order to take advantage of these cheaper emissions reduction opportunities, countries need a system of valuing the carbon stored in forests. They also need a system for monitoring, reporting, and verification (MRV) of forest cover changes and biomass. They need a system in place that can measure how successfully social and environmental safeguards are being implemented. And, finally, they need long-term, sustainable, and predictable financing from a variety of public and private sources.

The Cancun Agreements

The Cancun Agreements set the stage for a robust REDD+ framework. The COP 16 decision encourages developing countries to undertake forest-related mitigation actions, subject to adequate financial and technical support from developed countries. Applicable actions include reduced emissions from deforestation and degradation, conservation and enhancement of forest stocks, and sustainable forest management.

Under the COP 16 decision, developing countries must create forest emission “reference levels” (RLs). Reference levels allow the Parties to determine whether real emissions reductions are occurring by providing a baseline against which countries’ REDD+ efforts can be evaluated. If a country’s emissions from deforestation fall below its reference level, that country may receive compensation for all or part of those reductions, subject to further guidance.

The Cancun Agreements also request participating countries to develop a “robust and transparent” forest MRV system. MRV must eventually occur at the national level, although the COP decision allows subnational monitoring in the interim. In addition, Parties must provide information regarding compliance with a number of safeguard provisions, which are spelled out in Appendix I of the decision. The safeguards require REDD+ actions to preserve natural forests and biodiversity; to obtain the participation and respect the rights of relevant stakeholders, particularly Indigenous Peoples; to be consistent with Parties’ sustainable development needs; and to be supported through adequate finance, technology transfer, and capacity-building.

Subsidiary Body for Scientific and Technological Advice (SBSTA) Meeting in Bonn June 2011

In Bonn, in June 2011, countries began to negotiate three technical items, as was requested by the COP in Cancun: modalities for reference levels and MRV, and information systems on adhering to safeguards. One of the most important issues is the methodology for setting reference levels. Countries broadly agree that reference levels should be based on historical emissions; however, the COP 16 decision also allows countries to develop reference levels “in accordance with national circumstances.”

Subsequent interpretations of this provision may determine how countries receive support under a REDD+ scheme. For example, countries with low levels of economic development tend to have low deforestation rates; these rates are expected to increase as countries develop. If these countries’ reference levels are set solely according to historical levels, they may not be able to receive incentives for efforts to reduce deforestation. If their reference levels are allowed to increase as their economies grow, however, they may receive incentives as long as they are able to reduce deforestation below business as usual levels.

Methodologies to calculate business as usual levels could prove contentious. Unrealistically high business as usual projections could allow countries to receive REDD+ credit without having to do anything to reduce emissions from deforestation. Countries should establish safeguards to prevent this occurrence and preserve the environmental integrity of REDD+ incentives.

Countries must form a consensus on monitoring, reporting, and verification of REDD+. In order to develop a workable framework for MRV, countries must clearly define how REDD+ activities will be accounted for. Countries will also require the technical capacity to measure changes in forest carbon, and, for many Parties, a system for developing this capacity must be put in place. Working groups must establish the scale of MRV systems (local, national, regional, or global), which technologies will be used, and how activities will be coordinated across borders. Finally, REDD-specific MRV guidance must be compatible with overall MRV guidance in the Long-term Cooperative Action (AWG-LCA) negotiations.

In Bonn, countries discussed implementation of the safeguard provisions agreed to in Cancun. Although
the Cancun decision requires countries to provide information on compliance, it does not provide details on the type and frequency of information that should be collected. In Bonn, Parties suggested that the information system for safeguards should be transparent, comparable, consistent, and regularly reported. Some countries recommended including safeguards within National Communications under the Framework Convention. Countries will continue to discuss these ideas going forward.

**Durban 2011**

Negotiators in Durban approved general technical guidelines for ensuring that reference levels—benchmarks for measuring progress in reducing emissions from deforestation—have environmental integrity. These new guidelines will provide a framework and necessary technical guidance on how to establish reference levels that are based on science and that can serve as a measure of environmental performance and financial compensation. There is a mandate for a technical assessment process, but there has been no discussion of what happens with the results of that process. This will likely be a broader discussion that cannot be tackled in SBSTA alone, as it links to policy-related aspects of REDD+, including finance.

In Durban, countries agreed that all sources of funding, including carbon markets, are eligible to pay for REDD+ activities, subject to further guidance. The decision on REDD+ finance in the AWG-LCA negotiations included a clear endorsement of all sources of finance, a call for a REDD+ finance workshop (to be held during the August Bangkok Intersessional meeting), and a technical paper in 2012. Estimates indicate that while public financing is needed, especially for the capacity building stage, only large-scale, sustainable funding from additional sources, including carbon markets, will generate sufficient funding.

**Indigenous Peoples and REDD+**

Negotiators in Durban approved critical provisions for ensuring that the rights of Indigenous Peoples are respected and will be safeguarded in the implementation of REDD+ programs. Parties also outlined the protections for Indigenous Peoples prominently in the AWG-LCA’s financing sections. Still, negotiators only developed a framework for implementation of REDD+ programs and decided to continue working on the content of the REDD+ systems in 2012.

Durban resulted in a positive step forward by providing preliminary guidance for reporting on the implementation of safeguards as countries launch REDD readiness initiatives already being financed through the Forest Carbon Partnership Facility, UN-REDD program, and other bilateral initiatives. More importantly, Indigenous Peoples in many countries are developing their own consultation and information-gathering processes that will feed information into these national systems.
What Does This Mean for the United States?

The US is an active Party in the REDD+ negotiations. REDD+ achieves many of the United States’ long-standing development goals and will likely be an integral component of the US’ climate change approach.134 A solid international REDD+ framework can deliver verifiable emissions reductions at comparatively low cost, enhancing the political feasibility of tackling climate change. The American Clean Energy and Security Act, which passed the US House of Representatives in 2009, would have dedicated five percent of emissions trading allowances to REDD+ and allowed REDD+ credits to be used for compliance, had it been passed into law.

Looking Forward to Doha

Countries will start deciding on the details of reference levels, and some will begin to calculate their reference levels using the guidance decided in Durban. With more specific REDD+ financing methods being developed, countries held a REDD+ finance workshop in August 2012, and expected to produce a technical paper answering some of the questions around REDD+ financing. At the August Bangkok meeting, the AWG-LCA REDD+ group focused on the issue of financing. There were many views and proposals put forward by Parties, with some good discussions and progress made on key issues.

These discussions and progress were guided by an informal note introduced at the beginning of the session, at the behest of the AWG-LCA Chair.135 This note covered elements from the technical paper, the Bonn June meeting, Party and NGO submissions, and workshop discussions to try and guide Parties in the Bangkok discussions. At the end of the penultimate meeting, the Chair was given the mandate to update the note in order to capture the areas of convergence and also issues that might require further work in Doha and beyond. Developing countries wanted a negotiating text for Doha while developed countries wanted just an update. The compromise was to prepare both.136

The updated informal note was well received but the negotiating text was rejected by the Annex 1 Parties, with support from Brazil and Colombia. As a result, Doha will begin with no negotiating text on the table on the issue of REDD financing.

The COP 18 negotiations in Doha present an opportunity for countries to finalize REDD+ technical challenges and move toward a broader agreement on a REDD+ mechanism that delivers adequate, predictable, and sustainable finance. At the very least, countries should make additional progress on developing information systems for implementing safeguards. Parties should also strive to agree on methodologies for setting reference levels, a technical assessment process for RLs, and REDD-specific MRV guidance. Agreement on these technical issues will free negotiators to work toward agreement on how to finance REDD+, a tricky situation since the AWG-ADP is not supposed to be finalized until 2015. Although getting a final finance decision is crucial for REDD+ to continue to move forward and to give confidence to REDD+ countries that their efforts at implementing national and subnational programs will be compensated, this may be a decision that will be pushed until 2015. If so, the lack of progress in Bangkok is cause for serious concern.
Land-use, land-use change, and forestry (LULUCF) refers to the greenhouse gas emissions generated or sequestered through changes in land management within a country, including changes in forest and plant cover. LULUCF accounting requires special rules because, unlike other economic activities, land-use activities can either add to a country’s emissions total through such activities as farming or forest harvesting, or they can subtract from it through such activities as afforestation or wetland restoration.

The Kyoto Protocol requires ratifying countries to account for certain LULUCF activities in their greenhouse gas inventories. In the first commitment period, these activities included:

- Afforestation: the conversion to forest of land that had not previously been forested for at least 50 years
- Reforestation: the re-conversion to forest of land that had previously been deforested
- Deforestation: the removal of forest cover

As a result of the Durban Decision, the Parties added another activity to those accounted for on a mandatory basis:

- Forest management: direct, human-induced management activities that affect emissions and removals from forests remaining forests

In addition, countries can choose whether or not to account for other activities (listed in Article 3.4). These voluntary activities include:

- Cropland management
- Grazing land management
- Re-vegetation
- Wetland rewetting and drainage

### Outcomes of Durban

#### Reference Levels

The Durban Decision changed how LULUCF accounting will be conducted for the second commitment period of the Kyoto Protocol. For forest management, Parties are required to establish a “reference level” as a baseline for measuring increases or reductions during the commitment period. The reference level for each Party (or group, in the case of the EU) will be inscribed in an annex to the Doha outcome of the AWG-KP. Preliminary reference levels were already proposed before Durban and have been reviewed by expert review teams, but the final outcome of the Durban Decision on LULUCF may compel some Parties to recalculate their reference levels.

The reference levels agreed in Durban were based on different approaches that essentially break down into two categories:

- Net-net accounting relative to 1990 levels. This reference level simply uses 1990 forest management emissions as the benchmark for generating credits (if a carbon sink sequesters more carbon than in 1990) or debits (if net emissions increase above the 1990 level);
- Net-net accounting relative to projected business as usual (BAU) emissions. This reference level approach will measure future emissions in terms of how much they deviate from expected emissions, and Kyoto countries will receive credits or debits to their accounts accordingly.

The Durban Decision on LULUCF limits the amount of credits countries can receive to 3.5 percent of their non-LULUCF emissions in 1990.

#### Natural Disturbances

The Durban Decision on LULUCF also included provisions that allow Parties to exempt some of their emissions when they are due to large-scale natural disturbances. Such disturbances could include events like pest outbreaks, wildfires, or hurricanes. A procedure is specified for statistically determining when a Party is eligible to use these provisions and the quantity of emissions that can be exempted, but Parties are also allowed to develop their own procedures for quantifying and exempting the emissions from these disturbances. The accounting practices are subject to expert review as part of normal inventory review procedures.
and, if the Party uses a projected reference level, the effects of the natural disturbance would be expected to be incorporated in a revised reference level for the remainder of the commitment period.

**Harvested Wood Products**

The Durban Decision on LULUCF allows Parties to account for the delay in emissions that occurs when wood harvested from forests is used for long-lived wood products. This approach revises the accounting approach from the first commitment period, which treated all forest harvesting as if the entire stock of harvested carbon was emitted instantaneously. The revised procedure allows Parties to quantify the amount of wood used for medium- and long-lived products, and to account for the decay of these products over several years. Parties can use IPCC default values for this decay, or they can propose to use their own decay estimates, which will be subject to expert review.

The effect of the decision is to add another pool to the carbon accounts, in which the volume of carbon in harvested wood products will be tracked over time, and emissions from this pool will be included in the Parties’ accounts.

**Flexible Land Use**

The Durban Decision on LULUCF allows Parties, under certain conditions, to convert one forest plantation into another land use and to establish a new forest plantation in another location without immediately accounting for the emissions from the conversion. The emissions and removals in the second commitment period will be treated as forest management (under Article 3.4) instead of deforestation (under Article 3.3)—that is, they will be measured against a reference level baseline rather than an atmospheric-scale gross-net baseline. In the future, if the new forest plantation does not reach the expected level of carbon stock, the Party would receive a debit to its accounts.

**Looking Ahead to Doha**

In Durban, the Parties created a number of work programs for SBSTA. These work programs were established at the Bonn meeting in 2012 and will be discussed in Doha. Two of these relate to the use of the Clean Development Mechanism (CDM) in the second commitment period: one is focused on examining new LULUCF activities that could be included in the CDM, and the other is focused on ways to deal with permanence of removals from CDM projects.

Another work program is devoted to exploring ways to increase the comprehensiveness of accounting in future agreements (i.e., beyond the second commitment period of the Kyoto Protocol). This work program will address the issue of whether and how Parties could also adopt land-based accounting, which would use a comprehensive inventory to account for all emissions from land-use activities within a country. Such a system would represent a substantial shift from the current framework, which only requires countries to account for carbon emissions from forestry.142

A land-based approach would entail technical challenges for many countries. However, it would also improve on current approaches by making LULUCF accounting more complete and comparable across countries. Because the current system allows countries to voluntarily elect their accounted activities, it allows some countries to count emissions credits while excluding debits. By adopting a more comprehensive approach, proposed changes to the existing framework could enhance the environmental integrity of emissions commitments. These issues are expected to be part of the “comprehensiveness” work program in SBSTA.

LULUCF negotiations are complex and have the potential to create loopholes. However, intelligent tailoring of LULUCF rules can also pave the way for deeper and broader commitments. A holistic approach to negotiations can encourage additional emissions reduction pledges and enhance the integrity of emissions reductions from forestry.
Evidence of a changing climate already surrounds us. Developing nations are particularly vulnerable to the extreme events that accompany a changing climate. In tandem with direct impacts like more frequent, severe, and intense weather hazards, nations and poor communities must prepare for, and adapt to, greater resource scarcity, climate-induced migration, political instability, poverty, and food insecurity. In 2012, many vulnerable countries experienced the effects of climate change. In the summer of 2012, severe drought was felt across the Sahel region of Africa, causing dramatic food insecurity. In the Philippines, deadly flooding engulfed half of Manila, killing nine people and displacing tens of thousands. Similarly, in July of 2012, China experienced the worst flooding in 60 years. Over 7 inches of rain fell on Beijing, causing severe flooding and killing over 70 people.

Adaptation Action is Urgently Needed

In the US, the summer of 2012 brought fresh evidence of a changing climate, with blisteringly hot temperatures, prolonged droughts, and raging wildfires hitting the United States hard – particularly the “breadbasket” Midwest. The costs of climate change adaptation are already in the hundreds of billions per year according to the World Bank, and the longer action on adaptation is delayed, the more it will cost.

Why is Action on Adaptation Important for the US?

US leadership on adaptation activities is urgently needed, as evidenced by the extreme summer seasons suffered by communities and economies here at home. The most vulnerable countries and communities stand ready to act but often lack the resources necessary to withstand the effects of climate change. Furthermore, many vulnerable communities are increasingly facing the prospect that climate change will soon cause effects well beyond the limits of adaptation; thus, programs to deal with “loss and damage” are also necessary. For both adaptation and “loss and damage” programs, firm financial commitments are urgently needed in the face of current and anticipated changes.

US leadership would demonstrate that we are still prepared to lead and that we are committed to assisting the most vulnerable. For millions of people globally, adaptation is their number one priority. Many of these people are among the poorest populations on earth and they live on the edge of crisis; the present and emergent impacts of climate change threaten to push them over that edge. Adaptation activities help developing countries and vulnerable communities plan in the face of uncertainty and undertake actions to increase their resilience to extreme weather and slow-onset events. US willingness to constructively engage in adaptation conversations would also signal an understanding of adaptation as a necessary part of any sustainable development strategy.

Furthermore, finance for adaptation is a crucial element of adaptation discussions at the international level, and US contributions to adaptation finance will be key. At COP 15 in Copenhagen, the US joined with other developed countries in pledging $100 billion per year of climate finance for developing countries by 2020. Of this finance, at least 50 percent should be dedicated to adaptation. US leadership in providing adequate levels of adaptation finance for developing countries is key.

Adaptation Under the UNFCCC Negotiating Process

While the specifics of adaptation policies and activities are best elaborated at the national and local levels, the adaptation agenda under the UNFCCC has made significant progress in the past few years. The adoption of the Cancun Adaptation Framework at COP 16 was an important milestone and initiated important processes and institutions such as the National Adaptation Plans, the Loss and Damage Work Program, and the Adaptation Committee. At COP 17 in Durban, Parties further consolidated these processes and institutions. A specific process of technical work and workshops on Loss and Damage was established, as well as a process to support adaptation activities in Least Developed Countries. It is now very important to strengthen the operationalization of these aspects as a starting point for a more consolidated adaptation framework, and to take the next steps with decisions in due course. Since it must be expected that climate change impacts will substantially increase in the coming years, time is pressing to scale-up adaptation efforts in the context of climate-resilient development at all levels in developing countries.

The Cancun Agreements: Progress to Date

In Cancun, an Adaptation Framework and an associated Adaptation Committee were established under the AWG-LCA track to enhance further action on adaptation. While the Cancun Agreements established the Adaptation Framework, they also set out a clear work plan for adaptation negotiations moving forward.
Discussions on outstanding adaptation “work streams” are now divided among the AWC-LCA, the Subsidiary Body for Implementation (SBI), and SBSTA. It will be crucial that the AWG-ADP makes a significant contribution in delivering an adaptation approach which adequately responds to the immediate needs and future threats, particularly for vulnerable developing countries, communities, and ecosystems.

Adaptation must be treated with the same priority as mitigation, and the inherent equity dimensions of adaptation must be taken into account, such as a fair distribution of adaptation finance according to risks and needs, with particular attention to the most vulnerable countries and people. With regard to the Durban Platform, it is important that the AWG-ADP strengthen the existing international adaptation regime and structures to advance implementation of the Cancun Adaptation Framework at the earliest possible opportunity, including through specific COP decisions in the road to the 2015 agreement.

The following are brief descriptions of some aspects of the Cancun Agreements as well as updates on current state of play.

**Adaptation Committee:** Broadly, the Adaptation Committee agreed to at Cancun is designed to provide coherence on adaptation actions, provide technical support and guidance to the Parties, and to make recommendations on further action. It is also charged with enhancing synergy with institutions outside the UNFCCC. The composition of the Committee was agreed in COP 17 at Durban and, with some delay in the nomination of members by UN regions, it was finally formed just before the Bangkok Intersessional in August 2012. Developing country representatives include four members from Africa, two from Asia, two from Latin America, and one from the Pacific. Developed countries are represented by two members from Western Europe, two from Eastern Europe, one from Japan, and one from the US. Just after the Bangkok Intersessional, the Committee met for the first time from September 7–10, 2012.

At the first meeting, immediate tasks at hand were to select the Chair and Vice-chair of the Committee and agree on their rules and procedures, which were achieved. The process has just begun on the other key task of developing a three-year work program. The initial list of activities include establishing linkages with other UNFCCC bodies, such as the Standing Committee on Finance and the Technology Executive Committee, preparing an overview of regional centers related to adaptation, preparing an overview of the international institutional adaptation landscape, and preparing a periodic overview of issues related to adaptation internationally. The civil society representatives who attended the meeting felt that the Committee was quite open in engaging with the civil society, but it has a long way to go in terms of ensuring transparency as it did not adopt the decision to webcast its meeting.
**National Adaptation Plans:** The Cancun agreements also established a process to enable Least Developed Countries (LDCs) to formulate and implement National Adaptation Plans (NAPs). LDCs can build upon their experiences with National Adaptation Programmes of Action (NAPAs) to identify medium- and long-term adaptation needs, with the expectation of developing and implementing their own strategies for programs to address those needs.\(^\text{147}\)

Developing countries must be actively supported in making progress on preparing NAPs in the next two years. The process must include coming up with better estimates of adaptation costs as well as the potential loss and damage from climate change that will occur in absence of adaptation and mitigation. Full implementation of NAPAs and NAPs should be a key element for the post-2020 agreement and substantive progress must be made well before 2020. The knowledge gained from the development and implementation of NAPAs and NAPs will also provide valuable inputs on post-2020 adaptation needs. The process must not be limited only to the LDCs, as other developing countries should also be supported. COP 18 needs to agree on the funding modalities for NAPs in order to scale-up the work immediately, as well as provide predictability for the delivery of resources for NAPs implementation.

**Work Program on Loss and Damage:** A work program has been established to explore approaches for developing countries to address loss and damage associated with climate change impacts, beyond the limits of adaptation. The work program and its regional expert meetings are already delivering progress in understanding the issues and challenges. The UNFCCC regional expert workshops were held in Ethiopia for Africa, in Mexico for Latin America, and recently in Thailand for Asia. These workshops have been useful in bringing some clarity to an issue that is quite confusing and contentious. For instance, the definitions of “loss” and “damage” have not been agreed on, though there is a general understanding that “losses” are irrecoverable while “damage” can be repaired to a certain extent. There are also issues around measurement of loss and damage, as a number of metrics exist to estimate economic losses but there is no consensus on which ones should be used. The Bangkok workshop focused particularly on the topic of slow-onset events, such as sea level rise, salinity intrusion in low-lying coastal areas, loss of biodiversity, and increased temperature, each of which are different from the more familiar rapid-onset climate events such as floods and cyclones.

Based on the inputs from the ongoing work program, COP 18 must progress on the establishment of an international mechanism, which should address the gaps that are going to remain on the international level. Potential functions include assisting countries in understanding loss and damage, coordinating relevant work that is going on with regard to the diverse risks (both rapid and slow-onset), and cooperation in addressing loss and damage. Since the limits to
adoption are increasingly going to be exceeded, the international community, recognizing the precautionary principle and the role of the UNFCCC, needs to discuss proposals for mechanisms that can address rehabilitation and compensation. A second phase of a work program should be established at COP 18 to advance and elaborate the international mechanism with its different functions, which must be included in the 2015 agreement to decisively address the issue.

Finance: The adaptation window under the Green Climate Fund must be built up rapidly and increasingly provide comprehensive support for the vulnerable developing countries’ domestically-identified adaptation needs. Because the implementation of adaptation projects is an immediate need, the UNFCCC Adaptation Fund, created at COP 7 in 2001, retains an important role until the GCF is fully operational. However, the effective delivery of adaptation finance is crucial and must be built on key principles, including those contained in the Cancun Adaptation Framework, and strengthen their application. Investments which result in maladaptation or which undermine the livelihoods of the most vulnerable people must be avoided.

Parties must make progress on how they will meet the 2020 commitment made in Copenhagen and Cancun. The best progress on adaptation negotiations cannot enable the action necessary without the finance to support it.

Nairobi Work Programme (NWP): At Durban, the SBSTA was asked to reconsider the work areas of the NWP on impacts, vulnerability, and adaptation to climate change with a view to making recommendations to COP 19 on how to best support the NWP objectives. This process would further inform the organization of potential future areas of work that could also support the scientific and technical work under the Cancun Adaptation Framework, as appropriate.

It was agreed that Secretariat will organize, in collaboration with NWP partner organizations and other relevant organizations, the following workshops:

- A technical workshop, before the 37th session of the SBSTA, on water and climate change impacts and adaptation strategies;
- A technical workshop, before the 38th session of the SBSTA, on ecosystem-based approaches for adaptation to climate change, taking into account the role of ecosystems, including forests, in adaptation; vulnerability and impacts in ecosystems; the implementation and benefits of ecosystem-based approaches for adaptation; and lessons learned, including through the three Rio Conventions.

Desired Outcomes in Doha

Achieving progress on the adaptation work items laid out in the Cancun Agreements can demonstrate sustained engagement and support from developed countries. Adopting an ambitious Adaptation Committee work plan and concluding decisions on NAPs will demonstrate continued US commitment to the process. Continued progress on the work program on Loss and Damage is also key, given the increasing likelihood that the limits of adaptation will be reached in many vulnerable areas.

The US should continue its leadership in the areas of civil society participation, the prioritization of the most vulnerable, and the inclusion and engagement of women in adaptation. The US must demonstrate a firm commitment to supporting vulnerable developing countries. Progress on adaptation should be a priority and should not be delayed.

To continue the progress made since Cancun on adaptation, COP 18 must deliver the following:

- Push for the mobilization of necessary finances. Such would enable developing countries to adapt to the impacts of climate change. The COP should push the Green Climate Fund to operationalize itself as soon as possible. At COP 18, developed countries should pledge at least $10-15 billion in new and additional public funding for the GCF during the period 2013–2015. At least 50 percent of GCF funding, including this initial pledge, should be dedicated to adaptation.

- Approve the Adaptation Committee work plan. The Adaptation Committee should present its three-year work plan, developed in its September Bangkok meeting, at COP 18. The role of the Adaptation Committee must be clearly defined in relation to other operating entities within the Conference, while ensuring transparency and access.

- Include a strategy for addressing adaptation needs in the AWG-ADP work plan. This strategy should build on inputs from the Adaptation Committee, the IPCC AR5, the Loss and Damage work program, the National Adaptation Plan process, and the Nairobi Work Program.

- Agree on further activities on Loss and Damage. The next phase of the Work Program on Loss and Damage should be agreed to elaborate the approaches to address key issues, particularly slow-onset events and permanent loss and damage.
Potential and Challenges

Scientists recognized early on that climate technologies were a potential silver bullet to atmospheric warming due to greenhouse gases. In 1992, informed by the IPCC Assessment Report 1 (AR1),150 Agenda 21151 foresaw both the need to develop the most potent climate technologies and to diffuse these technologies optimally throughout the developed and developing world to put all countries onto a sustainable development path.

Through the various conferences,152 technology transfer (TT) came to be defined as encompassing solutions to climate adaptation and mitigation by promoting the transfer of environmentally sound technologies (ESTs) and their associated know-how. TTs also create environments that lead to optimum technology research and development, and therefore, diffusion.

With optimum policies and expansive diffusion of technologies in developed and developing countries, many believe it is possible to meet all our energy needs with renewable resources by the middle of the century.153

The challenge, however, is the need for dramatic policy changes, new technology and massive investments, all of which require political will.154

The Technology Mechanism Defined

The Technology Mechanism (TM) was formally defined by COP 16 in Cancun,155 though it has its roots in the IPCC AR1 (1990), Agenda 21 (1992), and the Framework Convention itself (1994).156 Its 2001 debut in a COP decision (decision 4/CP7)157 outlined the TT framework and created the Expert Group on Technology Transfer (EGTT)158 in cooperation with the Global Environment Facility (GEF). The TM was more fully described in the Bali Action Plan (BAP decision 1/CP13),159 which included TT among the topics to be addressed by the AWG-LCA. COP 13 also requested the GEF to develop a program to promote investment in the transfer of environmentally sound technologies. The GEF responded with a program that was eventually named the Poznan Strategic Program on Technology Transfer160 at COP 14. This program remains operational today and embodies the COP 14 mandate. The mandate requires the transfer of a key climate technology to begin with a country Technology Needs Assessment (TNA) and subsequent phases of pilot project, dissemination of experience, and long-term diffusion.

The COP decision that defined the TM as we know it today is part of the Cancun Agreements (decision 1/CP16). It put forward a vision of the two major bodies of the Technology Mechanism: the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN). The TEC is a 20-member body charged with assessing technologies and technology policy needs, promoting technology research, development, and diffusion, and recommending actions to address barriers, in order to accelerate action on mitigation and adaptation.161 The CTCN is a much larger and more complex implementing body consisting of a relatively small administrative centre, the “host”, interconnected with regional and/or country-based network nodes that act as TM’s “boots on the ground.”162

Cancun to Durban

The Cancun Agreements gave more definition to the TEC (including terms of reference) than to the CTCN. However, the TEC definition from 1/CP16 was reinterpreted by some Parties in the Pre-COP meetings of 2011 as a “think tank” with little hint of “executive” function, and envisioned CTCN as wielding most of the TM’s “executive” power in its host organization. This thinking unfolded throughout the three intercessional COP meetings of 2011 in Bangkok, Bonn, and Panama City, and was recorded in the “Draft text for a draft decision for AWG-LCA agenda item 3.5.”163

For some, the concern with this reinterpretation centered on the fact that the CTCN host would have few checks on its judgments and would, by design, bring with it its own culture and governance system to the CTCN. There was concern by some Parties that the governance system would not provide the transparency needed to ensure that the TM would be optimally responsive to the needs of developing country Parties.

In response, there was movement to balance the power of the host by reasserting the full measure of the COP 16 mandate for the TEC. The AWG-LCA decision of the Durban Platform 2/CP17164 upheld the terms of reference for the TEC from the CP/16 decision, including “recommending guidance on policies and work programme priorities related to technology development and transfer.”165 The AWG-LCA decision also reaffirmed the TEC’s influence on, and interaction with, the CTCN by mandating joint reporting for the TEC and CTCN to the COP.166 It also defined terms of reference for the CTCN, mandated a quick turnaround Call for Proposals (CFP), and defined a procedure for evaluating CFP responses. This procedure called for some
TEC members to form a technical evaluation panel that would inform a decision by the SBI in their 36th session at Bonn in May 2012 to propose a CTCN host organization for confirmation at COP 18 in Doha.  

Despite the validation of a stronger TEC role at COP 17, Parties felt that there would be a need for an additional body within the TM to ensure proper guidance to the CTCN host. This body, referred to as the “advisory board,” was mandated by 2/CP17 as part of the CTCN governance structure, which outlined its functions. It is through this structure that the CTCN will report to the COP and from which it will receive guidance.  

### Leading to Doha

As mandated by COP 17, the host evaluation panel presented a rank-ordered list of host proponents to the Subsidiary Body for Implementation (SBI) at its 36th session (Bonn, May 2012). After interviewing the three candidates, SBI selected the top-ranked host candidate, the UN Environmental Programme (UNEP), to be recommended to COP 18 for the role of CTCN host. The GEF, which had been requested by 2/CP17 to “support the operationalization and activities of the CTCN without prejudging the selection of the host”, was also a host proponent. Unfortunately, when the GEF ranked second by the evaluation team and was not selected as CTC host, the money that had been sought for CTCN initial operations went instead to the GEF’s newly-launched network of regional technology centers. Consequently, this leaves the question of funding for the CTCN open, which is now a major issue for resolution at COP 18.

Beyond the host discussions in the Subsidiary Bodies, there had been hope that the AWG-LCA might recommend some draft text toward constitution of the advisory board. The AWG-LCA contact group (CG) could not agree to form a spin-off group on TT, so little technology work progressed. However, the CG had substantial discussion on how “hanging issues” of the AWG-LCA would be addressed post-COP 18. The Chair made an oral report elaborating on TT issues that had been discussed in the CG, including:

- Intellectual Property Rights (IPR), in which differences among Parties were exposed on whether IPR is a barrier to TT, as well as where and how the issue should be addressed;
- Additional functionalities of the TEC and CTCN, including specific suggestions that the TEC should address IPR and that the CTCN should have functionality in capacity building and conducting assessments of new and emerging technologies, and;
- Linkages between the TM and the financial mechanism, in which some Parties expressed concern about how TT will be financed while others pointed out that the Green Climate Fund board had already been asked to define such a linkage, and that the discussion of the advisory board considered the inclusion of a member from the financial mechanism.

At Bangkok, the AWG-LCA discussion centered on how to deal with “hanging issues” that could lose COP political guidance if the AWG-LCA were to end at COP 18 per the Durban Platform decision. The specific discussion on TT echoed the concern by some Parties that the issues enumerated at Bonn could not be fully addressed by the AWG-LCA in Doha and would require further guidance. Minor changes were made, including expanding the linkage discussion beyond the financial mechanism to include other thematic bodies. The solutions proposed included that Parties ask the COP, in some cases via the Subsidiary Bodies, for guidance on specific matters. Alternatively, the AWG-LCA could address them at some session of the COP, presumably including after COP 18. In the case of IPR, one of the options was to take no action whatsoever.

In the meantime, the TEC, at its third meeting just after the Bonn session, began discussion of “enabling environments” for the transfer of environmentally sustainable technologies (EST) via a thematic dialogue and panel. During the discussion, some Parties pressed for a recommendation to COP 18 that IPR constitutes a barrier to the transfer of ESTs. Others felt that such a conclusion would be premature and that further information was needed. It was agreed that an additional meeting, to be held in conjunction with the Bangkok meetings in September, would continue the discussion on enabling environments.

The TEC also issued a call for input, giving observer organizations just eight weeks to respond on three topics:

- Technology roadmaps and action plans
- Ways to promote enabling environments and to address barrier to technology development and transfer
- Actions undertaken by accredited observer organizations relevant to the TEC in performing its functions

In response to this call for input, the CAN Technology Working Group chose to focus its efforts on IPR as the topic that seemed to be of highest concern.

At the fourth TEC meeting, following the Bangkok intercessional, the issue of enabling environments was again discussed via a thematic dialogue and a panel at which CAN was invited to speak. The CAN representative made the main submission point that “demand side” measures are insufficient because barriers, including those surrounding the IPR issue, are also obstacles to the transfer of ESTs. On adaptation, CAN urged a
broad approach including action on non-fossil-fuel development, agriculture, health, water infrastructure, and lowering costs of access to existing technology, among other suggestions.\textsuperscript{174}

The TEC decided not to make a recommendation to COP 18 on IPR, but described it as an area in which “more clarity would be needed on their role in the development and transfer of climate technologies, based upon evidence on a case-by-case basis.”

**Rolling into Doha: Taking TM Beyond the AWG-LCA Endpoint Discussion**

In anticipation of the close of the AWG-LCA at COP 18 in Doha, the conversation turned increasingly to questions about how political decisions for various, not yet fully functional elements of the AWG-LCA will be handled post-COP 18.

The discussion on TT, which cuts across issues from mitigation and adaptation to finance and capacity building, provides a stark view of what is at stake. The discussion on TT has been ongoing for more than two decades, starting with AR1 in 1990. If the TM suddenly faced a lack of support, it would represent an enormous loss of ground-breaking foundational work and a staggering loss of opportunity to close the mitigation gap and address the growing need for climate adaptation.

Even on a short-term basis, the TM lacks full funding and much remains to be realized. Various unresolved issues for TM include:

- governance and reporting structure are incomplete
- linkages with other bodies inside the Convention are hampered by the chicken-and-egg dilemma
- crosscutting support for NAMAs and NAPs is as yet undefined
- inclusiveness for civil society participation remains unconfirmed
- how priorities are to be set within the TEC and the CTCN has barely been broached (likely the most political decision of all).

Undoubtedly, some of these issues will be addressed, and hopefully resolved, in Doha. However, given the limited time frame, others are unlikely to be resolved and will require ongoing political guidance. The test for the TM will be to find a viable path forward, not only for those issues identified above, but also for those yet to be considered.

**The TEC adopted the following key messages to COP 18:**\textsuperscript{175}

- Collaborative research, development, and demonstration should be promoted;
- The capacity of developing countries to assess, absorb, and develop technologies needs to be enhanced;
- Activities related to the technology cycle, policy and regulatory frameworks, and financing should be considered in an integrated manner;
- Engaging the financial and business at the early stage is crucial to enhance access to financing;
- Strengthening national systems of innovation provides an effective and efficient way to enhance national capacity to address climate change; and
- The TM and other international instruments used to promote technology transfer to developing countries should be aligned to facilitate private and public sector investment.
Many international agreements, such as the nuclear nonproliferation treaty and the Montreal Protocol on ozone depletion, have contained a structure for international verification of pledged actions. Such a structure first entered the UN climate negotiations process in the 2007 Bali Action Plan (BAP). This structure built upon transparency provisions already established by the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol and recognizes the importance of assessing and sharing mitigation actions in a manner that is “measurable, reportable, and verifiable” (MRV). Robust MRV creates the transparency necessary to engender trust among member states by illustrating that committed actions are indeed being effectively implemented in accordance with UNFCCC agreements and in a manner that ensures environmental integrity. The trust engendered among member states via MRV strengthens the legitimacy of the entire UNFCCC process and added transparency makes it easier for the negotiations to positively progress.

A comprehensive agreement in Copenhagen was not reached, in part because of differences in opinion between China and the United States about common but differentiated responsibilities and respective capabilities (CBDRRC), relating to MRV. It was not until Cancun, that an agreement finally emerged that provided a clear path forward for MRV. The Cancun Agreements created a new standard for transparency in which all major economies report on progress towards achieving their climate targets and actions and submit their progress against these goals to enhanced or new review procedures.

**Implementation Framework: National Communications and National Inventories**

Under the Convention and the Kyoto Protocol, Parties already report their activities to the UNFCCC through national inventories and national communications. Developed country Parties are required to report their greenhouse gas emission sources and carbon sinks annually in national inventories using IPCC guidelines to collect and compile sectoral emission data. The national inventories are then submitted to a team of experts for review. Recognizing that many developing countries lack the capacity to produce national inventories, the frequency of reporting varies for them under the Convention and use of IPCC guidelines is optional. For these developing countries, national inventories must report on only three (rather than the six) greenhouse gases.

National communications are the means by which countries communicate with the UNFCCC about how they are implementing the Convention. National communication requirements vary for developed and developing countries. All countries are required to report on adaptation and mitigation efforts, research, public awareness and education, and national circumstances. Developed countries are also required to report on technology transfer and financial commitments.

**MRV in Durban**

In Cancun, Parties agreed to the basic outline of an MRV system for developed and developing countries. The structure is informed by the principle of CBDRRC, thus the systems for developed and developing countries are parallel, but distinct. In Durban, Parties made the MRV system operational. They developed guidelines for reporting and review, including biennial reports by developed countries, biennial update reports (BUR) by developing countries, international assessment and review (IAR) for developed countries, and international consultation and analysis (ICA) for developing countries. However, the outcome fell significantly short of what is needed for a robust regime to account for mitigation actions and finance.

**Looking Forward to Doha**

Further work on MRV is critical to help ensure the environmental integrity of the new regime.

- **Clarification of Pledges:** On clarification of pledges, a common template for Annex 1 Parties was agreed to, but not for Non-Annex 1 Parties. This is sorely lacking. Additionally, more clarity and detail of pledges is critical for tracking progress toward both national goals and the aggregate global goal of limiting warming to 2°C or less. Strong, detailed pledges ensures that the option to limit warming below 1.5°C remains viable.

- **Public Participation:** It is critical to reinstate opportunities for public participation in the MRV rules at COP 18, since they were previously stripped from the final decision in Durban.

- **Common Accounting Rules:** Parties should agree on a common process to measure, report and verify financial contributions. The common reporting format should ensure comparable, consistent, accurate, and transparent reporting of financial contributions. Robust MRV rules will be particularly important in the design of the new
market-based mechanism called for in the Durban AWG-LCA text. Parties must develop strong rules to ensure commitments are achieved and that double counting of emission reductions is avoided. Such rules must apply to all Parties who participate in international market-based mechanisms for both pre-2020 and post-2020 commitments.

- **Developing Countries:** Respecting CBDRRC, a work program should be established to assess mitigation reductions from developing countries in a facilitative manner to help gauge aggregate global emission reductions and keep track of progress against the 2°C–1.5°C goal. At present, developing countries have varying, often limited, capacities to participate in a common accounting framework. Over time, this capacity will need to be built upon and, while respecting CBDRRC, common accounting rules will have to apply to an ever-growing set of Parties.

- **The Review:** At COP 16 in Cancun, Parties agreed to a review in 2013–2015 of the adequacy of the 2°C goal and of “overall progress towards achieving it.” With respect to MRV, the current IAR and ICA processes do not provide the authority for the expert review team (ERT) or the SBI to make recommendations to the Party under review. Thus, in addition to agreeing on the modalities for the composition of ERTs for ICA and IAR, Parties should agree at COP 18 to allow recommendations by ERTs and the SBI to Parties under review. Furthermore, the IAR process must have compliance consequences attached to the review.

- **Fossil Fuel Subsidies:** Parties should agree to incorporate reporting on the existence of fossil fuel subsidies and efforts to remove these subsidies in their reporting (either through National Communications or Biennial Reports, as appropriate). Increased transparency on this issue is critical to ensure that efforts to remove these subsidies are comprehensive and well-planned in order to be successful. Significant work is needed to agree to common, consistent, complete, comparable, transparent, and accurate accounting rules for all developed countries to establish comparability and compliance.

- **MRV in the AWG-ADP:** To move beyond existing processes in the context of a post-2015 regime, the AWG-ADP must build upon and strengthen current MRV rules. If there are outstanding issues in the AWG-LCA, the COP should delegate remaining work to relevant subsidiary bodies to carry forward into the AWG-ADP. Additionally, the text must include a mandate to elaborate future compliance mechanisms with both facilitative and enforcement aspects, while continuing to respect CBDRRC. Also, the Durban Platform must agree on common criteria for the technology registry in a support framework under the Durban Platform by the end of 2013. The registry should be made operational by 2015 under the MRV system.
Barack Obama is the President of the United States of America. He was elected as the 44th US President on November 4, 2008 and sworn into office on January 20, 2009. President Obama is up for re-election in 2012.

Hillary Clinton currently serves as the 67th United States Secretary of State and is the first former First Lady to serve in a president's cabinet.

Steven Chu currently serves as the United States Secretary of Energy. Confirmed by the US Senate on January 20, 2009, Secretary Chu was a co-recipient of the Nobel Prize for Physics in 1997.

Lisa Jackson is the US Environmental Protection Agency Administrator. Jackson was confirmed by the US Senate on January 22, 2009.

Ray LaHood is the United States Secretary of Transportation. He was appointed in 2009 after representing the Illinois 18th Congressional District in the US House of Representatives from 1995 through 2009.

Harry Reid is the US Senate Majority Leader for the 112th Congress. Party-State: Democrat-Nevada Term: 5th

Mitch McConnell is the US Senate Minority Leader for the 112th Congress. Party-State: Republican-Kentucky Term: 5th

John Boehner is the Speaker of the House of Representatives for the 112th Congress. Party-State: Republican-Ohio’s 8th Congressional District Term: 11th

Eric Cantor is the House of Representatives Majority Leader for the 112th Congress. Party-State: Republican-Virginia’s 7th Congressional District Term: 6th

Nancy Pelosi is the House of Representatives Minority Leader for the 112th Congress. Party-State: Democrat-California’s 8th Congressional District Term: 13th
Introduction to Climate Action in the United States

Despite the difficult political environment, climate activists in the US are driving climate and clean energy policies forward at the federal, regional, and state levels, though not nearly as rapidly as needed to protect the planet.

At the federal level, with progress on climate and clean energy shut out in the US Congress in the 2011–2012 legislative session, the Obama Administration is moving forward in a piecemeal fashion, using the authorities of the Executive Branch to implement existing laws, primarily the Clean Air Act, to reduce carbon pollution and other greenhouse gas emissions.

In the US Congress, the hostile dynamic for climate action established by the 2010 midterm election continued to dominate activity on federal legislation. With the US House of Representatives controlled by the Republican Party, itself controlled by opponents of environmental protection—or of almost any governmental role in protecting the public and the planet—the House in 2011–2012 racked up an unprecedented anti-environmental record, voting 315 times against protection for the environment. The US Senate declined to consider most of the House’s egregious proposals. Still, climate advocates were forced to fight a number of defensive battles in the Senate to prevent climate deniers from repealing the Clean Air Act’s authority to regulate greenhouse gases and to protect standards promulgated under the Act.

Opposition to climate and clean energy policies at every level of government in the US is fueled by the deep pockets of fossil fuel industries. Already a serious challenge, the problem of money in US politics became even more acute due to the Supreme Court decision in 2010 in Citizens United and several related decisions that opened the door to almost unlimited corporate spending in US elections. Nearly two months prior to the November 6, 2012 elections, the New York Times, in an analysis released on September 13, estimated that election-related spending “on television ads promoting coal and more oil and gas drilling or criticizing clean energy...exceeded $153 million this year.”

For years, fossil fuel interests have drawn on their deep pockets to create a fog of doubt about climate change science in the minds of the public and policy makers. In recent years, fossil fuel billionaires have turned their sights on renewable energy policies, using their immense wealth to underwrite lobbying, media, and public education campaigns to combat policies to boost renewable energy, including state renewable energy percentage requirements and federal tax incentives.

Despite the intense opposition from climate deniers, policies promoted and supported by climate and clean energy advocates are taking effect and reducing US greenhouse gas emissions. Some analysts suggest that, when the benefits of a number of policies and trends are combined, the US may be on track for emissions reductions of 16.3 percent by 2020 relative to 2005 levels. The policies contributing to this trend include new Clean Air Act rules for mobile and stationary sources, California’s climate law (AB 32), and New England’s Regional Greenhouse Gas Initiative, as well as a number of energy efficiency and renewable energy policies. Declining natural gas prices, the closure of coal plants and the recent recession have also played a significant role in greenhouse gas reductions. While this progress is notable, it may not be sufficient to meet the United States’ pledge in Copenhagen and it falls far short of the reductions urgently needed to prevent drastic changes in the earth’s climate and ecosystems, and in human society.

This section provides an overview of climate and clean energy policies at the national, regional, and state levels, including Clean Air Act rules, clean energy incentives, and state and regional initiatives. It also includes information regarding fossil fuels, climate impacts, and US investments in international finance.
The Clean Air Act

The Clean Air Act, the national environmental law designed to protect and improve air quality in the US, provides important tools for reducing US greenhouse gas emissions. The law, implemented by the US Environmental Protection Agency (EPA), requires periodic reviews and updates of air pollution standards. Under pressure from climate and public health advocates, and in the face of significant opposition from fossil fuel interests and climate skeptics, the Obama Administration is moving forward with several Clean Air Act standards that have significant climate benefits.

In the US House of Representatives, which for the 2011–2012 session is under the control of a virulently anti-environmental majority, opponents have launched repeated waves of attack on the Clean Air Act. The House passed a wide array of bills and amendments to block the Obama Administration’s new and updated Clean Air Act standards, strip the EPA of its legal authority to regulate carbon pollution and other greenhouse gases, and deprive federal climate change and clean energy programs of funding. Supporters of the Clean Air Act held the line in the US Senate, which declined to consider the House-passed bills and voted down or blocked hostile amendments relating to the Act.

A coalition of environment and public health organizations joined together in 2011 in a campaign to defend the Clean Air Act against attacks from polluting industries’ allies in Congress. The coalition continues to work closely with allies in Congress, as well as with a broad set of partners in consumer, faith, civil rights, labor, and green economy groups. Thanks to these efforts, Clean Air Act defenders have thus far succeeded in preserving the Act’s basic authorities and blocking attacks on specific climate change and clean air standards promulgated by EPA under the Obama Administration.

Although the US Supreme Court affirmed the legal basis for using the Clean Air Act to regulate greenhouse gases in the 2007 case Massachusetts v. EPA,185 opponents of climate action went to the courts again to challenge the legality of several of EPA’s subsequent actions. In a resounding victory for advocates of climate action who have engaged in a series of hard-fought legal battles over EPA’s authority to address climate change, a federal appeals court upheld EPA’s actions in June 2012.186
Carbon Pollution Standards for Power Plants

On March 27, 2012, after missing several deadlines, EPA proposed the first-ever national standards to set limits on carbon pollution from new fossil fuel power plants. Under the proposed standard, any new power plant built in the US would be required to limit its carbon emissions to 1,000 pounds of carbon dioxide per megawatt hour or less, a level currently achieved by new natural gas combined cycle power plants. New coal plants could meet the standard by incorporating technologies such as carbon capture and storage. Due to declining prices for natural gas in the US, most fossil-fueled power plants built in the near future are expected to be fueled by natural gas. This proposed standard applies to new and modified electric power plants, but not to existing power plants.

The proposed standard was issued under Section 111(b) of the Clean Air Act, regarding “New Source Performance Standards” (NSPS). This section of the law requires emissions standards for stationary sources, such as power plants or factories, which “cause, or contribute significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.” New source performance standards are designed to promote the use of the best new technologies to reduce air pollution.

When the draft standards were unveiled, the coalition described above launched a campaign to demonstrate strong public support for the proposed Carbon Pollution Standard for New Power Plants. Supporters attended public hearings and generated a record number of public comments in favor of the Carbon Pollution Standard—more than three million—focusing largely on the public health benefits of cutting carbon pollution, a message that resonates well with the public. Supporters will push for the standard to be finalized as soon as possible and stand ready to battle attacks from Congress.

Supporters of carbon pollution standards continue to push for the EPA to issue standards for existing electric power plants, which generate about 34 percent of US greenhouse gas emissions. EPA is also required to issue carbon pollution standards for refineries. In January 2012, EPA gave the public access to a database of major sources of greenhouse gases around the US. In 2010, EPA issued rules concerning greenhouse gases under Clean Air Act permitting programs, which were challenged in court and upheld in June 2012.

Fuel Economy and Greenhouse Gas Standards for Cars and Trucks

In August 2012, the Obama Administration finalized fuel efficiency and greenhouse gas standards for vehicles sold from 2017–2025 that will raise the average efficiency of new vehicles to an equivalent of 54.5 miles per gallon (MPG) in 2025 (approximately 39 MPG real world fuel economy). When combined with the historic clean car standards for model years 2012–2016, these standards mark the largest step the US has ever taken to reduce greenhouse gas emissions and cut our dependence on oil. The final standards for vehicles from 2012-2016 will raise the average efficiency of new vehicles to 35.5 MPG by 2016 and mark the first time the EPA set standards for greenhouse gas pollution from passenger vehicles alongside fuel economy standards set by the National Highway Traffic Safety Administration (NHTSA).

These standards aim to mobilize automakers to implement and continue to develop advanced technologies in consumer vehicles, with incentives for:

- Electric vehicles, hybrid “plug-in” vehicles, and fuel cell vehicles
- Advanced technology packages for large pickup trucks
- Technologies that achieve real-world carbon dioxide reductions and fuel improvements outside of standard laboratory metrics
- Improvements to high onboard energy-use systems, including air conditioning.

The latest round of standards were applauded by climate advocates, who noted the potential to reduce carbon pollution by as much as 280 million metric tons annually in 2030, while cutting oil consumption by 1.5 million barrels of oil per day. Savings would also be found at the pump, saving consumers up to $80 million in 2030. Over the lives of vehicles sold from 2011–2025, standards are expected to reduce carbon pollution by 6 billion metric tons, save 12 billion barrels of oil, and save consumers $1.7 trillion at the pump.

Along with the final standards for cars and light trucks sold from 2017-2025, the EPA and NHTSA announced in August 2011 a similar set of final standards for Medium and Heavy-Duty Vehicles, including:

- Combination tractors (heavy-duty semi trucks): 9 to 23 percent reductions in emissions and fuel consumption from affected tractors over the 2010 baselines
- Heavy-duty pickup trucks and vans: an average per-vehicle reduction in GHG emissions of 17 percent for diesel vehicles and 12 percent for gasoline vehicles, compared to a common baseline
- Vocational vehicles (delivery, refuse, utility, dump, cement, transit bus, shuttle bus, school bus, emergency vehicles, motor homes, tow trucks, etc.): further subdivided by class, but approximately a 6–9 percent reduction from 2010 baselines.
These standards are estimated to reduce carbon dioxide emissions by about 270 million tons, saving 530 million barrels of oil over the lifetime of 2014–2018 vehicles. Industry costs are estimated at $8 billion, while saving vehicle owners $50 billion.199

**Mercury and Air Toxics Standards for Power Plants**

In 2000, the EPA determined that it was “appropriate and necessary” to enforce Utility Maximum Achievable Control Technology (MACT) limits on hazardous air pollution from power plants.200 In accordance with the 1990 Clean Air Act, the rule would require “command and control” rate limits for heavy metals, including mercury, arsenic, chromium, and nickel; acid gases, including hydrogen chloride and hydrogen fluoride; and particulate matter.201

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cases each year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature death</td>
<td>Up to 11,000</td>
</tr>
<tr>
<td>Chronic bronchitis</td>
<td>2,800</td>
</tr>
<tr>
<td>Heart attacks</td>
<td>4,700</td>
</tr>
<tr>
<td>Asthma attacks</td>
<td>130,000</td>
</tr>
<tr>
<td>Hospital and emergency room visits</td>
<td>5,700</td>
</tr>
<tr>
<td>Restricted activity days</td>
<td>3,200,000</td>
</tr>
</tbody>
</table>

*Source: EPA Fact Sheet, 2012*202

These pollutants cause a wide range of health impacts, including cancer, lung damage, respiratory and heart problems, and neurological damage. The benefits of reducing such emissions from power plants are estimated between $37 billion and $90 billion per year, whereas the cost of implementation is estimated at $9.6 billion per year.203

Additionally, the Mercury and Air Toxics (MATS) rule is expected to reduce carbon pollution by 15 million metric tons per year by 2015.204 As MATS and other clean air rules require the power plant fleet to modernize and become more efficient, and cheap natural gas shifts electricity generation away from coal, many older, dirtier plants are expected to retire, resulting in even greater reductions in carbon pollution.

The new standard, proposed in March 2011 and finalized in December 2011, received more than 800,000 individual comments during its public comment period, an overwhelming number in support of finalizing a meaningful rule to reduce harmful air toxics. The rule was developed under Section 112 of the Clean Air Act.205

As directed by the Clean Air Act, the MATS rule includes a four-year compliance period during which utilities will update, retrofit, or retire existing facilities. EPA has also issued an enforcement policy under its Clean Air Act authority that provides for an additional year to achieve compliance if an individual unit is found to be necessary to maintain electric grid reliability. Both coal and oil-fired power plants are covered by the standard.

The EPA is currently reviewing the MATS for new power plants, using a tool known as a “reconsideration”. Proposed revisions are expected in November of this year, and a completed rulemaking process is expected by March of 2013. This review is not expected to change the projected costs or public health benefits of the rule, and any proposed changes will be open to public comment.

Legislatively, the MATS rule has been under consistent attack. Conservative Republicans in both the US House and Senate have attempted to undermine this important public safeguard by introducing legislation that would block its implementation. On the House side, the House leadership made passage of the TRAIN Act (H.R. 2401), a bill to void the Cross State Air Pollution Rule (CSAPR) as well as the MATS for Power Plants, a signature piece of their legislative agenda in fall 2011. The Transparency in Regulatory Analysis of
Impacts on the Nation (TRAIN) Act passed the House of Representatives, largely along party lines, but did not see action in the Senate.\(^206\) While the Senate leadership refused to bring up bills attacking MATS, legislators were able to use a tool known as the Congressional Review Act (CRA) to bypass normal procedures and move a repeal of the MATS rule to the Senate floor. The CRA bill, S.J. Res. 37, was defeated in June largely along party lines.\(^207\)

**Cross State Air Pollution Rule**

On July 6, 2011, the EPA finalized the CSAPR, a safeguard that would help downwind states achieve and maintain compliance with National Ambient Air Quality Standards (NAAQS) when their inability to do so is partly attributable to pollution blowing in from upwind states.\(^208\) This final rule replaced the Bush EPA’s 2005 Clean Air Interstate Rule (CAIR), which was remanded by a December 2008 court ruling.

Under the “good neighbor” provision of the Clean Air Act, CSAPR requires 27 states in the eastern half of the US to significantly improve air quality by reducing power plant emissions that cross state lines and contribute to ground-level ozone and fine particle pollution in other states. Specifically, CSAPR regulates sulfur dioxide (SO\(_2\)) and nitrogen oxides (NO\(_x\)). Both pollutants contribute to fine particle (PM\(_{2.5}\)) pollution, and NO\(_x\) contributes to ozone pollution.

SO\(_2\) and NO\(_x\) are dangerous pollutants that contribute to an array of adverse respiratory effects and pose serious health threats to millions of Americans.\(^209\) Exposure is harmful even at low levels for brief periods of time. Children, seniors, and those with lung diseases are especially at risk.

**Table 2. By 2014, the Cross State Air Pollution Rule, once implemented, would prevent:**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Cases each year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature death</td>
<td>13,000 to 34,000</td>
</tr>
<tr>
<td>Heart attacks</td>
<td>15,000</td>
</tr>
<tr>
<td>Acute bronchitis</td>
<td>19,000</td>
</tr>
<tr>
<td>Hospital and emergency room visits</td>
<td>19,000</td>
</tr>
<tr>
<td>Aggravated asthma</td>
<td>400,000</td>
</tr>
<tr>
<td>Missed school or work days</td>
<td>1,800,000</td>
</tr>
</tbody>
</table>

*Source: EPA Fact Sheet, 2011*\(^210\)

At an estimated cost of $800 million per year in 2014, CSAPR is projected to result in returns of $120 to $280 billion in annual benefits. This represents a potential benefit-to-cost ratio of 350 to 1. Non-monetized environmental health benefits include reductions in the acidification of lakes, streams and forests, reductions in the eutrophication of estuaries and coastal waters, and increased visibility in state and national parks.

In the states that fall under the jurisdiction of the rule, CSAPR is expected to reduce carbon pollution by 24 million tons per year by 2014.\(^211\) Along with other air rules, such as the MATS, implementation of CSAPR will require power plants to become cleaner and more efficient. In many cases, because of the increased affordability of renewable energy and the cost of cleaning up their operations, many utilities are expected to make the economic decision to retire dirty power plants and invest in cleaner alternatives.

Legislatively, the CSAPR rule, like the MATS, has been under consistent attack. Opponents in the US Congress have attempted to undermine the safeguard by introducing legislation that would block implementation. As described above, the House in 2011 passed the TRAIN Act (H.R. 2401), a bill to void the CSAPR as well as the MATS for Power Plants. While the Senate declined to bring up the TRAIN Act or other bills attacking CSAPR, legislators were able to use a tool known as the Congressional Review Act (CRA) to bypass normal procedures and move a repeal of CSAPR to the Senate floor. The CRA bill, S.J. Res. 27, was defeated in November 2011 largely along party lines, with Democrats opposing and Republicans supporting it.\(^212\)

In August of 2012, the US Court of Appeals for the District of Columbia Circuit, in a 2-1 decision, threw out CSAPR. The controversial decision was widely seen as a significant setback for the rule. In the meantime, the court left in place the Clean Air Interstate Rule, or CAIR. On October 5, 2012, the Administration filed a petition seeking a rehearing of the case by all the judges on the US Court of Appeals for the DC Circuit.
Renewable Energy Tax Credits

The most important tax incentives for the renewable energy industry, The Production Tax Credit (PTC) and the Investment Tax Credit (ITC), are set to expire at the end of 2012. Together, these tax provisions have spurred private investments in the economy, created jobs, moved the country closer to a clean energy future, and strengthened America’s global competitiveness. If they remain in place, in four years annual installations of wind power will be 8–10 gigawatts and the total number of wind supported jobs will grow to 95,000. Without them, estimates show that about half of all existing wind industry jobs will be lost—meaning nearly 37,000 lay-offs. New installations will likely fall to zero.\textsuperscript{213}

The PTC and ITC lower the federal income tax for qualified entities by providing a credit based on the “production” of energy or the “investment” in capital. Wind energy, closed-loop biomass, and geothermal technologies are eligible for the PTC. Solar, small wind, offshore wind, fuel cells, geothermal, combined heat and power facilities, and micro turbines are eligible for the ITC. Only the ITC for offshore wind will expire at the end of 2012; all others will expire at the end of 2016.

The PTC is a proven job-creator that has been critical to the success of the wind industry thus far. If the ITC is extended, we expect to see similar successes in the offshore industry.

As a result, clean energy advocates, labor unions, and farmers, among others, are advocating for the extension of both incentives. Although many Republicans and most Democrats agree that these are important incentives for the continued success of the renewable energy industry, no resolution has been reached. This environment of uncertainty has led to job losses throughout the country. Thousands of Americans are losing their jobs in the wind industry due to indecision about the extension of the PTC.\textsuperscript{214}

Although the Senate Finance Committee passed a package that would extend a variety of tax incentives, including the PTC, the package was brought to the Senate floor for a vote before Congress recessed prior to the November 6 elections. The House Ways and Means Committee, which has jurisdiction over this issue, has not acted to extend these incentives. Clean energy supporters are calling for a compromise solution to be reached during the lame duck session of Congress, after the November 2012 elections.
State and Federal Renewable Electricity Standards

A Renewable Electricity Standard (RES) is a type of regulation that requires a certain percentage of energy production come from renewable sources, such as wind, solar, and geothermal.

Efforts to pass a federal RES are ongoing. In 2007, the US House of Representatives passed an RES as an amendment to an energy bill (H.R. 3221), but the provision was dropped in conference. In 2009, the House again passed an RES, as part of major climate change legislation (H.R. 2454), and a Senate committee also passed an RES (S. 1462). In 2012, a new RES bill (S. 2146) was introduced in the Senate, but is not expected to move forward this year.

In the absence of a federal RES, states have taken the lead and are driving the renewable energy industry in the US. To date, 30 states and Washington, DC have implemented renewable electricity standards. The number of states adopting renewable standards has more than doubled since 2004. Further, states are adopting increasingly stringent targets for the percentage of electricity that must come from renewable sources. For example, sixteen states and Washington, DC now have RES requirements of 20 percent or more. In November 2012, voters in the state of Michigan will have the opportunity to approve a ballot initiative to increase the Michigan’s renewable energy standard to 25 percent by 2025. Tax incentives, including the existing PTC and the ITC, are helping to meet this state-driven demand for renewable energy.

Energy Efficiency

Only 14 percent of the energy generated in the US is actually used by consumers. The rest, 86 percent, is lost as heat, friction, and other inefficiencies. This waste is a costly and unnecessary drag on the US economy and environment. Increasing energy efficiency in the US could reduce projected 2050 energy use by 50 percent or more, while providing the same goods and services and increasing the size of the economy.

The industrial sector accounts for approximately 30 percent of all energy consumed in the US. Earlier this year, President Obama issued an executive order that will improve energy efficiency in this sector. Investments in energy-efficient equipment and systems, including combined heat and power (CHP), could save at least $100 billion over the next decade. If the president’s goal of 40 gigawatts of new CHP is met over the next decade, the White House estimates that would generate $40 to $80 billion in new capital investment in American manufacturing facilities.

Energy efficiency has a history of bipartisan support. For example, S. 1000, the Shaheen-Portman bill that was passed by the Energy and Natural Resources Committee on a strong 18–3 vote, would strengthen building energy codes and appliance standards, provide energy efficiency financing options for manufacturers, promote development of new industrial technologies, and require the federal government—America’s single largest energy consumer—to improve its energy management. Some elements of this bill passed the Senate in September as an amendment to H.R.4850, the Enabling Energy Saving Innovations Act.

In addition to S. 1000, energy efficiency advocates are pushing for three key efficiency incentives that have expired, or will expire soon, including tax credits for efficient new homes (section 45L), efficient appliances (section 45M), and nonbusiness energy property (section 25C, for making an existing home more energy efficient).
Fossil Fuels

Coal

Coal-fired power plants and the pollution they produce are a major threat to our health and the environment. They spew mercury, soot, smog, and carbon pollution that poison our air and water, sicken millions of Americans, and destroy the environment. In the US, coal plants are one of the top sources of the carbon pollution that is pushing our climate to the brink. However, thanks to the hard work of thousands of volunteers and advocates who are working to move America beyond coal, dirty, outdated coal-burning power plants are being retired across the country and replaced by clean energy. These grassroots campaigns in conjunction with other factors, including low natural gas and renewable energy prices, have caused coal’s contribution to net electricity generation in the US to drop from 49 percent just five years ago to a stunning 37 percent this year. As a result, according to the International Energy Agency (IEA), not only are US carbon emissions at their lowest level in two decades, but the US has also achieved the largest reduction in carbon dioxide emissions of any country or region in the world. During this time, US carbon dioxide emissions have fallen by 7.7 percent, primarily due to a decrease in coal use, potentially putting the US on track to meet the nation’s commitment at the UN climate talks in Copenhagen. Meanwhile, coal is being replaced by clean energy sources. Ten US states are now getting more than 10 percent of their power from wind—and Iowa and South Dakota lead the pack and already receive 20 percent of their energy from wind power.

This progress in reducing carbon emissions is especially remarkable because it has happened in spite of gridlock in the US Congress. The dedicated activists working to retire coal plants are also successfully fighting the devastation of mountaintop removal coal mining and contamination from coal ash dumps and are blocking new facilities intended to increase US coal exports. Coal is a dirty, outdated and uneconomic fuel of the past, and the country must transition to clean energy as our twenty-first century power source.

Natural Gas Hydraulic Fracturing

Geologic formations across the world contain large quantities of oil or gas but have a poor flow rate due to low permeability, or from damage or clogging of the formation during drilling. This is particularly true for tight sands, shales and coalbed methane formations. Hydraulic fracturing (also known as “fracking,” which rhymes with cracking) stimulates wells drilled into these formations, making profitable otherwise prohibitively expensive extraction. Within the past decade, the combination of hydraulic fracturing with horizontal drilling has opened up shale deposits across the country and brought large-scale natural gas drilling to new regions.

The fracking process occurs after a well has been drilled and steel pipe (casing) has been inserted in the well bore. The casing is perforated within the target zones that contain oil or gas, so that when the fracturing fluid is injected into the well, it flows through the perforations into the target zones. Eventually, the target formation will not be able to absorb the fluid as quickly as it is being injected. At this point, the pressure created causes the formation to crack or fracture. Once the fractures have been created, injection ceases, and the fracturing fluids begin to flow back to the surface. Materials called proppants (for example, usually sand or ceramic beads), which were injected as part of the frac fluid mixture, remain in the target formation to hold open the fractures.
Typically, a mixture of water, proppants, and chemicals is pumped into the rock or coal formation. There are, however, other ways to fracture wells. Sometimes fractures are created by injecting gases such as propane or nitrogen, and sometimes acidizing occurs simultaneously with fracturing. Acidizing involves pumping acid (usually hydrochloric acid), into the formation to dissolve some of the rock material to clean out pores and enable gas and fluid to flows more readily into the well.

The process of hydraulic fracturing raises many environmental concerns, including usage of large quantities of water, injection of toxic chemicals into subsurface formations, possible water contamination, and air quality impacts. Additional concerns include outdated regulations at the state and federal level, with the oil and gas industry exempt from aspects of key federal protections such as the Safe Drinking Water Act, Clean Air Act, and Clean Water Act.

Additionally, recent data from the IEA revealed that a switch from coal to gas would lead to a global temperature rise of over 3.5°C, while leading scientists suggest that even a rise of 2°C could prove disastrous.

**Tar Sands and Keystone XL Pipeline**

Last year, opposition to the destructive, high-carbon fuel known as tar sands achieved international prominence with the fight against the controversial Keystone XL tar sands pipeline. Tar sands oil, produced from a thick, tar-like substance known as bitumen, is primarily found in Alberta, Canada, under the formerly pristine Boreal Forest. Tar sands are recovered through highly destructive strip mining or in-situ extraction, which generates approximately three times as many greenhouse gas emissions as producing a barrel of conventional crude oil. In addition to its high carbon costs, tar sands oil production consumes 2 to 5 barrels of water for each barrel of oil produced, a process rapidly converting the Boreal Forest into toxic tailings ponds so large they can be seen from space. Tar sands developments also threaten the health, environment, and livelihoods of downstream indigenous communities, whose communities suffer alarmingly high rates of rare cancer. The massive mining operations are also destroying critical wildlife habitat, responsible for the loss of millions of migratory birds that nest in the forests and wetlands of the region.

Dr. James Hansen, a leading NASA climate scientist, famously stated that it would be “game over for the climate” if we were to fully exploit this resource, because Canadian tar sands developments contain so much carbon. If developed and burned, the tar sands contain enough carbon to increase global atmospheric carbon dioxide concentrations by 120 parts per million—more than humans have increased global carbon dioxide concentrations since the industrial revolution.

In August 2011, more than 1,200 people were arrested at the White House, and in November 2011, 12,000 people encircled the White House to protest the Keystone XL pipeline, prompting President Obama to delay the final decision on the permit. The State Department is currently conducting additional review on the impacts of Keystone XL, specifically the potential impacts on the Ogallala aquifer in Nebraska. Environmental advocates have requested that the State Department also include a more robust assessment of impacts the project and the additional tar sands developments it will trigger will have on the climate. The supplemental review is expected out in late 2012, with a final decision on the permit for the northern segment of Keystone XL expected in early 2013.

Meanwhile, TransCanada Corporation has begun construction on the southern section of the pipeline, which will run from Cushing, Oklahoma to Houston, Texas. Because this leg of the pipeline does not cross an international border, it does not require a Presidential Permit. This pipeline will link into the company’s original tar sands pipeline, the Keystone I, in Cushing. Hundreds of activists have traveled to Southeast Texas to protest the project, with dozens facing arrest as they chain themselves to construction equipment.

Opposition to tar sands also continues across the country. Residents of Midwestern states, including some impacted by Enbridge’s tar sands spill into the Kalamazoo River in Michigan, are fighting that company’s proposed massive expansion of its pipeline network throughout the Midwest. Residents of northeastern US states have aligned to form the newly launched Tar Sands Free Northeast Campaign and are working to fight a proposal from ExxonMobil to reverse the flow of an aging pipeline to run tar sands through Vermont, New Hampshire, and out to the coasts of Maine for export. Residents of these states are also working to support a regional Clean Fuels Standard that would require a reduction in the carbon intensity of the region’s transportation fuel, helping to disincentivize utilization of high-carbon fuels like tar sands. Residents of California, Oregon, and Washington are also moving forward similar low-carbon fuels policies in their states. These regional efforts are critical to building a national effort opposed to the expansion, transport, and utilization of high-carbon fuels like tar sands.

**Fossil Fuel Subsidies**

A fossil fuel subsidy is any government action that lowers the cost of fossil fuel energy production, raises the price received by energy producers, or lowers the price paid by energy consumers. Recent estimates put global fossil fuel subsidies at roughly $775 billion per year, and perhaps as much as $1 trillion. In the US, estimates range from the $10 billion per year to as much as $52 billion.
In 2009, with leadership from President Obama, the G20 leaders declared their intention to “phase-out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption.” Unfortunately, no fossil fuel subsidies have actually been eliminated as a result of that declaration.

Domestically, President Obama has repeatedly pushed for an end to fossil fuel subsidies in speeches and campaign events, as well including removal of $4 billion in oil and gas subsidies per year in his annual budget proposals. However, much of the power to remove these subsidies rests in Congress. A number of bills have been proposed in recent years that aim to phase out varying portions of US fossil fuel subsidies, but none have actually come up for a vote.
Regional and State Programs

Regional Greenhouse Gas Initiative

The Regional Greenhouse Gas Initiative (RGGI), comprised of ten Northeastern and Mid-Atlantic states, lays claim to the title “first market-based regulatory program in the United States to reduce greenhouse gas emissions.” Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont have capped and plan to reduce carbon dioxide emissions from fossil fuel power plants (over 25 megawatts) by 10 percent by 2018. Generators purchase allowances at auction to cover their emissions over three-year periods, with auction proceeds supporting energy efficiency, renewable energy, and greenhouse gas reduction technologies that have generated significant net economic benefits for the region.

Efficiency investments and increasing generation from natural gas and renewables have reduced emissions significantly in RGGI, bringing allowance prices to the floor of $1.93 per ton. States are in the process of updating RGGI to account for the emissions decline, with a lower cap and other program changes expected to take effect in 2014 or 2015. New Jersey stopped participating in the program at the end of 2011, though a legal challenge may compel the state to resume participation in the future.

California's Global Warming Solutions Act (AB 32)

Six years on from the signing of the Global Warming Solutions Act (AB 32) in 2006 by then-Governor Schwarzenegger, California remains on course to achieve the law’s mandate to reduce statewide greenhouse gas emissions to 1990 levels by 2020 (just over a 20 percent reduction compared to business as usual). To achieve the required reductions, California is pursuing a comprehensive suite of measures across all sectors of the economy—including a Low Carbon Fuel Standard, clean cars standards, energy efficiency standards for buildings and appliances, and a 33 percent Renewable Portfolio Standard (all under the rubric of the AB 32 “Scoping Plan”)—backed up by a hard cap. A 2010 ballot initiative sponsored by out-of-state oil interests would have suspended AB 32 indefinitely but was roundly defeated by the voters.

In November 2012, California’s carbon market—set to become the largest in the world outside of the European Union—will officially launch with the first auction of emission allowances. In the initial compliance period (2013–2014), the market will include emissions from the electricity sector and large industrial sources; in 2015, the program expands to include emissions from transportation fuels and natural gas. Once the program gets off the ground, California will explore linkage opportunities with partner jurisdictions in the Western Climate Initiative and other market-based programs around the globe.

Western Climate Initiative

The Western Climate Initiative (WCI) Partner jurisdictions have developed a comprehensive initiative to reduce greenhouse gas emissions to 15 percent below 2005 levels by 2020 by using a flexible, market-based, regional cap and trade program which caps greenhouse gas emissions and uses tradable permits to incentivize development of renewable and lower-polluting energy sources. The WCI partners are British Columbia, California, Manitoba, Ontario, and Quebec. The WCI is also working to implement complementary policies to help achieve individual and regional cost-effective emissions reductions for all sectors. Work on the offset protocol recommendations for the initiative was completed earlier this year, and recently California held a successful trial auction of allowances in partnership with WCI. California and Quebec are finalizing their programs and working towards linking their jurisdictions by late 2012 or early 2013. Other partners continue to explore how and when to link their jurisdictions.

North America 2050

Launched in the spring of 2012, North America 2050 (NA2050) is a group of 20 US states and Canadian provinces committed to policies that move their jurisdictions toward a low-carbon economy while creating jobs, enhancing energy independence and security, protecting public health and the environment, and demonstrating climate leadership. Created as a successor to the 3 Regions Initiative which included RGGI, the Midwestern Greenhouse Gas Accord, and the WCI, NA2050 participants are unified in their desire to expand jobs and economic opportunity through investment and innovation in the low-carbon domestic energy sector. NA2050 is a unique opportunity for states, provinces, and stakeholders from across North America to work together, learn from one another, share resources, and make progress on important and timely policy topics. Various workgroups have been established, and on September 24, 2012, the first workshop on benchmarking was held in New York City.
Public awareness and media attention are increasing as Americans begin to connect the dots from extreme weather to climate change. This shift comes not a moment too soon, as impacts are being felt across the US and around the world. The first six months of 2012 broke the record for the hottest January to June ever in the continental US.\textsuperscript{245} These temperatures, compounded by drought in more than two-thirds of states at the end of August \textsuperscript{246} and an unusual number of large and damaging wildfires this summer,\textsuperscript{247} made Americans more aware of extreme weather than in recent memory. This year follows a disastrous 2011 in which an unprecedented 14 extreme weather events resulted in an estimated $53 billion in damage (not including health costs).\textsuperscript{248} Although polling data varies to some degree, it is clear that the majority of Americans recognize that climate change is happening.\textsuperscript{249}

Addressing climate change must include strategies that both reduce heat-trapping pollution and increase resilience against current and ongoing climate impacts. Climate change impacts are already affecting communities, wildlife, and businesses across the planet. Understanding these effects and investing in climate preparedness are critical to ensuring our economies, public health, and natural resources remain resilient in a warming world. Investing in climate-smart strategies today will stimulate economic growth and save billions of dollars in future climate impact costs, making it economically and ecologically wise public policy.

While certainly not mainstreamed as thoroughly as many experts would like, climate risk and resiliency is an increasing priority at various levels of governance across the country. Cities from San Francisco to New York have undergone climate vulnerability assessments and are starting to plan for climate impacts. State and regional efforts, such as the four-county Southeast Florida Regional Climate Change Compact, are helping local governments and other stakeholders face climate threats that cross jurisdictional boundaries. Additionally, federal agencies, pursuant to the Council for Environmental Quality’s guidelines, have submitted adaptation plans for review and will be included in Agency and Departmental sustainability plans. In December 2012, the US Global Research Program will release its National Climate Assessment, which will detail region- and sector-specific climate impacts.
There is a limited window of time to help developing countries reduce emissions while simultaneously preparing for climate change impacts. Inaction not only jeopardizes existing and expected development gains, but also yields a developing world overwhelmed with humanitarian crises rather than planning for long-term growth.

Financing for international climate programs serves vital US interests by promoting global stability and security, creating economic opportunities for US businesses and workers, alleviating global poverty, protecting other US development efforts, complementing global health efforts, and ensuring significant cost-savings through disaster preparedness measures.

The vast majority of international climate finance assistance from the United States is distributed as part of the Global Climate Change Initiative (GCCI), a major part of the President’s annual Policy Directive on Global Development. GCCI funding is strategically appropriated to fulfill three major objectives: clean energy deployment, protecting tropical forests and promoting sustainable landscapes, and supporting developing countries’ efforts to build resilience and adapt to a changing climate. Funding is appropriated through bilateral assistance, development of green business initiatives through Overseas Private Investment Corporation (OPIC) and the Export-Import Bank of the United States (Ex-Im), and through multilateral climate finance mechanisms.

Depending on what is counted as international climate finance, the US contribution to international climate finance between fiscal year 2009 and 2011 was $5.1 billion and, with additions from the current fiscal year, is approaching $6 billion. Going forward, the United States must look towards the commitment made with the rest of the developed world to mobilize at least $100 billion per year by 2020, which will include private and public sector investments. Resources for the Green Climate Fund will be an important piece of this long-term commitment. Advocates for climate finance are pressing the Administration and Congress to support robust funding levels, as well as advocating for innovative sources of climate finance, exploring options such as the international aviation and shipping sectors and financial transaction taxes.
Glossary

This is a condensed list of terms defined by the UN Framework Convention on Climate Change. Additional definitions have been added and sources noted.

**Assigned Amount Unit (AAU)**
A Kyoto Protocol unit equal to 1 metric ton of carbon dioxide equivalent. Each Annex I Party issues AAUs up to the level of its assigned amount, established pursuant to Article 3, paragraphs 7 and 8, of the Kyoto Protocol. Assigned amount units may be exchanged through emissions trading.

**Adaptation**
“Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.”

**Adaptation Fund**
The Adaptation Fund was established to finance concrete adaptation projects and programs in developing countries that are Parties to the Kyoto Protocol. The Fund is to be financed with a share of proceeds from Clean Development Mechanism (CDM) project activities and receive funds from other sources.

**Afforestation**
Planting of new forests on lands that historically have not contained forests.

**Alliance of Small Island States (AOSIS)**
An ad hoc coalition of low-lying and island countries. These nations are particularly vulnerable to rising sea levels and share common positions on climate change. The 43 members and observers are American Samoa, Antigua and Barbuda, Bahamas, Barbados, Belize, Cape Verde, Comoros, Cook Islands, Cuba, Cyprus, Dominica, Dominican Republic, Federated States of Micronesia, Fiji, Grenada, Guam, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Nauru, Netherlands Antilles, Niue, Palau, Papua New Guinea, Samoa, Sao Tome and Principe, Seychelles, Singapore, Solomon Islands, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Tonga, Trinidad and Tobago, Tuvalu, U.S. Virgin Islands, and Vanuatu.

**Annex I Parties**
The industrialized countries listed in this annex to the Convention committed to return their greenhouse gas emissions to 1990 levels by the year 2000 as per Article 4.2 (a) and (b). They have also accepted emissions targets for the period 2008–12 as per Article 3 and Annex B of the Kyoto Protocol. They include the 24 original Organization for Economic Co-operation and Development (OECD) members, the European Union, and 14 countries with economies in transition. (Croatia, Liechtenstein, Monaco, and Slovenia joined Annex I at COP 3, and the Czech Republic and Slovakia replaced Czechoslovakia.)

**Annex II Parties**
The countries listed in Annex II to the Convention, which have a special obligation to provide financial resources and facilitate technology transfer to developing countries. Annex II Parties include the 24 original OECD members plus the European Union.

**Anthropogenic greenhouse emissions**
Greenhouse gas emissions resulting from human activities.

**Article 4.2**
Article of the Convention stating the specific commitments of developed-country (Annex I) Parties only—notably that they would take measures aimed at returning greenhouse gas emissions to 1990 levels by the year 2000.

**Ad-hoc Working Group on Long-term Cooperative Action Under the Convention (AWG-LCA)**
Created by the Bali Action Plan in 2007, this track reflects a recognition that all countries will have to be part of the solution to climate change in a post-2012 regime, including the United States, which did not ratify the Kyoto Protocol. Its mandate consists of a number of forward-looking decisions that represent the various elements that are essential to strengthening international action on climate change such as mitigation, adaptation, finance, technology, capacity building, and reducing emissions from deforestation and forest degradation (REDD+). In the context of mitigation, it provides the space for developed country Parties (i.e. the US) to take on “mitigation commitments or actions, including quantified emission limitation and reduction objectives” and for developing country Parties to undertake “mitigation actions” supported by requisite finance, technology, and capacity building. Under this process, several countries have suggested new treaties that would either enhance or replace the Kyoto Protocol.

**Ad-hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol (AWG-KP)**
Established by Parties to the Protocol in Montreal in 2005 to consider further commitments of industrialized countries under the Kyoto Protocol for the period...
Ad-hoc Working Group on the Durban Platform for Enhanced Action (AWG-ADP)
The AWG-ADP was established by the Conference in Durban in 2011 to develop a new agreement that would replace the Kyoto Protocol by 2015. The mandate of this track is to develop a legally-binding agreement for all countries that would deliver deep cuts in greenhouse gas emissions. Once an instrument or protocol is agreed upon, it must go into effect by 2020. In Bonn, an agenda was agreed upon that will guide negotiations surrounding the Durban Platform through 2015.

Annex I Countries (industrialized countries): Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, and the United States.

Annex II Countries (countries that agreed to help finance climate efforts in developing countries): Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, and the United States.

Bali Action Plan (BAP)
The Bali Action Plan, adopted by the Conference of the Parties (COP) as decision 1/CP.13, launched a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action now, up to, and beyond 2012, and had hoped to reach an agreed outcome and adopt a decision at its fifteenth session in Copenhagen in December 2009. The Bali Action Plan is centered on four main building blocks—mitigation, adaptation, technology and financing.

Berlin Mandate
Adopted at COP 1, the mandate that launched negotiations leading to the adoption of the Kyoto Protocol.

Biomass fuels or biofuels
Fuels produced from dry organic matter or combustible oils produced by plants. These fuels are considered renewable as long as the vegetation producing them is maintained or replanted, such as firewood, alcohol fermented from sugar, and combustible oils extracted from soy beans. Greenhouse gas reductions from biofuel use are controversial; effectiveness as a gasoline-substitute depends on the type feedstock (plant). Evaluation of climate benefits should take into consideration lifecycle emissions such as land use changes and energy inputs in the production and refining processes.

Bracketed text
Typographical symbols [ — ] placed around text under negotiation to indicate that the language enclosed is being discussed but has not yet been agreed upon.

Bunker fuels
Term used to refer to fuels consumed for international marine and air transport.

Capacity building
In the context of climate change, the process of developing the technical skills and institutional capability in developing countries and economies in transition to enable them to address effectively the causes and results of climate change.

Carbon market
A popular but misleading term for a trading system through which countries may buy or sell units of greenhouse gas emissions in an effort to meet their national limits on emissions, either under the Kyoto Protocol or under other agreements, such as that among member states of the European Union. The term comes from the fact that carbon dioxide is the predominant greenhouse gas and other gases are measured in units called “carbon-dioxide equivalents.”

Carbon Capture and Sequestration (CCS)
Carbon capture and sequestration, or storage, is an approach to mitigating global warming based on capturing carbon dioxide from large point sources such as fossil fuel power plants and storing it instead of releasing it into the atmosphere.

Certified Emission Reductions (CER)
A Kyoto Protocol unit equal to 1 metric tonne of carbon dioxide equivalent. CERs are issued for emission reductions from CDM project activities. Two special types of CERs, called temporary certified emission reduction (tCERs) and long-term certified emission reductions (tCERs), are issued for emission removals from afforestation and reforestation CDM projects.

Chlorofluorocarbon (CFC)
CFCs, along with other chlorine- and bromine-containing compounds, have been implicated in the accelerated depletion of ozone in the Earth’s stratosphere. CFCs were developed in the early 1930s and are used in a variety of industrial, commercial, and household applications. These substances are non-toxic, non-flammable, and non-reactive with other chemical compounds.
Chair's summary
A document issued by the Chair of the Ad Hoc Working groups which summarizes the main points of discussion. The Chair's summary is not a decision by the group, and not subject to amendment by the Parties, but aims to move the deliberations along by identifying emerging areas of consensus and issues needing further clarification, discussion and debate.

Clean Development Mechanism (CDM)
A mechanism under the Kyoto Protocol through which developed countries may finance greenhouse gas emission reduction or removal projects in developing countries, and receive credits for doing so which they may apply towards meeting mandatory limits on their own emissions.

Committee of the Whole (COW)
Often created by a COP to aid in negotiating text. It consists of the same membership as the COP. When the Committee has finished its work, it turns the text over to the COP, which finalizes and then adopts the text during a plenary session.

Comparability of Effort
This term refers to Section 1(b) (i) of the Bali Action Plan stating that the mitigation commitments of all developed countries must be similar or “comparable.” Sometimes called the “US provision,” this section is designed to open negotiations on the terms of U.S. participation in the new agreement.

Common But Differentiated Responsibilities (CBDR)
The principle of ‘common but differentiated responsibility’ evolved from the notion of the ‘common heritage of mankind’ and is a manifestation of general principles of equity in international law. The principle recognizes historical differences in the contributions of developed and developing States to global environmental problems, in this case historical greenhouse gas emissions, and differences in their respective economic and technical capacity to tackle these problems.

Compliance Committee
A committee that helps facilitate, promote and enforce compliance with the provisions of the Kyoto Protocol. It has 20 members with representation spread among various regions, small-island developing states, Annex I and non-Annex I Parties, and functions through a plenary, a bureau, a facilitative branch, and an enforcement branch.

Compliance
Fulfillment of commitments by countries, businesses, and individuals of emission and reporting under the UNFCCC and the Kyoto Protocol.

Conference of the Parties (COP)
The supreme body of the Convention. It currently meets once a year to review the Convention’s progress. The word “conference” is not used here in the sense of “meeting” but rather of “association,” which explains the seemingly redundant expression “fourth session of the Conference of the Parties.”

Conference of the Parties serving as the Meeting of the Parties (CMP)
The Convention’s supreme body is the COP, which serves as the meeting of the Parties to the Kyoto Protocol. The sessions of the COP and the CMP are held during the same period to reduce costs and improve coordination between the Convention and the Protocol.

Conference room papers (CRPs)
A category of in-session documents containing new proposals or outcomes of in-session work. CRPs are for use only during the session concerned.

Contact group
An open-ended meeting that may be established by the COP, a subsidiary body, or a Committee of the Whole, wherein Parties may negotiate before forwarding agreed text to a plenary for formal adoption. Closed to press but sometimes open to observers.

Countries with Economies in Transition (EIT)
Those Central and East European countries and former republics of the Soviet Union in transition from state-controlled to market economies.

Decision
A formal agreement that (unlike a resolution) leads to binding actions. It becomes part of the agreed body of decisions that direct the work of the COP.

Declaration
A non-binding political statement made by ministers attending a major meeting (e.g. the Geneva Ministerial Declaration of COP 2).

Deforestation
Removal of forest cover or conversion of forest to non-forest.

Degradation
Biological, chemical, or physical processes which result in the loss of the productive potential of natural resources in areas covered by forests and/or used by agriculture. Degradation may be permanent, although some forest areas may recover naturally or with human assistance.

Designated National Authority (DNA)
An office, ministry, or other official entity appointed by a Party to the Kyoto Protocol to review and give national
approval to projects proposed under the Clean Development Mechanism.

**Developed vs. Developing (and Annex I vs. Annex II)**

The groupings within the UNFCCC were created in 1992 when the Convention was signed and ratified by its members (US included). The convention listed three different groups. (See: Annex I, Annex II, and Developing Countries)

**Developing Countries**

Countries that will receive support in decarbonizing their economies.

Recently, there has been much debate about the groupings of the UNFCCC Convention. Some argue (the US included) that these groups are out-of-date and countries with emerging economies such as Brazil, China, and India should be responsible for climate change support. Others argue that Annex I or developed countries have a historical responsibility that was agreed upon in the mandate of the UNFCCC Convention to provide support to countries affected by climate change. (See Annex I and Annex II list above)

**Documents**

Documents fall into different categories. Official documents are available to everyone and feature the logos of the United Nations and the Climate Change Convention. They carry a reference number, such as FCCC/CP/1998/1. Pre-session documents are available before a meeting, often in all six UN languages. In-session documents are distributed on-site (see CRPs, L docs, Misc. docs, and non-papers). Informal documents are often distributed outside the meeting room by observers.

**Drafting group**

A smaller group established by the President or a Chair of a Convention body to meet separately and in private to prepare draft text—text which must still be formally approved later in a plenary session. Observers generally may not attend drafting group meetings.

**Expert Group on Technology Transfer (EGTT)**

An expert group established at COP 7 with the objective of enhancing the implementation of Article 4.5 of the Convention, by analyzing and identifying ways to facilitate and advance technology transfer activities under the Convention.

**Emission Reduction Unit (ERU)**

A Kyoto Protocol unit equal to 1 metric tonne of carbon dioxide equivalent. ERUs are generated for emission reductions or emission removals from joint implementation projects.

**Emissions trading**

One of the three Kyoto mechanisms by which an Annex I Party may transfer Kyoto Protocol units to or acquire units from another Annex I Party. An Annex I Party must meet specific eligibility requirements to participate in emissions trading.

**Entry into force**

The point at which an intergovernmental agreement becomes legally-binding—occurring at a pre-stated interval after a pre-stated and required number of ratifications by countries has been achieved. The Climate Change Convention required 50 ratifications to enter into force. It now enters into force for each new Party 90 days after that Party ratifies the Convention.

**Environmental Integrity Group**

A coalition or negotiating alliance consisting of Mexico, the Republic of Korea, and Switzerland.

**Expert Review Teams**

Groups of experts, nominated by Parties, who review national reports submitted by Annex I Parties to the UNFCCC and the Kyoto Protocol.

**Financial Mechanism**

Developed country Parties (Annex II Parties) are required to provide financial resources to assist developing country Parties implement the Convention. To facilitate this, the Convention established a financial mechanism to provide funds to developing country Parties. The Parties to the Convention assigned operation of the financial mechanism to the Global Environment Facility (GEF) on an on-going basis, subject to review every four years. The financial mechanism is accountable to the COP.

**Fourth Assessment Report (FAR)**

The Fourth Assessment Report refers to the Intergovernmental Panel on Climate Change (IPCC), a report which was issued in four parts in 2007 and suggested that the next round of emission reductions by developed counties should be guided in the range of 25 percent to 40 percent below 1990 levels.

**Friends of the Chair**

Delegates called upon by the Chair (who takes into account the need for political balance among various interests) to assist in carrying out specific tasks.

**Fugitive fuel emissions**

Greenhouse gas emissions as by-products, waste, or loss in the process of fuel production, storage, or transport, such as methane given off during oil and gas drilling and refining, or leakage of natural gas from pipelines.
Green Climate Fund (GCF)
Established by the Cancun Agreements, the GCF will manage the climate finance commitment made by developed countries in Copenhagen to address adaptation and mitigation needs of developing countries. These pledges include $30 billion during a “fast-start” finance period (2010-2012) and $100 billion per year by 2020. The board of the GCF will be composed with equal representation of developed and developing countries. A Transitional Committee (TransComm) will complete the Fund’s design and make recommendations for COP approval in Doha. A Standing Committee has also been established to ensure the Fund does not sit empty by assisting the COP in mobilizing financial resources and measuring, reporting, and verifying their delivery.

Group of 77 (G-77) and China
A large negotiating alliance of developing countries that focuses on numerous international topics, including climate change. The G-77 was founded in 1967 under the auspices of the United Nations Conference on Trade and Development (UNCTAD). It seeks to harmonize the negotiating positions of its 132 member states.

GRULAC
Group of Latin American and Caribbean States.

Global Environment Facility (GEF)
The GEF is an independent financial organization that provides grants to developing countries for projects that benefit the global environment and promote sustainable livelihoods in local communities. The Parties to the Convention assigned operation of the financial mechanism to the Global Environment Facility (GEF) on an on-going basis, subject to review every four years. The financial mechanism is accountable to the COP.

Hydrofluorocarbons (HFC)
HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. HFCs do not significantly deplete the stratospheric ozone layer, but they are powerful greenhouse gases.

“Hot air”
Refers to the concern that some governments will be able to meet their targets for greenhouse gas emissions under the Kyoto Protocol with minimal effort and could then flood the market with emissions credits, reducing the incentive for other countries to cut their own domestic emissions.

International Consultation and Analysis (ICA)
ICA refers to a global system for monitoring efforts that developing countries make to counter climate change by using domestic resources. It would be a “facilitative process for transparency and accountability” and with no punitive implications. The consultation will be handled by a group of experts from the North and South.

International Civil Aviation Organization (ICAO)
The International Civil Aviation Organization, a UN Specialized Agency, is a global forum for civil aviation. ICAO works to achieve its vision of safe, secure and sustainable development of civil aviation through cooperation amongst its member States.

International Energy Agency (IEA)
The International Energy Agency (IEA) acts as energy policy advisor to 28 member countries in efforts to ensure reliable, affordable, and clean energy for citizens. Founded during the oil crisis of 1973–74, the IEA’s initial role was to co-ordinate measures in times of oil supply emergencies. As energy markets changed, so has the IEA. Its mandate has broadened to incorporate the “Three E’s” of balanced energy policymaking: energy security, economic development, and environmental protection.

Implementation
Actions (legislation or regulations, judicial decrees, or other actions) that governments take to translate international accords into domestic law and policy.

Informal contact group or “Informals”
A group of delegates instructed by the COP President or a Chair to meet in private to discuss a specific matter in an effort to consolidate different views, reach a compromise, and produce an agreed proposal, often in the form of a written text.

Intergovernmental Panel on Climate Change (IPCC)
Established in 1988 by the World Meteorological Organization and the UN Environment Programme, the IPCC surveys world-wide scientific and technical literature and publishes assessment reports that are widely recognized as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the Convention’s subsidiary bodies. The IPCC is independent of the Convention.
Intergovernmental Oceanographic Commission (IOC)
The IOC was created in 1960 to promote international cooperation and coordinate programs in research, sustainable development, protection of the marine environment, capacity building for improved management, and decision-making. It assists developing countries in strengthening their institutions to obtain self-driven sustainability in marine sciences.

International Union for the Conservation of Nature (IUCN)
A network of governments, non-governmental organizations, United Nations agencies, companies and local communities that aims to help the world find pragmatic solutions to our most pressing environment and development challenges. It supports scientific research and manages field projects all over the world.

Joint implementation (JI)
A mechanism under the Kyoto Protocol through which a developed country can receive “emissions reduction units” when it helps to finance projects that reduce net greenhouse gas emissions in another developed country (in practice, the recipient state is likely to be a country with an “economy in transition”). An Annex I Party must meet specific eligibility requirements to participate in joint implementation.

Kyoto Protocol
An international agreement standing on its own and requiring separate ratification by governments, but linked to the UNFCCC. The Kyoto Protocol, among other things, sets binding targets for the reduction of greenhouse gas emissions by industrialized countries.

Kyoto Mechanisms
Three procedures established under the Kyoto Protocol to increase the flexibility and reduce the costs of making greenhouse gas emissions cuts; they are the Clean Development Mechanism, Emissions Trading, and Joint Implementation.

Land Use, Land-Use Change, and Forestry (LULUCF)
A greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change, and forestry activities.

Leakage
That portion of cuts in greenhouse gas emissions by developed countries—countries trying to meet mandatory limits under the Kyoto Protocol—that may reappear in other countries not bound by such limits. For example, multinational corporations may shift factories from developed countries to developing countries to escape restrictions on emissions.

Least Developed Countries (LDCs)
The World's poorest countries. The criteria currently used by the Economic and Social Council (ECOSOC) for designation as an LDC include low income, human resource weakness (nutrition, health, education, adult literacy), and economic vulnerability. Currently 50 countries have been designated by the UN General Assembly as LDCs.

Least Developed Countries Expert Group (LEG)
A panel of 12 experts which provides advice to LDCs on the preparation and implementation of national adaptation programs of action (NAPAs)—plans for addressing the urgent and immediate needs of those countries to adapt to climate change.

Least Developed Country Fund (LDCF)
The LDCF is a fund established to support a work program to assist Least Developed Country Parties to carry out, inter alia, the preparation and implementation of national adaptation programs of action (NAPAs). The Global Environment Facility, as the entity that operates the financial mechanism of the Convention, has been entrusted to operate this fund.

Low Emissions Development Strategies (LEDS)
A strategic framework that articulates concrete actions, policies, programs, and implementation plans to advance economic growth, improve environmental management, and meet development objectives. This framework provides a foundation for achieving long-term, measurable greenhouse gas emission reductions as compared to a ‘business as usual’ development pathway.

Marrakesh Accords
Agreements reached at COP 7 which set various rules for “operating” the more complex provisions of the Kyoto Protocol. Among other things, the accords include details for establishing a greenhouse gas emissions trading system; implementing and monitoring the Protocol’s Clean Development Mechanism, and setting up and operating three funds to support efforts to adapt to climate change.

Miscellaneous documents (misc. docs)
Documents issued on plain paper with no UN masthead. They generally contain views or comments published as received from a delegation without formal editing.

Mitigation
In the context of climate change, mitigation is a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other “sinks” to remove greater amounts of carbon dioxide from the atmosphere.
Montreal Protocol

The Montreal Protocol on Substances that Deplete the Ozone Layer, an international agreement adopted in Montreal in 1987.

MRV—Measureable, Reportable, and Verifiable

Measureable, reportable, and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances.259

National Adaptation Programmes of Action (NAPAs)

Documents prepared by least developed countries (LDCs) identifying urgent and immediate needs for adapting to climate change. The NAPAs are then presented to the international donor community for support.

Nationally Appropriate Mitigation Actions (NAMAs)

Actions taken by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner.260

National Adaptation Programmes of Action (NAPs)

Under the Cancun Adaptation Framework (CAF), a process was established to enable least developed country Parties (LDCs) to formulate and implement national adaptation plans (NAPs). This process will build upon their experience in preparing and implementing national adaptation programmes of action (NAPAs), as a means of identifying medium- and long-term adaptation needs and developing and implementing strategies and programmes to address those needs. Other developing country Parties are also invited to employ the modalities formulated to support the national adaptation plans in the elaboration of their planning efforts.261

Observers

Observers include agencies, non-governmental organizations, and Governments not Parties to the Convention which are permitted to attend, but not vote, at meetings of the COP and its subsidiary bodies. Observers may include the United Nations and its specialized agencies; other intergovernmental organizations such as the International Atomic Energy Agency; and accredited non-governmental organizations (NGOs).

Organization for Economic Co-operation and Development (OECD)

The Organization for Economic Co-operation and Development is a forum where the governments of 30 market democracies work together to address the economic, social, and governance challenges of globalization. The Organization provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practices, and co-ordinate domestic and international policies.

Non-Annex I Parties

Refers to countries that have ratified or acceded to the United Nations Framework Convention on Climate Change that are not included in Annex I of the Convention.

Non-governmental organizations (NGOs)

Organizations that are not part of a governmental structure. They include environmental groups, research institutions, business groups, and associations of urban and local governments. Many NGOs attend climate talks as observers. To be accredited to attend meetings under the Convention, NGOs must be non-profit.

Non-paper

An in-session document issued informally to facilitate negotiations. A non-paper does not have an official document symbol. It may have an identifying number or carry the name of its author.

Non-Party

A state that has not ratified the Convention but attends meetings as an observer.

“No-regrets options”

Technology for reducing greenhouse gas emissions whose other benefits (in terms of efficiency or reduced energy costs) are so extensive that the investment is worth it for those reasons alone. For example, combined-cycle gas turbines—in which the heat from the burning fuel drives steam turbines while the thermal expansion of the exhaust gases drives gas turbines—may boost the efficiency of electricity generating plants by 70 percent.

National communications

A document submitted in accordance with the Convention (and the Protocol) by which a Party informs other Parties of activities undertaken to address climate change. Most developed countries have now submitted their fourth national communications; most developing countries have completed their first national communication and are in the process of preparing their second.

Offsets

A greenhouse gas offset is generated by the reduction, avoidance, or sequestration of greenhouse gas emissions from a specific project. Offsets are so named because they counteract or offset greenhouse gases that would have been emitted into the atmosphere; they are a compensating equivalent for reductions made at a specific source of emissions.
Party
A state (or regional economic integration organization such as the European Union) that agrees to be bound by a treaty and for which the treaty has entered into force.

Plenary
A formal meeting of the entire COP or one of its subsidiary bodies. Formal decisions or conclusions may only be taken during plenary sessions.

Policies and measures (PAMs)
A frequently used phrase referring to the steps taken or to be taken by countries to reduce greenhouse gas emissions under the UNFCCC and the Kyoto Protocol. Some possible policies and measures are listed in the Protocol and could offer opportunities for intergovernmental cooperation.

Potential Consequences
Reverberations in developing countries caused by actions taken by developed countries to cut greenhouse gas emissions. For example, emissions reductions in developed countries could lower demand for oil and thus international oil prices, leading to more use of oil and greater emissions in developing nations, partially offsetting the original cuts. Current estimates are that full-scale implementation of the Kyoto Protocol may cause 5 to 20 percent of emissions reductions in industrialized countries to “leak” into developing countries.

President
The official of a member government elected by the Parties to preside over the COP. The President is often a senior official or minister from the state or region hosting the meeting. The President may not participate in the negotiations as a representative of the member government during the term of presidency.

Protocol
An international agreement linked to an existing convention, but as a separate and additional agreement which must be signed and ratified by the Parties to the convention concerned. Protocols typically strengthen a convention by adding new, more detailed commitments.

Quantified Emissions Limitation and Reduction Commitments (QELROs)
Legally-binding targets and timetables under the Kyoto Protocol for the limitation or reduction of greenhouse gas emissions by developed countries.

Ratification
Formal approval, often by a Parliament or other national legislature, of a convention, protocol, or treaty, enabling a country to become a Party. Ratification is a separate process that occurs after a country has signed an agreement. The instrument of ratification must be deposited with a “depositary” (in the case of the Climate Change Convention, the UN Secretary-General) to start the countdown to becoming a Party (in the case of the Convention, the countdown is 90 days).

Reducing Emissions from Deforestation and Forest Degradation plus related pro-forest activities (REDD+)
Under REDD+, a country commits to reducing deforestation below a baseline level to receive credits in carbon markets for reducing carbon emissions. Independent satellite observations and spot ground inspections of forested areas would reliably verify that the national commitment is in fact being met. REDD+ includes provisions to respect the rights of indigenous forest peoples.

Reforestation
Replanting of forests on lands that have previously contained forests but that have been converted to some other use, or the re-conversion to forest of land that had previously been deforested.

Regional groups
Alliances of countries, in most cases sharing the same geographic region, which meet privately to discuss issues and nominate bureau members and other officials for activities under the Convention. The five regional groups are Africa, Asia, Central and Eastern Europe (CEE), Latin America and the Caribbean (GRULAC), and the Western Europe and Others Group (WEOG).

Registries, registry systems
Electronic databases that will track and record all transactions under the Kyoto Protocol’s greenhouse gas emissions trading system (the “carbon market”) and under mechanisms such as the Clean Development Mechanism.

Resolution
Directives that guide the work of the COP—opinions rather than permanent legal acts. Unlike decisions, resolutions do not generally become part of the formal body of legislation enacted by the COP.

Rio Conventions
Three environmental conventions, two of which were adopted at the 1992 “Earth Summit” in Rio de Janeiro: the United Nations Framework Convention on Climate Change (UNFCCC), and the Convention on Biodiversity (CBD), while the third, the United Nations Convention to Combat Desertification (UNCCD), was adopted in 1994. The issues addressed by the three treaties are related—in particular, climate change can have adverse effects on desertification and biodiversity—and through a Joint Liaison Group, the secretariats of the three conventions take steps to coordinate activities to achieve common progress.

Removal Unit (RMU)
A Kyoto Protocol unit equal to 1 metric tonne of carbon dioxide equivalent. RMUs are generated in Annex I Parties by LULUCF activities that absorb carbon dioxide.
Secretariat
The office staffed by international civil servants responsible for “servicing” the UNFCCC Convention and ensuring its smooth operation. The secretariat makes arrangements for meetings, compiles and prepares reports, and coordinates with other relevant international bodies. The Climate Change Secretariat, which is based in Bonn, Germany, is institutionally linked to the United Nations.

Sectoral Approach
There are several different types of “sectoral approaches” but the common goal of sectoral approaches is to reduce emissions while avoiding competitiveness concerns across countries by applying the same rules for a particular sector, for example the power generation industry, to all countries. Terms related to the sectoral approach include:

• Sector-based crediting (“no-lose target”)—Many have proposed GHG crediting on a sectoral basis: countries earn credits for reductions below an agreed sectorwide baseline.
• Sectoral (“policy-based”) actions/commitments—Countries could agree internationally to individualized policies (i.e., SD-PAMs) in specific sectors. Actions/commitments could vary in form (for example, efficiency standards, renewable energy targets, deforestation policies).
• Sectoral agreements—Countries could enter into agreements on actions/commitments in specific sectors, with the form varying by sector (for example, performance standards, absolute or intensity targets, technology/finance mechanisms) and commitments differentiated.

Shared Vision
The focus of paragraph 1 (a) of the Bali Action Plan is for a “shared vision” for “long-term cooperative action” to achieve the ultimate objective of the Convention which is to mitigate global warming. A controversial topic in this discussion is whether or not the “shared vision” should include a global short-term emissions target.263

Sink
Any process, activity or mechanism, which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere. Forests and other vegetation are considered sinks because they remove carbon dioxide through photosynthesis.

Special Climate Change Fund (SCCF)
The SCCF was established to finance projects relating to adaptation; technology transfer and capacity building; energy, transport, industry, agriculture, forestry and waste management; and economic diversification. This fund should complement other funding mechanisms for the implementation of the Convention. The Global Environment Facility (GEF), as the entity that operates the financial mechanism of the Convention, has been entrusted to operate this fund.

Submissions
Submissions refer to proposals or plans put forward by Parties to the UNFCCC process suggestions ways to deal with the various issues surrounding the talks.

Subsidiary body
A committee that assists the Conference of the Parties. Two permanent subsidiary bodies are created by the Convention: the Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA).

Subsidiary Body for Implementation (SBI)
The SBI makes recommendations on policy and implementation issues to the COP and, if requested, to other bodies.

Subsidiary Body for Scientific and Technological Advice (SBSTA)
The SBSTA serves as a link between information and assessments provided by expert sources (such as the IPCC) and the COP, which focuses on setting policy.

Sustainable development
Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable development policies and measures (SD-PAMs)
SD-PAMs is an approach that suggests that developing countries themselves identify more sustainable development paths and commit to implementing these with financial support. It starts by considering a country’s own long-term development objectives. Next, policies and measures are identified to make the development path more sustainable. Each country would define what it means by making development more sustainable, but when registering SD-PAMs, the international community would have to agree.

Technology transfer
A broad set of processes covering the flows of know-how, experience, and equipment for mitigating and adapting to climate change among different stakeholders.

Umbrella group
A loose coalition of non-European Union developed countries formed following the adoption of the Kyoto Protocol. Although there is no formal membership list, the group usually includes Australia, Canada, Iceland, Japan, New Zealand, Norway, the Russian Federation, Ukraine, and the United States.
**United Nations Commission on Sustainable Development (CSD)**

The United Nations Commission on Sustainable Development (CSD) was established by the UN General Assembly in December 1992 to ensure effective follow-up of United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit. The Commission is responsible for reviewing progress in the implementation of Agenda 21 and the Rio Declaration on Environment and Development.

**United Nations Development Programme (UNDP)**

UNDP is the UN’s global development network, an organization advocating for change and connecting countries to knowledge, experience, and resources to help people build a better life. UNDP operates in 166 countries, working with them on their own solutions to global and national development challenges.

**United Nations Environment Programme (UNEP)**

UNEP works to provide leadership and encourage partnership in caring for the environment amongst nations and peoples to improve quality of life without compromising that of future generations.

**United Nations Framework Convention on Climate Change (UNFCCC)**

The UNFCCC secretariat supports all institutions involved in the climate change process, particularly the COP, the subsidiary bodies, and their Bureau.

**Voluntary commitments**

A draft article considered during the negotiation of the Kyoto Protocol that would have permitted developing countries to voluntarily adhere to legally-binding emissions targets. The proposed language was dropped in the final phase of the negotiations. The issue remains important for some delegations and may be discussed at upcoming sessions of the Conference of the Parties.

**Vulnerability**

The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity.

**World Trade Organization (WTO)**

The WTO is an international organization that deals with the rules of trade between nations at a global or near-global level.
Notes


20. See a more detailed discussion on this in the Legal section in Section 3 of this Briefing Book.


62. Ibid.


65. Ibid.


74. Ibid.


77. Ibid.


81. Ibid.


86. Ibid.


91. Ibid.
92. This 2050 target range has been endorsed by the EU Environment Council of Ministers and informs the EU’s energy and climate roadmaps to 2050.
94. Ibid.
108. Ibid.
111. UNEP predicts that under business as usual assumptions, global aviation and shipping combined could be between 1.7 to 2.5 Gt CO2 in 2020. The Potsdam Institute assumes total emissions to be 1.8 Gt in 2020 (Rogelj et al., 2010). Business as usual projections by the International Civil Aviation Organisation (ICAO) and International Maritime Organisation (IMO) suggest that in the absence of policies to control them, emissions could triple by 2050. Such unchecked emissions would take up a substantial proportion of any global carbon budget to stay below 2°C.
112. A 2009 IMO report estimates that 250 MtCO2 reductions in 2020 are achievable with no-regret measures (with an uncertainty range from 130 to 360 MtCO2). The potential in the international aviation sector is not yet fully estimated; preliminary conservative estimates indicate the sector could achieve at least 110 MtCO2 reductions by 2020. The UNEP report estimates a potential to close the gap by 1.3 GtCO2 with mitigation actions considered by ICAO/IMO.
118. Ibid

119. Common concern and the shared responsibility of humankind to address climate change underpin the UNFCCC and are a longstanding notion of international environmental law. Differentiated responsibility is based upon both historical responsibility of States and differing capacities of States to address climate change.


121. Ibid


124. Ibid


142. Ibid


149. Ibid.


154. Ibid.


188. Ibid.


196. Under the 1975 law that established national fuel economy standards, the National Highway Traffic Safety Administration is required to test new vehicles using outdated assumptions that inflate their efficiency. For example, drivers...
are assumed to average 48 miles per hour on the highway and to never use air conditioning. Although the Environmental Protection Agency has legal authority to institute different testing procedures, the EPA has chosen to use NHTSA's testing procedures to ensure consistency between fuel economy and greenhouse gas standards. For more, see Sierra Club's CAFE: The Truth Behind the Testing - http://www.sierraclub.org/transportation/downloads/2011-07-Truth-in-Testing-Report.pdf.


203. Ibid.


223. 26 USC § 45L—New energy efficient home credit.


243. Independent analysis shows that RGGI created $1.6 billion in economic growth and 16,000 jobs in its first 2.5 years of operation, see: <http://www.analysissgroup.com/uploadedFiles/Publishing/Articles/Economic_Impact_RGGI_Fact_Sheet.pdf>.


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## Acronyms

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<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>AAU</td>
<td>Assigned amount unit (exchanged through emissions trading)</td>
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<tr>
<td>AOSIS</td>
<td>Alliance of Small Island States</td>
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<tr>
<td>AWG-LCA</td>
<td>Ad Hoc Working Group on Long Term Cooperative Action</td>
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<td>AWG-KP</td>
<td>Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol</td>
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<tr>
<td>BAP</td>
<td>Bali Action Plan</td>
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<tr>
<td>CAN</td>
<td>Climate Action Network (environmental NGO coalition)</td>
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<tr>
<td>CBDR</td>
<td>Common but differentiated responsibilities</td>
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<tr>
<td>CBDRRCC</td>
<td>Common but differentiated responsibilities and respective capabilities</td>
</tr>
<tr>
<td>CCS</td>
<td>Carbon Capture and Storage/Sequestration</td>
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<tr>
<td>CER</td>
<td>Certified emission reduction (generated through the CDM)</td>
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<tr>
<td>CO₂</td>
<td>Carbon dioxide</td>
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<tr>
<td>COP</td>
<td>Conference of the Parties (to the UNFCCC)</td>
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<tr>
<td>COP/MOP or CMP</td>
<td>Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol</td>
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<td>ETS</td>
<td>Emissions Trading Scheme</td>
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<td>EU</td>
<td>European Union</td>
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<td>Ex-Im</td>
<td>Export-Import Bank</td>
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<tr>
<td>FAB</td>
<td>Fair, ambitious, binding</td>
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<td>FSF</td>
<td>Fast start finance</td>
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<td>GEF</td>
<td>Global Environment Facility</td>
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<td>GCCI</td>
<td>Global Climate Change Initiative</td>
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<td>GCF</td>
<td>Green Climate Fund</td>
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<td>GEF</td>
<td>Global Environmental Facility</td>
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<td>GHG</td>
<td>Greenhouse gas</td>
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<td>HWP</td>
<td>Harvested wood products</td>
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<td>ICA</td>
<td>International Consultation and Analysis</td>
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<td>ICAO</td>
<td>International Civil Aviation Organization</td>
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<td>IEA</td>
<td>International Energy Agency</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>IMO</td>
<td>International Maritime Organization</td>
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<td>IP</td>
<td>Indigenous Peoples</td>
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<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<td>JI</td>
<td>Joint Implementation (under the Kyoto Protocol)</td>
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<td>KP</td>
<td>Kyoto Protocol</td>
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<tr>
<td>LCA</td>
<td>Long-term cooperative action</td>
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<td>LDC</td>
<td>Least developed country</td>
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<td>LDCF</td>
<td>Least Developed Countries Fund</td>
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<tr>
<td>LEDs</td>
<td>Low Developed Countries Fund</td>
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<tr>
<td>LTF</td>
<td>Low term finance</td>
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<tr>
<td>LULUCF</td>
<td>Land-use, land-use change and forestry</td>
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<tr>
<td>MBM</td>
<td>Market-based mechanism</td>
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<tr>
<td>NAMAs</td>
<td>Nationally appropriate mitigation actions</td>
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<td>NAPAs</td>
<td>National Adaptation Programs of Action</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<tr>
<td>OPEC</td>
<td>Organization of Petroleum Exporting Countries</td>
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<tr>
<td>OPIC</td>
<td>Overseas Private Investment Corporation (US)</td>
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<tr>
<td>QELRO</td>
<td>Quantified Emission Limitation Reduction Objective</td>
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<tr>
<td>REDD</td>
<td>Reducing Emissions from Deforestation and Forest Degradation</td>
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<tr>
<td>SBI</td>
<td>Subsidiary Body for Implementation</td>
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<tr>
<td>SBSTA</td>
<td>Subsidiary Body for Scientific and Technological Advice</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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<tr>
<td>WTO</td>
<td>World Trade Organization</td>
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<tr>
<td>UNDRIP</td>
<td>United Nations Declaration on Rights of Indigenous Peoples</td>
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</table>
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Climate Reality Project

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USCAN Members
350.org
ActionAid USA
Alliance for Affordable Energy
Alliance to Save Energy (ASE)
Avaaz
CARE USA
Center for Biological Diversity
Center for Clean Air Policy
Center for International Environmental Law
Ceres
Chesapeake Climate Action Network
Citizens for Pennsylvania's Future
(PennFuture)
Clean Air-Cool Planet
Clean Water Action
Climate Protection Campaign
Climate Solutions
Coalition on the Environment and Jewish Life
Conservation International
Conservation Law Foundation
EarthDay Network
Earthjustice
EcoEquity
Education for Global Warming Solutions
Emmett Center on Climate Change and the Environment *
Energy Action Coalition
Environment America
ENÉ (Environment Northeast)
Enviromental & Energy Study Institute
Environmental Defense Fund
Environmental Investigation Agency
Environmental Law & Policy Center
FHI 360
Fresh Energy
Friends Committee on National Legislation
Friends of the Earth (FOE)
Georgetown Climate Center *
Green For All
Greenpeace
Humane Society International
ICLEI-Local Governments for Sustainability
InterAction
International Environmental Law Project at Lewis and Clark Law School *
International Forum on Globalization
International Rivers

IPS/Sustainable Energy & Economy Network (SEEN)
Kyoto USA
League of Conservation Voters
Massachusetts Climate Action Network
National Association for the Advancement of Colored People (NAACP)
National Audubon Society
National Wildlife Federation (NWF)
Natural Resources Defense Council
North Carolina Conservation Network
Oil Change International
Oregon Environmental Council
Oxfam America
Face Energy and Climate Center
Pacific Environment
Pew Environment Group
Population Action International
Presbyterian Church USA
Rainforest Action Network
Refugees International
Sierra Club
Southern Alliance for Clean Energy
SustainUS
The Climate Reality Project
The Joint Center for Political and Economic Studies
The Nature Conservancy
The Regeneration Project / Interfaith Power & Light
The Resource Innovation Group
Transportation for America
U.S. Green Building Council
Union of Concerned Scientists
Voices for Progress
Women's Environment and Development Organization
Will Steger Foundation
Woods Hole Research Center
World Resources Institute*
World Wildlife Fund
Worldwatch Institute

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