

**Testimony of Ned Helme
President, Center for Clean Air Policy (CCAP)
before the
Senate Committee on Environment and Public Works**

**Legislative Hearing:
The Clean Energy Jobs and American Power Act**

October 29, 2009

Mr. Chairman, Ranking Member Inhofe, and Members of the Committee: I would like to thank you for the opportunity to testify before you today on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA). My name is Ned Helme and I am the President of the Center for Clean Air Policy (CCAP), a Washington, DC and Brussels-based environmental think tank with on the ground programs in New York, San Francisco, Mexico City, Beijing, Jakarta and many other places.

Since 1985, CCAP has been a recognized world leader in climate and air quality policy and is the only independent, non-profit think-tank working exclusively on those issues at the local, national and international levels. We are committed to advancing pragmatic and market-based climate solutions that balance both environmental and economic interests.

CCAP is actively working on national legislation in the United States (U.S.) and is advising European governments as well as developing countries such as China, Brazil, and Mexico on climate and energy policy. Our behind the scenes dialogues educate policymakers and help them find economically and politically workable solutions. Our Future Action Dialogue provides in-depth analyses and a “shadow process” for climate negotiators from 30 nations around the world to help them develop the post-2012 international response to climate change. It has produced important agreements among key nations on emissions trading, the design of the United Nations’ Clean Development Mechanism, and key features of the Bali Action Plan.

In our work with developing countries such as China, India, Mexico and Brazil, we have documented what these countries are already doing to reduce their emissions, what else they can do cost-effectively to reduce emissions, and how a new international agreement in Copenhagen can accelerate their progress. In our work in the U.S. we have been helping design climate legislation that will prevent jobs and their associated emissions in our energy intensive and trade sensitive industries from moving to other countries during the transition period when the major developing countries ramp up actions to level the carbon playing field. This includes transition assistance to U.S. industry as well as provisions to encourage further action by developing countries. We also are working to

ensure that the U.S. legislation grows the green energy jobs of the future and ensures the U.S. is a global leader in the race to produce the world's future energy technologies. This is the lens through which I offer my comments on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA).

My overarching message to you today is that it is absolutely critical to pass climate legislation as soon as possible. Passing CEJAPA, which places a cap on emissions and sets a market price for carbon, would take important steps to:

- protect the climate,
- improve energy and national security,
- drive innovation and investment needed to create the clean energy jobs of the future and ensure U.S. leadership in new energy technologies,
- and reach a global agreement this December in Copenhagen that includes meaningful action by developing countries.

By placing a price on greenhouse gas emissions and through various new incentive programs and policies, CEJAPA promises to jump-start U.S. innovation and investments in energy efficiency, carbon efficiency, and renewable energy across the economy. The bill authorizes EPA to establish new competitive grant programs, for example, to support high priority economic, environmental and energy goals and boost the competitiveness of the U.S. technology industry. Further, regulations like the renewable energy standard will result in additional new investments and bring down the costs of domestic production, enhancing the global competitiveness of U.S. industry in these important growth technologies.

In my time today, I would like to emphasize a four key points:

- First, other countries, including our key developing country trading partners, have announced and are implementing major actions to reduce emissions of greenhouse gases. China in particular is doing more than many believe to reduce the tremendous growth in their emissions and invest in the clean energy technologies of the future.

These actions represent an important start, but more reductions are needed for a solution to global climate change. Our goals should be to encourage more emissions reductions by all nations and to invest in our clean technology industries so we do not fall behind in the race to lead the market for new technologies. CEJAPA would do both.

- Second, we should be very clear, Copenhagen is not Kyoto. Unlike the Kyoto Protocol which allowed developing countries to participate on a voluntary basis, the agreement in Copenhagen is expected to require emissions reductions from developing countries. If the U.S. steps up with reasonable domestic emissions reduction targets and financial support for developing countries, developing countries are willing to take on new actions that are measurable, reportable and verifiable. The major roadblock to realizing this new shared responsibility is passage of CEJAPA, as our climate negotiators are reluctant to put U.S. reduction and financial commitments on the table without Congressional action. Passage of CEJAPA, which includes international financing for reduced deforestation, international adaptation, and clean technology, would do more to raise developing country action than anything else the U.S. could do.
- Third, and very importantly, CEJAPA has provisions that will protect our domestic energy-intensive and trade-sensitive industries during the transition to significant reduction actions by China and other key developing countries.
- Finally, CEJAPA would create strong monitoring, reporting and verification (MRV) requirements for emissions reductions domestically. The U.S. legislation should seek to ensure that other countries meet equivalent standards by indicating our support for consistent international MRV standards which we will meet.

Developing Countries are Already Reducing Projected Emissions on a Level Comparable to Developed Nations

CCAP's extensive policy work in key developing countries has shown that developing countries are doing more to reduce the growth in their emissions than conventional wisdom here in the United States would suggest. China, Brazil and Mexico have already put in place national laws that collectively, if fully implemented, will reduce the projected growth in emissions by more aggregate tons in 2010 than CEJAPA (S. 1733) is projected to achieve by 2015 and by an amount comparable to the number of tons to be reduced by the European Union's 30 percent reduction pledge for 2020 (Figure 1).

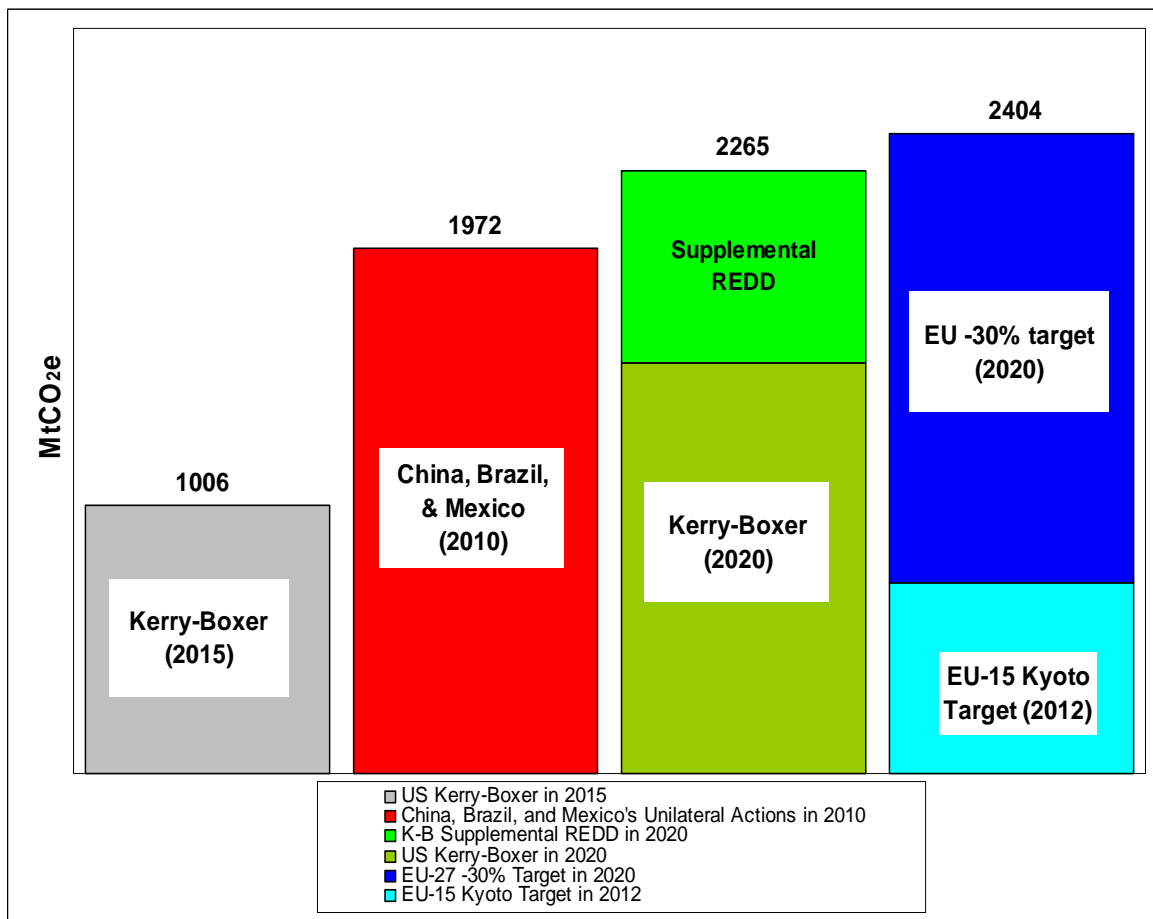


Figure 1. Emissions reductions from BAU for full implementation of proposed measures (CCAP, 2009).

CEJAPA would reduce emissions from capped sources 20 percent below 2005 by 2020. It also includes an additional 10 percent emissions reduction achieved by setting aside five percent of emissions allowances to purchase Reduced Emissions from Deforestation (RED) in developing countries. These additional reductions would not be a substitute or offset for emission reductions to be achieved in the United States. Instead, they would reflect a cooperative effort between the U.S. and key developing countries to make an additional contribution toward protecting the climate and would demonstrate our commitment to assisting those countries.

We strongly commend you for including the set aside for reducing deforestation because it has strengthened the hand of our climate negotiators and provided one of the most important positive signals the U.S. has been able to send to developing countries. The supplemental RED program has several advantages: it allows this new program for reducing forestry emissions to develop in a stable and orderly fashion; it avoids potentially flooding the allowance market with new forestry-based credits; and it also helps meet developed countries' commitments to provide financial assistance called for in the Bali Action Plan to help developing countries reduce their emissions. We also believe funding deforestation through these approaches could be cheaper and less risky than simply tightening the U.S. domestic target and allowing more offsets. It would be cheaper because such a program may be able to purchase reductions through up-front financing for less than the full market price for carbon.

Specific Actions by Developing Countries to Date

China has taken bold action to reduce emissions (which initially will reduce the growth of emissions). China's 2007 national climate plan set an aggressive goal to reduce its energy use per unit of GDP by 20 percent between 2006 and 2010. By the end of 2008, it had achieved half of this reduction target. If fully realized, this goal alone would reduce GHG emissions by more than 1.5 billion metric tons of CO₂ from business-as-usual annually by 2010.

The plan also includes measures to increase the use of renewable and nuclear energy; recover and use methane from coal beds, coal mines and landfills; increase the development and use of bio-energy; utilize clean coal technologies; improve agricultural practices; and plant forests.

China is also on target to achieve energy saving of 100 million metric tons (Mt) of coal equivalent by 2010 through the Top 1000 Energy-Consuming Enterprise Program, which could translate to a CO₂ emission reduction between 300 Mt and 450 Mt in 2010. This program has resulted in energy savings of 20 Mt and 38 Mt of coal equivalent respectively in 2006 and 2007 with a goal to save 20 Mt of coal equivalent in 2009.

To improve energy efficiency, China has shut down over 54 gigawatts (GW) of small coal-fired power plants between the beginning of 2006 and July 2009, exceeding the 2010 goal ahead of schedule. It plans to close another 31 GW of inefficient capacity between 2009 and 2011. Inefficient production capacity has also been phased out in the iron and steel, cement, aluminum, pulp and paper, and coke industries. For instance, the goal for iron, steel, and cement sectors is to phase out 100 Mt, 55 Mt, and 250 Mt of production capacity respectively by 2010.

China led the world in renewables investment in 2007 with over \$10.8 billion; it is projected to displace Germany as the world leader in investment in renewables as a percentage of GNP in 2010. Its national goal is to increase the share of renewable sources in primary energy consumption to 10 percent in 2010 and 15 percent in 2020. Achieving the 2020 goal would be equivalent to a reduction of annual CO₂ emission by 1.2 billion metric tons, according to China's "Medium and Long Term Plan for the Development of Renewable Energies," released in 2007. The actual development has exceeded the original plan and the specific goals in 2020 for some renewables have been significantly upgraded (the total renewable goal remains the same):

- For wind power, the original goal of 30 GW of total installed capacity has been raised to 100 GW after China quickly exceeded its initial 2010 goal;

- For solar power, the new goal is 10 GW which is more than five fold of the original target of 1.8 GW;
- For hydro energy, the focus was on small-scale generators, with a set target of 50 GW installed by 2010, and 75 GW by 2020. The 2010 target was reached well ahead of schedule, in 2006.

Although nuclear energy was excluded in the original plan, China now plans for nuclear energy to account for 5 percent of primary energy consumption in 2020 with total installed capacity slated to increase to 70 GW from the current 9 GW level.

Its vehicle efficiency standards are years ahead of the new U.S. standard. China has reached the 36.7 mpg standard and is considering a proposal to raise that to 42.2 mpg by 2015. In addition to direct regulation, economic incentives were utilized as well to encourage the production of more environment-friendly vehicles. Effective from the beginning of 2009, the automobile exercise tax rate on SUVs doubled to 40 percent while, for light vehicles with cylinder capacity less than one liter, the tax rate was reduced to one percent from three percent.

Many of these actions have been taken by China for good economic reasons which should give us confidence that implementation will continue. China has recognized, perhaps more quickly than we have, not only the economic benefits of expanded energy efficiency but also the global economic opportunity that taking the lead in these new markets can offer.

In his recent speech before the U.N. Climate Summing in September 2009, President Hu's promise of "reducing carbon dioxide emission intensity by a notable margin" also indicated that China will be shifting its focus on energy conservation to emission control. Although no quantified target has been announced yet, it is a strong signal that China is willing to take responsibility and slow down its carbon emission growth.

The Mexican government announced in late August major unilateral commitments to combat climate change. Their climate plan sets an aspirational goal of reducing long-term emissions by 50 percent from 2000 levels by 2050, proposes a cap-and-trade system between the oil industry and the electric industry by 2011 (potentially phasing in other sectors, such as cement and iron and steel, at a later date), and specifies a series of actions that Mexico intends to take that are projected to reduce emissions by 51 MtCO₂ (6.5 percent) from business-as-usual levels in 2012.

In addition, Mexico is putting in place many of the reforms needed to encourage implementation of key greenhouse gas mitigation options. CCAP's analysis has helped Mexico to define sectoral emission reduction goals and has demonstrated that the barriers to mobilizing many of the most promising mitigation measures in Mexico are domestic laws and regulations. Mexico has enacted significant reforms to remove these barriers, including new energy sector policies regarding fuel production and pricing, electricity pricing, and the promotion of renewable energy and efficient cogeneration. This has been accompanied by the creation of an Energy Transition Fund of three billion Mexican pesos a year for three years (about \$210 million annually) to provide incentives for more aggressive emissions reduction activities. Even in the cases in which costs are a barrier to mitigation in Mexico, the barrier is generally the up-front capital costs, so the financial assistance required by Mexico to move these measures would be in the form of loans, not large grants.

The Mexican private sector's interest in climate change policy has grown dramatically this past year as well. The cement and iron and steel industries, in particular, have recognized this as an area of opportunity for their already efficient industries and have become more active in their interaction with the Mexican government. They are analyzing their options and considering the potential impacts of a domestic cap-and-trade program and other approaches.

South Africa has analyzed a number of long-term mitigation scenarios. It has announced its intent to peak its emissions no later than 2025, by among other things moving from

traditional coal-fired electricity production to renewables, nuclear power and clean coal technologies, as well as improving energy efficiency and improving the efficiency of the transportation system.

Brazil has released a climate plan that emphasizes energy efficiency and reducing emissions from deforestation, including a goal to reduce the average deforestation rate by 70 percent over the period 2006-2017. It would lower CO₂ emissions by about 413 million metric tons CO₂ in 2010 (roughly 40 percent of the emissions reduction expected in CEJAPA by 2015) and by a total of 4.8 billion metric tons CO₂ over the 12-year life of the program. In the last two years, Brazil has reduced deforestation by more than 250 million tons of CO₂ equivalent through incentives for landowners and aggressive enforcement against those who deforest illegally.

South Korea intends to announce a long-term, economy-wide target for emissions reductions later this year. South Korea is already a global leader in the efficiency of its production in the major heavy industrial sectors, so its new effort will focus on domestic energy use and transportation-related emissions.

Copenhagen is Not Kyoto

The most common and widespread criticism of the Kyoto Protocol was that it did not require major developing countries to reduce their greenhouse gas emissions. Those concerns will be alleviated in Copenhagen, where a successor to the Kyoto Protocol is expected to ensure that developing countries take on more responsibility.

Under the Kyoto Protocol, developed countries assumed binding emissions reduction targets and the majority of the compliance costs to meet those targets. Developing countries, which faced no binding targets, were allowed to sell their emissions reductions (called offset credits) under the Clean Development Mechanism (CDM) to developed countries to help them lower the cost of their Kyoto protocol obligations. CDM offsets not only lowered the cost of compliance for developed countries, but also often made

profits for developing countries, which collected more from selling the credits than it cost to reduce emissions. This was viewed as beneficial to both developed and developing countries.

The status quo, however, has changed and CEJAPA reinforces that change. It is now well understood that developing country emissions are growing fast, even though developed countries remain responsible for the lion's share of historical emissions in the atmosphere and have high per capita emissions. Given the projected growth in developing country emissions, we could not meet the international goal of cutting global emissions 50% below 1990 levels by 2050 even if we zeroed out developed nations emissions by that date. As a result, we know the only way to avoid the worst effects of climate change is for both developed and developing countries to take action simultaneously. It is also clear many major developing countries have been taking a surprising amount of action on their own to reduce emissions outside of the CDM as demonstrated in Figure 1.

The breakthrough in the international negotiations came recently, when developing countries acknowledged for the first time that they have some responsibility to reduce their emissions. Under the Bali Action Plan, agreed to in late 2007 by all the major parties including the U.S., developing countries agreed that they would be willing to take "nationally appropriate mitigation actions" (called NAMAs) that are measurable, reportable and verifiable, in exchange for financial and technological assistance that would also be measurable, reportable and verifiable. The international negotiations since Bali and leading up to Copenhagen are all about fleshing out how NAMAs and related financing should work to fundamentally and forever move us beyond the flaws of Kyoto. For developing countries, NAMAs make sense because they can be tailored to the needs and circumstances of each country. They can also accelerate the pace of financial and technological assistance, long sought by developing countries.

In implementing this new approach in the Copenhagen agreement, we have two important goals to balance. First, we need substantial emissions reductions below

projected levels in both developed and developing countries by 2020. Second, we need to ensure the availability of offsets, which will help lower the cost of the developed countries climate programs. To strike this balance, it will no longer be possible to allow offsets to be simply the low-hanging fruit of project by project CDM. Instead, we will need to move to a sector crediting approach where offsets will need to be achieved on a sector-wide basis. For these reductions to generate offset credits, they will need to be above and beyond the domestic emission reductions that developing countries will be undertaking on their own or with some support.

The Structure of NAMAs and CEJAPA Will Raise the Bar on Developing Country Performance

The evolving analyses of NAMAs and sectoral approaches suggest an architecture that can achieve greater GHG reductions, leverage public financing, and minimize potential trade impacts. In the current international negotiations three general types of NAMAs are being considered: unilateral, supported, and credit-generating. The first two are contributions from developing countries and the last is offsets.

Unilateral Actions would be directed toward win-win actions. Since the actions are estimated to be profitable even in the absence of a carbon price signal, the developing country could presumably undertake these actions without financial assistance, taking steps to overcome barriers that may have kept this from happening already. Developed country assistance, if needed, could come in the form of technical assistance, capacity building, and supply of technology, equipment, and financing at market rates. Many of the aggregate reductions shown earlier in Figure 1 fall into this category.

Supported NAMAs would be directed toward the lower-cost mitigation actions and would be eligible for some up-front financing from developed nations for the incremental costs of the action. By financing only the incremental costs (or a portion thereof) of these actions, developed countries can avoid any adverse impacts on the competitiveness of

their industries. These reductions are a joint contribution to the protection of the atmosphere. They do not offset developed country reduction requirements.

Sectoral Crediting (or offsets) are actions that reduce emissions sector-wide below a predetermined and negotiated baseline, which makes a developing country eligible to sell offsets to developed countries. These would be directed toward the higher-cost actions, and would follow the adoption of unilateral actions and supported NAMAs. Additionally, since this approach is likely conditional upon unilateral actions and supported NAMAs, the developing country has an incentive to take these first two steps in order to partake in the financial benefits of the offsets market, and thereby increase its overall contribution.

We believe that this tiered approach to international action can balance our two goals for a Copenhagen agreement, enabling offsets that can support strong domestic commitments that are environmentally effective and economically wise, while simultaneously encouraging strong international commitments by both developed and developing countries. Such an architecture can not only avoid the troublesome effects of adverse shifts in trade competitiveness and greenhouse gas leakage, but also encourage policies that help to level the carbon playing field and better allow countries to adopt tougher environmental measures with greater economic confidence.

For Developed countries, the new architecture:

- Changes the game from the old CDM where all emission reductions were paid for by developed countries. Developing countries are bearing the bulk of NAMA costs.
- Achieves more emissions reductions sooner by developing countries. Developing countries will be responsible for reducing emissions on their own and have built-in incentives to do more.
- Would set strong standards for monitoring, reporting and verification.
- Helps competitive industries in developed countries. With developing country industries assuming new emission reduction commitments and costs, the gap in

carbon costs between the U.S. with a carbon cap and developing countries without one will begin to narrow.

The international offsets and financing provisions in CEJAPA align well with the NAMA approach. The sponsors deserve credit for designing a system that creates up-front financing for supported NAMAs and for reductions in deforestation via the allowance set-asides for Reduced Emissions from Deforestation (RED) and clean technology. This makes clear the U.S. is committed to helping developing countries move aggressively to implement policies to reduce emissions, consistent with the Bali Action Plan. In addition, the provisions directing the Secretary of State to designate sectors in the emerging economies where offsets can only be earned if a sector-wide crediting program is in place are a key innovation. This moves us beyond the project by project approach of the CDM to a comprehensive approach where all facilities in a sector need to participate in emission reductions. We would suggest that the language of this section make clear that after 2016 any crediting for emission reductions in these sectors be beyond the level of reductions achieved by supported NAMAs, with no continuing opportunity for traditional CDM projects in these sectors. In sum, CEJAPA positions the U.S. to play a very constructive role in the design of the Copenhagen agreement.

Financing for developing countries

One of the ways the U.S. and developed countries will be judged in Copenhagen is by whether they provide meaningful financing, technology and capacity building assistance to developing countries as they agreed to consider in the Bali Action Plan.

Whether financing is for deforestation or clean technology deployment, some observers incorrectly assume that any financing agreement in the Bali Action Plan must mean large unrestricted amounts of funding. However, the behind the scenes negotiations are more likely to focus on specific and tailored financial mechanisms like support to “write down” the cost of advanced but not yet commercial technologies like carbon capture and storage, and financing for special purpose entities that can help overcome resistance from banks

in developing countries to make financing available for energy efficiency. As we have seen with Mexico's recent proposals for caps in key internationally competitive industrial sectors, the financing element comes down to targeted loans that help overcome domestic policy barriers. Availability of such financing will provide the incentive for participating developing countries to establish more aggressive "performance goals." This approach also creates opportunities for leading U.S. companies to gain access to growing new markets (creating jobs at home) and moves toward leveling the playing field for carbon in internationally competitive sectors.

International Competitiveness

CEJAPA protects our domestic energy-intensive and trade-sensitive industries during the period when China and other leading developing countries are stepping up their national actions. We all have concerns about the impact on energy intensive and trade sensitive industries, such as iron and steel, cement, etc., where energy costs are a significant portion of the production costs and face international competitors which may not face a carbon price. CEJAPA solves this problem by allocating approximately 15 percent of allowances for free to these industries through 2025, with the allowances phasing out 10 percent per year through 2035. EPA's analysis of this approach in the American Clean Energy and Security Act (HR 2454) suggests that this will either fully compensate these industries or come very close to doing so for the direct costs of purchasing emissions allowances and for any increases in their indirect energy costs. These allowances provide more than 20 years of transition assistance while developing countries take more action. Although the bill does not include a border tariff, which is in Finance Committee jurisdiction, it is expected that there will also be a border adjustment on imported products from countries which have not taken sufficient action by 2020. Together, the free allowances and the border tariff backstop provide the protection U.S. industry may need.

Transparent System for Monitoring, Reporting and Verifying National Actions

To meet our goals of making an appropriate national emission reduction contribution to the global goal of holding temperature increases to 2 degrees centigrade, encouraging further developing country action, producing needed international offsets to help contain domestic costs, and protecting the competitiveness of domestic industries, we need to ensure that there is a transparent domestic and international system for monitoring, reporting and verifying national actions, emissions and offsets.

The only assurance we can have that others are doing their part is a system whereby every country reports transparently in accord with consistent international standards on their annual emissions, how many offsets they are recognizing, the nature of those offsets, and the degree to which they have complied with the emissions reductions goals they have set.

The legislation before you does a good job of ensuring that EPA and other agencies will create a transparent domestic system, and could go a little further to ensure the creation of similar, transparent standards in any international agreement. In addition, it would be helpful to clarify that the U.S. should report on our domestic actions in a way consistent with any international standards for reporting, so we can send a message that all nations must report consistently, which is the best way to verify that all countries and their industries are doing what they say they are doing and to ensure that the competitiveness of U.S. industries is protected.

In closing, I want to underline that the bill before you positions the United States effectively to make an important contribution to closing the deal at Copenhagen or shortly thereafter. The actions taken by the majority of the key developing countries coupled with the recent bold steps taken by Japan and India make clear that we no longer need to question whether others will act. The provisions in this bill and in the companion bill passed by the House will provide protection and assurance for our internationally competitive industries during the transition to full implementation of national climate

actions by our major developing country trading partners. We now need to shift our focus to the future competition for leadership in the new clean energy marketplace. This bill makes that shift. We simply need to pass it as soon as possible.

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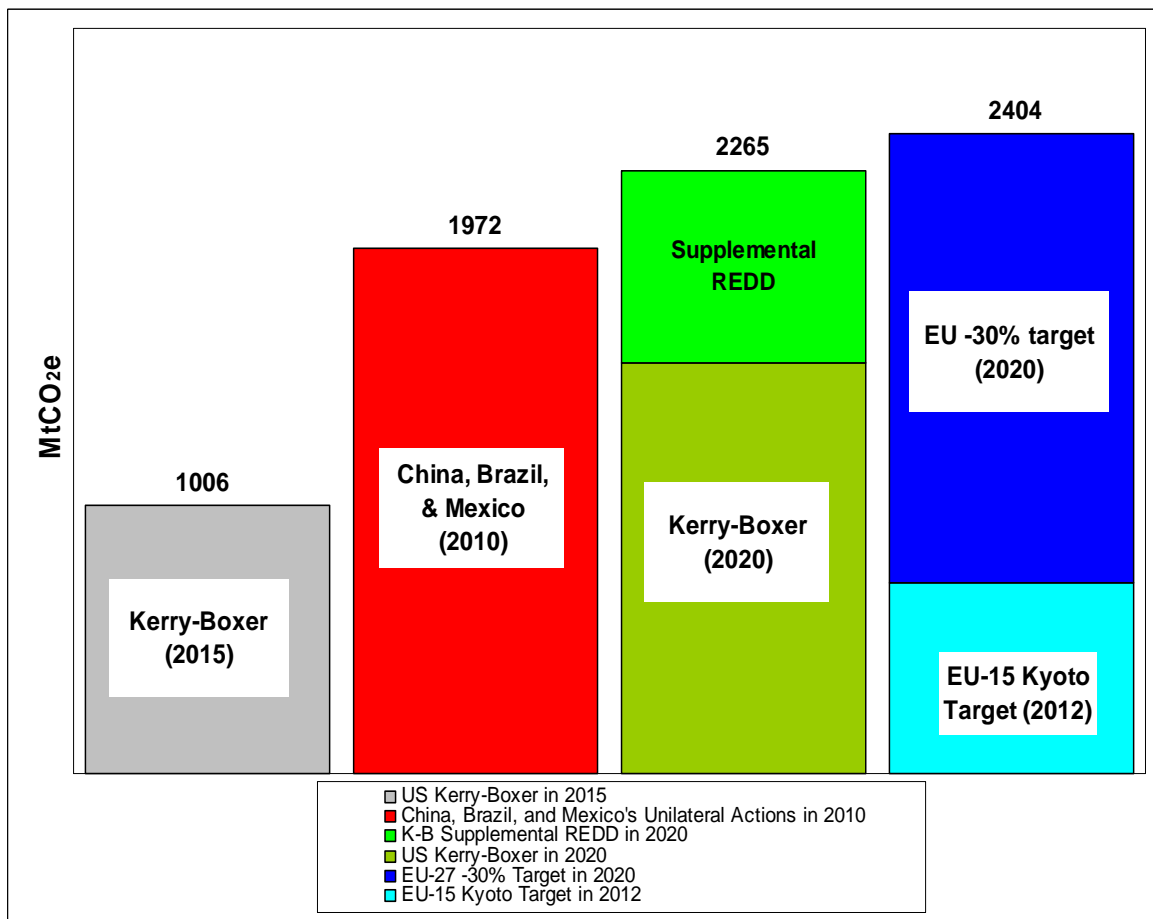


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profits for developing countries, which collected more from selling the credits than it cost to reduce emissions. This was viewed as beneficial to both developed and developing countries.

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The breakthrough in the international negotiations came recently, when developing countries acknowledged for the first time that they have some responsibility to reduce their emissions. Under the Bali Action Plan, agreed to in late 2007 by all the major parties including the U.S., developing countries agreed that they would be willing to take "nationally appropriate mitigation actions" (called NAMAs) that are measurable, reportable and verifiable, in exchange for financial and technological assistance that would also be measurable, reportable and verifiable. The international negotiations since Bali and leading up to Copenhagen are all about fleshing out how NAMAs and related financing should work to fundamentally and forever move us beyond the flaws of Kyoto. For developing countries, NAMAs make sense because they can be tailored to the needs and circumstances of each country. They can also accelerate the pace of financial and technological assistance, long sought by developing countries.

In implementing this new approach in the Copenhagen agreement, we have two important goals to balance. First, we need substantial emissions reductions below

projected levels in both developed and developing countries by 2020. Second, we need to ensure the availability of offsets, which will help lower the cost of the developed countries climate programs. To strike this balance, it will no longer be possible to allow offsets to be simply the low-hanging fruit of project by project CDM. Instead, we will need to move to a sector crediting approach where offsets will need to be achieved on a sector-wide basis. For these reductions to generate offset credits, they will need to be above and beyond the domestic emission reductions that developing countries will be undertaking on their own or with some support.

The Structure of NAMAs and CEJAPA Will Raise the Bar on Developing Country Performance

The evolving analyses of NAMAs and sectoral approaches suggest an architecture that can achieve greater GHG reductions, leverage public financing, and minimize potential trade impacts. In the current international negotiations three general types of NAMAs are being considered: unilateral, supported, and credit-generating. The first two are contributions from developing countries and the last is offsets.

Unilateral Actions would be directed toward win-win actions. Since the actions are estimated to be profitable even in the absence of a carbon price signal, the developing country could presumably undertake these actions without financial assistance, taking steps to overcome barriers that may have kept this from happening already. Developed country assistance, if needed, could come in the form of technical assistance, capacity building, and supply of technology, equipment, and financing at market rates. Many of the aggregate reductions shown earlier in Figure 1 fall into this category.

Supported NAMAs would be directed toward the lower-cost mitigation actions and would be eligible for some up-front financing from developed nations for the incremental costs of the action. By financing only the incremental costs (or a portion thereof) of these actions, developed countries can avoid any adverse impacts on the competitiveness of

their industries. These reductions are a joint contribution to the protection of the atmosphere. They do not offset developed country reduction requirements.

Sectoral Crediting (or offsets) are actions that reduce emissions sector-wide below a predetermined and negotiated baseline, which makes a developing country eligible to sell offsets to developed countries. These would be directed toward the higher-cost actions, and would follow the adoption of unilateral actions and supported NAMAs. Additionally, since this approach is likely conditional upon unilateral actions and supported NAMAs, the developing country has an incentive to take these first two steps in order to partake in the financial benefits of the offsets market, and thereby increase its overall contribution.

We believe that this tiered approach to international action can balance our two goals for a Copenhagen agreement, enabling offsets that can support strong domestic commitments that are environmentally effective and economically wise, while simultaneously encouraging strong international commitments by both developed and developing countries. Such an architecture can not only avoid the troublesome effects of adverse shifts in trade competitiveness and greenhouse gas leakage, but also encourage policies that help to level the carbon playing field and better allow countries to adopt tougher environmental measures with greater economic confidence.

For Developed countries, the new architecture:

- Changes the game from the old CDM where all emission reductions were paid for by developed countries. Developing countries are bearing the bulk of NAMA costs.
- Achieves more emissions reductions sooner by developing countries. Developing countries will be responsible for reducing emissions on their own and have built-in incentives to do more.
- Would set strong standards for monitoring, reporting and verification.
- Helps competitive industries in developed countries. With developing country industries assuming new emission reduction commitments and costs, the gap in

carbon costs between the U.S. with a carbon cap and developing countries without one will begin to narrow.

The international offsets and financing provisions in CEJAPA align well with the NAMA approach. The sponsors deserve credit for designing a system that creates up-front financing for supported NAMAs and for reductions in deforestation via the allowance set-asides for Reduced Emissions from Deforestation (RED) and clean technology. This makes clear the U.S. is committed to helping developing countries move aggressively to implement policies to reduce emissions, consistent with the Bali Action Plan. In addition, the provisions directing the Secretary of State to designate sectors in the emerging economies where offsets can only be earned if a sector-wide crediting program is in place are a key innovation. This moves us beyond the project by project approach of the CDM to a comprehensive approach where all facilities in a sector need to participate in emission reductions. We would suggest that the language of this section make clear that after 2016 any crediting for emission reductions in these sectors be beyond the level of reductions achieved by supported NAMAs, with no continuing opportunity for traditional CDM projects in these sectors. In sum, CEJAPA positions the U.S. to play a very constructive role in the design of the Copenhagen agreement.

Financing for developing countries

One of the ways the U.S. and developed countries will be judged in Copenhagen is by whether they provide meaningful financing, technology and capacity building assistance to developing countries as they agreed to consider in the Bali Action Plan.

Whether financing is for deforestation or clean technology deployment, some observers incorrectly assume that any financing agreement in the Bali Action Plan must mean large unrestricted amounts of funding. However, the behind the scenes negotiations are more likely to focus on specific and tailored financial mechanisms like support to “write down” the cost of advanced but not yet commercial technologies like carbon capture and storage, and financing for special purpose entities that can help overcome resistance from banks

in developing countries to make financing available for energy efficiency. As we have seen with Mexico's recent proposals for caps in key internationally competitive industrial sectors, the financing element comes down to targeted loans that help overcome domestic policy barriers. Availability of such financing will provide the incentive for participating developing countries to establish more aggressive "performance goals." This approach also creates opportunities for leading U.S. companies to gain access to growing new markets (creating jobs at home) and moves toward leveling the playing field for carbon in internationally competitive sectors.

International Competitiveness

CEJAPA protects our domestic energy-intensive and trade-sensitive industries during the period when China and other leading developing countries are stepping up their national actions. We all have concerns about the impact on energy intensive and trade sensitive industries, such as iron and steel, cement, etc., where energy costs are a significant portion of the production costs and face international competitors which may not face a carbon price. CEJAPA solves this problem by allocating approximately 15 percent of allowances for free to these industries through 2025, with the allowances phasing out 10 percent per year through 2035. EPA's analysis of this approach in the American Clean Energy and Security Act (HR 2454) suggests that this will either fully compensate these industries or come very close to doing so for the direct costs of purchasing emissions allowances and for any increases in their indirect energy costs. These allowances provide more than 20 years of transition assistance while developing countries take more action. Although the bill does not include a border tariff, which is in Finance Committee jurisdiction, it is expected that there will also be a border adjustment on imported products from countries which have not taken sufficient action by 2020. Together, the free allowances and the border tariff backstop provide the protection U.S. industry may need.

Transparent System for Monitoring, Reporting and Verifying National Actions

To meet our goals of making an appropriate national emission reduction contribution to the global goal of holding temperature increases to 2 degrees centigrade, encouraging further developing country action, producing needed international offsets to help contain domestic costs, and protecting the competitiveness of domestic industries, we need to ensure that there is a transparent domestic and international system for monitoring, reporting and verifying national actions, emissions and offsets.

The only assurance we can have that others are doing their part is a system whereby every country reports transparently in accord with consistent international standards on their annual emissions, how many offsets they are recognizing, the nature of those offsets, and the degree to which they have complied with the emissions reductions goals they have set.

The legislation before you does a good job of ensuring that EPA and other agencies will create a transparent domestic system, and could go a little further to ensure the creation of similar, transparent standards in any international agreement. In addition, it would be helpful to clarify that the U.S. should report on our domestic actions in a way consistent with any international standards for reporting, so we can send a message that all nations must report consistently, which is the best way to verify that all countries and their industries are doing what they say they are doing and to ensure that the competitiveness of U.S. industries is protected.

In closing, I want to underline that the bill before you positions the United States effectively to make an important contribution to closing the deal at Copenhagen or shortly thereafter. The actions taken by the majority of the key developing countries coupled with the recent bold steps taken by Japan and India make clear that we no longer need to question whether others will act. The provisions in this bill and in the companion bill passed by the House will provide protection and assurance for our internationally competitive industries during the transition to full implementation of national climate

actions by our major developing country trading partners. We now need to shift our focus to the future competition for leadership in the new clean energy marketplace. This bill makes that shift. We simply need to pass it as soon as possible.

**Testimony of Ned Helme
President, Center for Clean Air Policy (CCAP)
before the
Senate Committee on Environment and Public Works**

**Legislative Hearing:
The Clean Energy Jobs and American Power Act**

October 29, 2009

Mr. Chairman, Ranking Member Inhofe, and Members of the Committee: I would like to thank you for the opportunity to testify before you today on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA). My name is Ned Helme and I am the President of the Center for Clean Air Policy (CCAP), a Washington, DC and Brussels-based environmental think tank with on the ground programs in New York, San Francisco, Mexico City, Beijing, Jakarta and many other places.

Since 1985, CCAP has been a recognized world leader in climate and air quality policy and is the only independent, non-profit think-tank working exclusively on those issues at the local, national and international levels. We are committed to advancing pragmatic and market-based climate solutions that balance both environmental and economic interests.

CCAP is actively working on national legislation in the United States (U.S.) and is advising European governments as well as developing countries such as China, Brazil, and Mexico on climate and energy policy. Our behind the scenes dialogues educate policymakers and help them find economically and politically workable solutions. Our Future Action Dialogue provides in-depth analyses and a “shadow process” for climate negotiators from 30 nations around the world to help them develop the post-2012 international response to climate change. It has produced important agreements among key nations on emissions trading, the design of the United Nations’ Clean Development Mechanism, and key features of the Bali Action Plan.

In our work with developing countries such as China, India, Mexico and Brazil, we have documented what these countries are already doing to reduce their emissions, what else they can do cost-effectively to reduce emissions, and how a new international agreement in Copenhagen can accelerate their progress. In our work in the U.S. we have been helping design climate legislation that will prevent jobs and their associated emissions in our energy intensive and trade sensitive industries from moving to other countries during the transition period when the major developing countries ramp up actions to level the carbon playing field. This includes transition assistance to U.S. industry as well as provisions to encourage further action by developing countries. We also are working to

ensure that the U.S. legislation grows the green energy jobs of the future and ensures the U.S. is a global leader in the race to produce the world's future energy technologies. This is the lens through which I offer my comments on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA).

My overarching message to you today is that it is absolutely critical to pass climate legislation as soon as possible. Passing CEJAPA, which places a cap on emissions and sets a market price for carbon, would take important steps to:

- protect the climate,
- improve energy and national security,
- drive innovation and investment needed to create the clean energy jobs of the future and ensure U.S. leadership in new energy technologies,
- and reach a global agreement this December in Copenhagen that includes meaningful action by developing countries.

By placing a price on greenhouse gas emissions and through various new incentive programs and policies, CEJAPA promises to jump-start U.S. innovation and investments in energy efficiency, carbon efficiency, and renewable energy across the economy. The bill authorizes EPA to establish new competitive grant programs, for example, to support high priority economic, environmental and energy goals and boost the competitiveness of the U.S. technology industry. Further, regulations like the renewable energy standard will result in additional new investments and bring down the costs of domestic production, enhancing the global competitiveness of U.S. industry in these important growth technologies.

In my time today, I would like to emphasize a four key points:

- First, other countries, including our key developing country trading partners, have announced and are implementing major actions to reduce emissions of greenhouse gases. China in particular is doing more than many believe to reduce the tremendous growth in their emissions and invest in the clean energy technologies of the future.

These actions represent an important start, but more reductions are needed for a solution to global climate change. Our goals should be to encourage more emissions reductions by all nations and to invest in our clean technology industries so we do not fall behind in the race to lead the market for new technologies. CEJAPA would do both.

- Second, we should be very clear, Copenhagen is not Kyoto. Unlike the Kyoto Protocol which allowed developing countries to participate on a voluntary basis, the agreement in Copenhagen is expected to require emissions reductions from developing countries. If the U.S. steps up with reasonable domestic emissions reduction targets and financial support for developing countries, developing countries are willing to take on new actions that are measurable, reportable and verifiable. The major roadblock to realizing this new shared responsibility is passage of CEJAPA, as our climate negotiators are reluctant to put U.S. reduction and financial commitments on the table without Congressional action. Passage of CEJAPA, which includes international financing for reduced deforestation, international adaptation, and clean technology, would do more to raise developing country action than anything else the U.S. could do.
- Third, and very importantly, CEJAPA has provisions that will protect our domestic energy-intensive and trade-sensitive industries during the transition to significant reduction actions by China and other key developing countries.
- Finally, CEJAPA would create strong monitoring, reporting and verification (MRV) requirements for emissions reductions domestically. The U.S. legislation should seek to ensure that other countries meet equivalent standards by indicating our support for consistent international MRV standards which we will meet.

Developing Countries are Already Reducing Projected Emissions on a Level Comparable to Developed Nations

CCAP's extensive policy work in key developing countries has shown that developing countries are doing more to reduce the growth in their emissions than conventional wisdom here in the United States would suggest. China, Brazil and Mexico have already put in place national laws that collectively, if fully implemented, will reduce the projected growth in emissions by more aggregate tons in 2010 than CEJAPA (S. 1733) is projected to achieve by 2015 and by an amount comparable to the number of tons to be reduced by the European Union's 30 percent reduction pledge for 2020 (Figure 1).

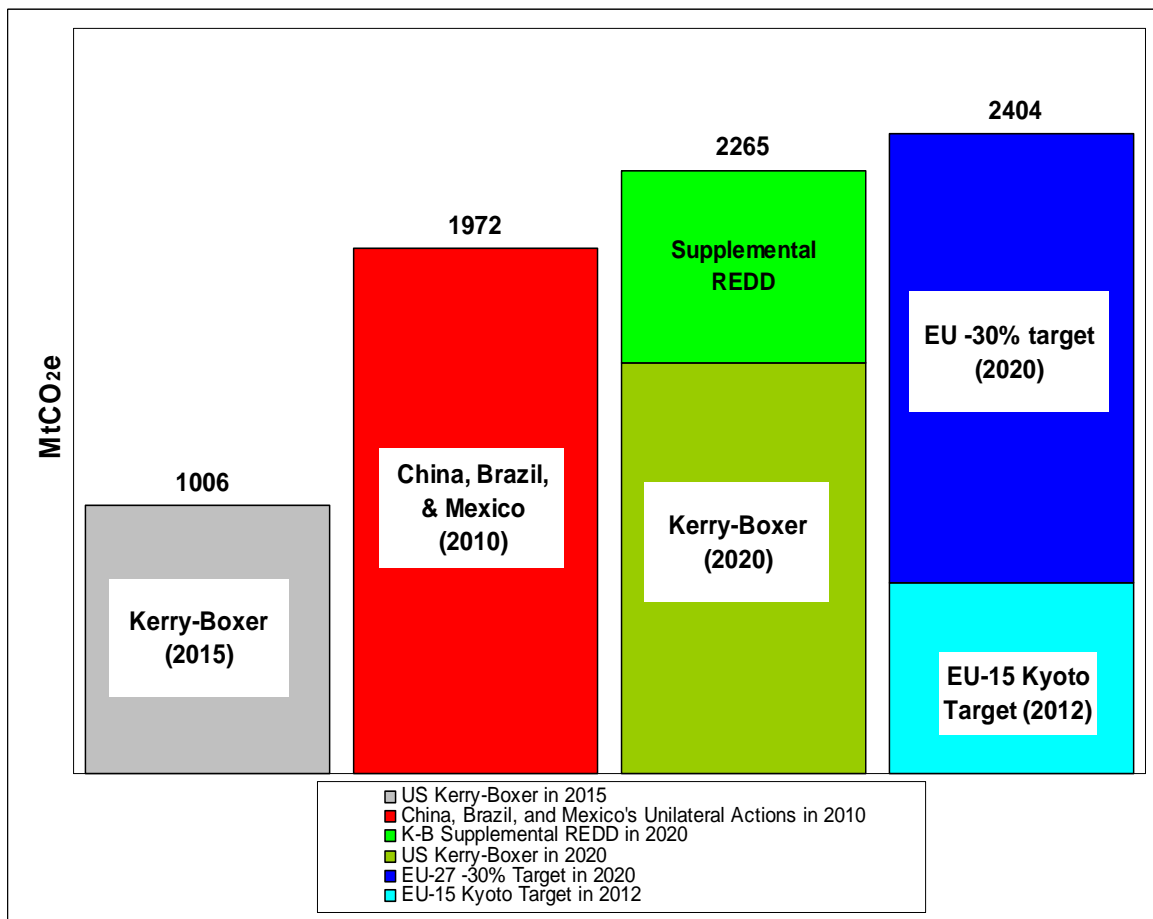


Figure 1. Emissions reductions from BAU for full implementation of proposed measures (CCAP, 2009).

CEJAPA would reduce emissions from capped sources 20 percent below 2005 by 2020. It also includes an additional 10 percent emissions reduction achieved by setting aside five percent of emissions allowances to purchase Reduced Emissions from Deforestation (RED) in developing countries. These additional reductions would not be a substitute or offset for emission reductions to be achieved in the United States. Instead, they would reflect a cooperative effort between the U.S. and key developing countries to make an additional contribution toward protecting the climate and would demonstrate our commitment to assisting those countries.

We strongly commend you for including the set aside for reducing deforestation because it has strengthened the hand of our climate negotiators and provided one of the most important positive signals the U.S. has been able to send to developing countries. The supplemental RED program has several advantages: it allows this new program for reducing forestry emissions to develop in a stable and orderly fashion; it avoids potentially flooding the allowance market with new forestry-based credits; and it also helps meet developed countries' commitments to provide financial assistance called for in the Bali Action Plan to help developing countries reduce their emissions. We also believe funding deforestation through these approaches could be cheaper and less risky than simply tightening the U.S. domestic target and allowing more offsets. It would be cheaper because such a program may be able to purchase reductions through up-front financing for less than the full market price for carbon.

Specific Actions by Developing Countries to Date

China has taken bold action to reduce emissions (which initially will reduce the growth of emissions). China's 2007 national climate plan set an aggressive goal to reduce its energy use per unit of GDP by 20 percent between 2006 and 2010. By the end of 2008, it had achieved half of this reduction target. If fully realized, this goal alone would reduce GHG emissions by more than 1.5 billion metric tons of CO₂ from business-as-usual annually by 2010.

The plan also includes measures to increase the use of renewable and nuclear energy; recover and use methane from coal beds, coal mines and landfills; increase the development and use of bio-energy; utilize clean coal technologies; improve agricultural practices; and plant forests.

China is also on target to achieve energy saving of 100 million metric tons (Mt) of coal equivalent by 2010 through the Top 1000 Energy-Consuming Enterprise Program, which could translate to a CO₂ emission reduction between 300 Mt and 450 Mt in 2010. This program has resulted in energy savings of 20 Mt and 38 Mt of coal equivalent respectively in 2006 and 2007 with a goal to save 20 Mt of coal equivalent in 2009.

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Unilateral Actions would be directed toward win-win actions. Since the actions are estimated to be profitable even in the absence of a carbon price signal, the developing country could presumably undertake these actions without financial assistance, taking steps to overcome barriers that may have kept this from happening already. Developed country assistance, if needed, could come in the form of technical assistance, capacity building, and supply of technology, equipment, and financing at market rates. Many of the aggregate reductions shown earlier in Figure 1 fall into this category.

Supported NAMAs would be directed toward the lower-cost mitigation actions and would be eligible for some up-front financing from developed nations for the incremental costs of the action. By financing only the incremental costs (or a portion thereof) of these actions, developed countries can avoid any adverse impacts on the competitiveness of

their industries. These reductions are a joint contribution to the protection of the atmosphere. They do not offset developed country reduction requirements.

Sectoral Crediting (or offsets) are actions that reduce emissions sector-wide below a predetermined and negotiated baseline, which makes a developing country eligible to sell offsets to developed countries. These would be directed toward the higher-cost actions, and would follow the adoption of unilateral actions and supported NAMAs. Additionally, since this approach is likely conditional upon unilateral actions and supported NAMAs, the developing country has an incentive to take these first two steps in order to partake in the financial benefits of the offsets market, and thereby increase its overall contribution.

We believe that this tiered approach to international action can balance our two goals for a Copenhagen agreement, enabling offsets that can support strong domestic commitments that are environmentally effective and economically wise, while simultaneously encouraging strong international commitments by both developed and developing countries. Such an architecture can not only avoid the troublesome effects of adverse shifts in trade competitiveness and greenhouse gas leakage, but also encourage policies that help to level the carbon playing field and better allow countries to adopt tougher environmental measures with greater economic confidence.

For Developed countries, the new architecture:

- Changes the game from the old CDM where all emission reductions were paid for by developed countries. Developing countries are bearing the bulk of NAMA costs.
- Achieves more emissions reductions sooner by developing countries. Developing countries will be responsible for reducing emissions on their own and have built-in incentives to do more.
- Would set strong standards for monitoring, reporting and verification.
- Helps competitive industries in developed countries. With developing country industries assuming new emission reduction commitments and costs, the gap in

carbon costs between the U.S. with a carbon cap and developing countries without one will begin to narrow.

The international offsets and financing provisions in CEJAPA align well with the NAMA approach. The sponsors deserve credit for designing a system that creates up-front financing for supported NAMAs and for reductions in deforestation via the allowance set-asides for Reduced Emissions from Deforestation (RED) and clean technology. This makes clear the U.S. is committed to helping developing countries move aggressively to implement policies to reduce emissions, consistent with the Bali Action Plan. In addition, the provisions directing the Secretary of State to designate sectors in the emerging economies where offsets can only be earned if a sector-wide crediting program is in place are a key innovation. This moves us beyond the project by project approach of the CDM to a comprehensive approach where all facilities in a sector need to participate in emission reductions. We would suggest that the language of this section make clear that after 2016 any crediting for emission reductions in these sectors be beyond the level of reductions achieved by supported NAMAs, with no continuing opportunity for traditional CDM projects in these sectors. In sum, CEJAPA positions the U.S. to play a very constructive role in the design of the Copenhagen agreement.

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One of the ways the U.S. and developed countries will be judged in Copenhagen is by whether they provide meaningful financing, technology and capacity building assistance to developing countries as they agreed to consider in the Bali Action Plan.

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International Competitiveness

CEJAPA protects our domestic energy-intensive and trade-sensitive industries during the period when China and other leading developing countries are stepping up their national actions. We all have concerns about the impact on energy intensive and trade sensitive industries, such as iron and steel, cement, etc., where energy costs are a significant portion of the production costs and face international competitors which may not face a carbon price. CEJAPA solves this problem by allocating approximately 15 percent of allowances for free to these industries through 2025, with the allowances phasing out 10 percent per year through 2035. EPA's analysis of this approach in the American Clean Energy and Security Act (HR 2454) suggests that this will either fully compensate these industries or come very close to doing so for the direct costs of purchasing emissions allowances and for any increases in their indirect energy costs. These allowances provide more than 20 years of transition assistance while developing countries take more action. Although the bill does not include a border tariff, which is in Finance Committee jurisdiction, it is expected that there will also be a border adjustment on imported products from countries which have not taken sufficient action by 2020. Together, the free allowances and the border tariff backstop provide the protection U.S. industry may need.

Transparent System for Monitoring, Reporting and Verifying National Actions

To meet our goals of making an appropriate national emission reduction contribution to the global goal of holding temperature increases to 2 degrees centigrade, encouraging further developing country action, producing needed international offsets to help contain domestic costs, and protecting the competitiveness of domestic industries, we need to ensure that there is a transparent domestic and international system for monitoring, reporting and verifying national actions, emissions and offsets.

The only assurance we can have that others are doing their part is a system whereby every country reports transparently in accord with consistent international standards on their annual emissions, how many offsets they are recognizing, the nature of those offsets, and the degree to which they have complied with the emissions reductions goals they have set.

The legislation before you does a good job of ensuring that EPA and other agencies will create a transparent domestic system, and could go a little further to ensure the creation of similar, transparent standards in any international agreement. In addition, it would be helpful to clarify that the U.S. should report on our domestic actions in a way consistent with any international standards for reporting, so we can send a message that all nations must report consistently, which is the best way to verify that all countries and their industries are doing what they say they are doing and to ensure that the competitiveness of U.S. industries is protected.

In closing, I want to underline that the bill before you positions the United States effectively to make an important contribution to closing the deal at Copenhagen or shortly thereafter. The actions taken by the majority of the key developing countries coupled with the recent bold steps taken by Japan and India make clear that we no longer need to question whether others will act. The provisions in this bill and in the companion bill passed by the House will provide protection and assurance for our internationally competitive industries during the transition to full implementation of national climate

actions by our major developing country trading partners. We now need to shift our focus to the future competition for leadership in the new clean energy marketplace. This bill makes that shift. We simply need to pass it as soon as possible.

**Testimony of Ned Helme
President, Center for Clean Air Policy (CCAP)
before the
Senate Committee on Environment and Public Works**

**Legislative Hearing:
The Clean Energy Jobs and American Power Act**

October 29, 2009

Mr. Chairman, Ranking Member Inhofe, and Members of the Committee: I would like to thank you for the opportunity to testify before you today on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA). My name is Ned Helme and I am the President of the Center for Clean Air Policy (CCAP), a Washington, DC and Brussels-based environmental think tank with on the ground programs in New York, San Francisco, Mexico City, Beijing, Jakarta and many other places.

Since 1985, CCAP has been a recognized world leader in climate and air quality policy and is the only independent, non-profit think-tank working exclusively on those issues at the local, national and international levels. We are committed to advancing pragmatic and market-based climate solutions that balance both environmental and economic interests.

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In our work with developing countries such as China, India, Mexico and Brazil, we have documented what these countries are already doing to reduce their emissions, what else they can do cost-effectively to reduce emissions, and how a new international agreement in Copenhagen can accelerate their progress. In our work in the U.S. we have been helping design climate legislation that will prevent jobs and their associated emissions in our energy intensive and trade sensitive industries from moving to other countries during the transition period when the major developing countries ramp up actions to level the carbon playing field. This includes transition assistance to U.S. industry as well as provisions to encourage further action by developing countries. We also are working to

ensure that the U.S. legislation grows the green energy jobs of the future and ensures the U.S. is a global leader in the race to produce the world's future energy technologies. This is the lens through which I offer my comments on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA).

My overarching message to you today is that it is absolutely critical to pass climate legislation as soon as possible. Passing CEJAPA, which places a cap on emissions and sets a market price for carbon, would take important steps to:

- protect the climate,
- improve energy and national security,
- drive innovation and investment needed to create the clean energy jobs of the future and ensure U.S. leadership in new energy technologies,
- and reach a global agreement this December in Copenhagen that includes meaningful action by developing countries.

By placing a price on greenhouse gas emissions and through various new incentive programs and policies, CEJAPA promises to jump-start U.S. innovation and investments in energy efficiency, carbon efficiency, and renewable energy across the economy. The bill authorizes EPA to establish new competitive grant programs, for example, to support high priority economic, environmental and energy goals and boost the competitiveness of the U.S. technology industry. Further, regulations like the renewable energy standard will result in additional new investments and bring down the costs of domestic production, enhancing the global competitiveness of U.S. industry in these important growth technologies.

In my time today, I would like to emphasize a four key points:

- First, other countries, including our key developing country trading partners, have announced and are implementing major actions to reduce emissions of greenhouse gases. China in particular is doing more than many believe to reduce the tremendous growth in their emissions and invest in the clean energy technologies of the future.

These actions represent an important start, but more reductions are needed for a solution to global climate change. Our goals should be to encourage more emissions reductions by all nations and to invest in our clean technology industries so we do not fall behind in the race to lead the market for new technologies. CEJAPA would do both.

- Second, we should be very clear, Copenhagen is not Kyoto. Unlike the Kyoto Protocol which allowed developing countries to participate on a voluntary basis, the agreement in Copenhagen is expected to require emissions reductions from developing countries. If the U.S. steps up with reasonable domestic emissions reduction targets and financial support for developing countries, developing countries are willing to take on new actions that are measurable, reportable and verifiable. The major roadblock to realizing this new shared responsibility is passage of CEJAPA, as our climate negotiators are reluctant to put U.S. reduction and financial commitments on the table without Congressional action. Passage of CEJAPA, which includes international financing for reduced deforestation, international adaptation, and clean technology, would do more to raise developing country action than anything else the U.S. could do.
- Third, and very importantly, CEJAPA has provisions that will protect our domestic energy-intensive and trade-sensitive industries during the transition to significant reduction actions by China and other key developing countries.
- Finally, CEJAPA would create strong monitoring, reporting and verification (MRV) requirements for emissions reductions domestically. The U.S. legislation should seek to ensure that other countries meet equivalent standards by indicating our support for consistent international MRV standards which we will meet.

Developing Countries are Already Reducing Projected Emissions on a Level Comparable to Developed Nations

CCAP's extensive policy work in key developing countries has shown that developing countries are doing more to reduce the growth in their emissions than conventional wisdom here in the United States would suggest. China, Brazil and Mexico have already put in place national laws that collectively, if fully implemented, will reduce the projected growth in emissions by more aggregate tons in 2010 than CEJAPA (S. 1733) is projected to achieve by 2015 and by an amount comparable to the number of tons to be reduced by the European Union's 30 percent reduction pledge for 2020 (Figure 1).

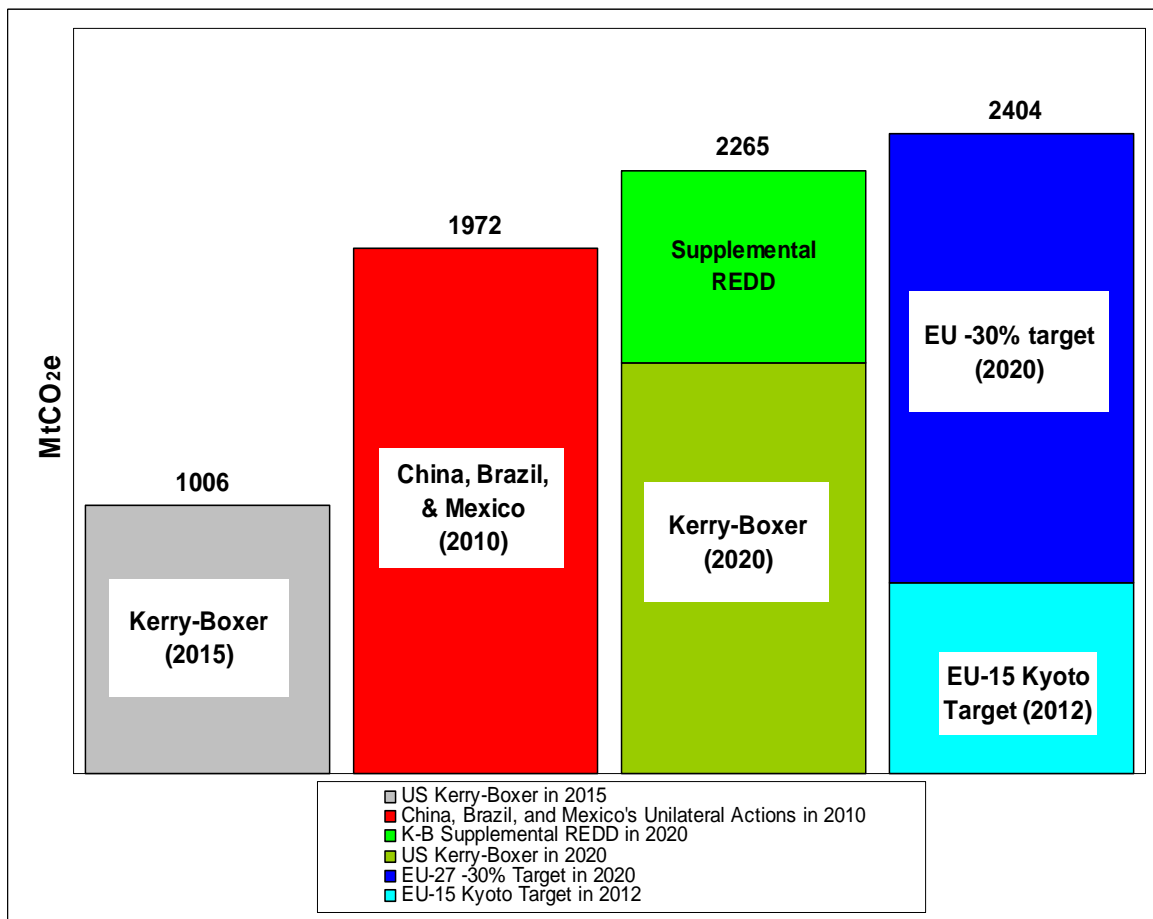


Figure 1. Emissions reductions from BAU for full implementation of proposed measures (CCAP, 2009).

CEJAPA would reduce emissions from capped sources 20 percent below 2005 by 2020. It also includes an additional 10 percent emissions reduction achieved by setting aside five percent of emissions allowances to purchase Reduced Emissions from Deforestation (RED) in developing countries. These additional reductions would not be a substitute or offset for emission reductions to be achieved in the United States. Instead, they would reflect a cooperative effort between the U.S. and key developing countries to make an additional contribution toward protecting the climate and would demonstrate our commitment to assisting those countries.

We strongly commend you for including the set aside for reducing deforestation because it has strengthened the hand of our climate negotiators and provided one of the most important positive signals the U.S. has been able to send to developing countries. The supplemental RED program has several advantages: it allows this new program for reducing forestry emissions to develop in a stable and orderly fashion; it avoids potentially flooding the allowance market with new forestry-based credits; and it also helps meet developed countries' commitments to provide financial assistance called for in the Bali Action Plan to help developing countries reduce their emissions. We also believe funding deforestation through these approaches could be cheaper and less risky than simply tightening the U.S. domestic target and allowing more offsets. It would be cheaper because such a program may be able to purchase reductions through up-front financing for less than the full market price for carbon.

Specific Actions by Developing Countries to Date

China has taken bold action to reduce emissions (which initially will reduce the growth of emissions). China's 2007 national climate plan set an aggressive goal to reduce its energy use per unit of GDP by 20 percent between 2006 and 2010. By the end of 2008, it had achieved half of this reduction target. If fully realized, this goal alone would reduce GHG emissions by more than 1.5 billion metric tons of CO₂ from business-as-usual annually by 2010.

The plan also includes measures to increase the use of renewable and nuclear energy; recover and use methane from coal beds, coal mines and landfills; increase the development and use of bio-energy; utilize clean coal technologies; improve agricultural practices; and plant forests.

China is also on target to achieve energy saving of 100 million metric tons (Mt) of coal equivalent by 2010 through the Top 1000 Energy-Consuming Enterprise Program, which could translate to a CO₂ emission reduction between 300 Mt and 450 Mt in 2010. This program has resulted in energy savings of 20 Mt and 38 Mt of coal equivalent respectively in 2006 and 2007 with a goal to save 20 Mt of coal equivalent in 2009.

To improve energy efficiency, China has shut down over 54 gigawatts (GW) of small coal-fired power plants between the beginning of 2006 and July 2009, exceeding the 2010 goal ahead of schedule. It plans to close another 31 GW of inefficient capacity between 2009 and 2011. Inefficient production capacity has also been phased out in the iron and steel, cement, aluminum, pulp and paper, and coke industries. For instance, the goal for iron, steel, and cement sectors is to phase out 100 Mt, 55 Mt, and 250 Mt of production capacity respectively by 2010.

China led the world in renewables investment in 2007 with over \$10.8 billion; it is projected to displace Germany as the world leader in investment in renewables as a percentage of GNP in 2010. Its national goal is to increase the share of renewable sources in primary energy consumption to 10 percent in 2010 and 15 percent in 2020. Achieving the 2020 goal would be equivalent to a reduction of annual CO₂ emission by 1.2 billion metric tons, according to China's "Medium and Long Term Plan for the Development of Renewable Energies," released in 2007. The actual development has exceeded the original plan and the specific goals in 2020 for some renewables have been significantly upgraded (the total renewable goal remains the same):

- For wind power, the original goal of 30 GW of total installed capacity has been raised to 100 GW after China quickly exceeded its initial 2010 goal;

- For solar power, the new goal is 10 GW which is more than five fold of the original target of 1.8 GW;
- For hydro energy, the focus was on small-scale generators, with a set target of 50 GW installed by 2010, and 75 GW by 2020. The 2010 target was reached well ahead of schedule, in 2006.

Although nuclear energy was excluded in the original plan, China now plans for nuclear energy to account for 5 percent of primary energy consumption in 2020 with total installed capacity slated to increase to 70 GW from the current 9 GW level.

Its vehicle efficiency standards are years ahead of the new U.S. standard. China has reached the 36.7 mpg standard and is considering a proposal to raise that to 42.2 mpg by 2015. In addition to direct regulation, economic incentives were utilized as well to encourage the production of more environment-friendly vehicles. Effective from the beginning of 2009, the automobile exercise tax rate on SUVs doubled to 40 percent while, for light vehicles with cylinder capacity less than one liter, the tax rate was reduced to one percent from three percent.

Many of these actions have been taken by China for good economic reasons which should give us confidence that implementation will continue. China has recognized, perhaps more quickly than we have, not only the economic benefits of expanded energy efficiency but also the global economic opportunity that taking the lead in these new markets can offer.

In his recent speech before the U.N. Climate Summing in September 2009, President Hu's promise of "reducing carbon dioxide emission intensity by a notable margin" also indicated that China will be shifting its focus on energy conservation to emission control. Although no quantified target has been announced yet, it is a strong signal that China is willing to take responsibility and slow down its carbon emission growth.

The Mexican government announced in late August major unilateral commitments to combat climate change. Their climate plan sets an aspirational goal of reducing long-term emissions by 50 percent from 2000 levels by 2050, proposes a cap-and-trade system between the oil industry and the electric industry by 2011 (potentially phasing in other sectors, such as cement and iron and steel, at a later date), and specifies a series of actions that Mexico intends to take that are projected to reduce emissions by 51 MtCO₂ (6.5 percent) from business-as-usual levels in 2012.

In addition, Mexico is putting in place many of the reforms needed to encourage implementation of key greenhouse gas mitigation options. CCAP's analysis has helped Mexico to define sectoral emission reduction goals and has demonstrated that the barriers to mobilizing many of the most promising mitigation measures in Mexico are domestic laws and regulations. Mexico has enacted significant reforms to remove these barriers, including new energy sector policies regarding fuel production and pricing, electricity pricing, and the promotion of renewable energy and efficient cogeneration. This has been accompanied by the creation of an Energy Transition Fund of three billion Mexican pesos a year for three years (about \$210 million annually) to provide incentives for more aggressive emissions reduction activities. Even in the cases in which costs are a barrier to mitigation in Mexico, the barrier is generally the up-front capital costs, so the financial assistance required by Mexico to move these measures would be in the form of loans, not large grants.

The Mexican private sector's interest in climate change policy has grown dramatically this past year as well. The cement and iron and steel industries, in particular, have recognized this as an area of opportunity for their already efficient industries and have become more active in their interaction with the Mexican government. They are analyzing their options and considering the potential impacts of a domestic cap-and-trade program and other approaches.

South Africa has analyzed a number of long-term mitigation scenarios. It has announced its intent to peak its emissions no later than 2025, by among other things moving from

traditional coal-fired electricity production to renewables, nuclear power and clean coal technologies, as well as improving energy efficiency and improving the efficiency of the transportation system.

Brazil has released a climate plan that emphasizes energy efficiency and reducing emissions from deforestation, including a goal to reduce the average deforestation rate by 70 percent over the period 2006-2017. It would lower CO₂ emissions by about 413 million metric tons CO₂ in 2010 (roughly 40 percent of the emissions reduction expected in CEJAPA by 2015) and by a total of 4.8 billion metric tons CO₂ over the 12-year life of the program. In the last two years, Brazil has reduced deforestation by more than 250 million tons of CO₂ equivalent through incentives for landowners and aggressive enforcement against those who deforest illegally.

South Korea intends to announce a long-term, economy-wide target for emissions reductions later this year. South Korea is already a global leader in the efficiency of its production in the major heavy industrial sectors, so its new effort will focus on domestic energy use and transportation-related emissions.

Copenhagen is Not Kyoto

The most common and widespread criticism of the Kyoto Protocol was that it did not require major developing countries to reduce their greenhouse gas emissions. Those concerns will be alleviated in Copenhagen, where a successor to the Kyoto Protocol is expected to ensure that developing countries take on more responsibility.

Under the Kyoto Protocol, developed countries assumed binding emissions reduction targets and the majority of the compliance costs to meet those targets. Developing countries, which faced no binding targets, were allowed to sell their emissions reductions (called offset credits) under the Clean Development Mechanism (CDM) to developed countries to help them lower the cost of their Kyoto protocol obligations. CDM offsets not only lowered the cost of compliance for developed countries, but also often made

profits for developing countries, which collected more from selling the credits than it cost to reduce emissions. This was viewed as beneficial to both developed and developing countries.

The status quo, however, has changed and CEJAPA reinforces that change. It is now well understood that developing country emissions are growing fast, even though developed countries remain responsible for the lion's share of historical emissions in the atmosphere and have high per capita emissions. Given the projected growth in developing country emissions, we could not meet the international goal of cutting global emissions 50% below 1990 levels by 2050 even if we zeroed out developed nations emissions by that date. As a result, we know the only way to avoid the worst effects of climate change is for both developed and developing countries to take action simultaneously. It is also clear many major developing countries have been taking a surprising amount of action on their own to reduce emissions outside of the CDM as demonstrated in Figure 1.

The breakthrough in the international negotiations came recently, when developing countries acknowledged for the first time that they have some responsibility to reduce their emissions. Under the Bali Action Plan, agreed to in late 2007 by all the major parties including the U.S., developing countries agreed that they would be willing to take "nationally appropriate mitigation actions" (called NAMAs) that are measurable, reportable and verifiable, in exchange for financial and technological assistance that would also be measurable, reportable and verifiable. The international negotiations since Bali and leading up to Copenhagen are all about fleshing out how NAMAs and related financing should work to fundamentally and forever move us beyond the flaws of Kyoto. For developing countries, NAMAs make sense because they can be tailored to the needs and circumstances of each country. They can also accelerate the pace of financial and technological assistance, long sought by developing countries.

In implementing this new approach in the Copenhagen agreement, we have two important goals to balance. First, we need substantial emissions reductions below

projected levels in both developed and developing countries by 2020. Second, we need to ensure the availability of offsets, which will help lower the cost of the developed countries climate programs. To strike this balance, it will no longer be possible to allow offsets to be simply the low-hanging fruit of project by project CDM. Instead, we will need to move to a sector crediting approach where offsets will need to be achieved on a sector-wide basis. For these reductions to generate offset credits, they will need to be above and beyond the domestic emission reductions that developing countries will be undertaking on their own or with some support.

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In our work with developing countries such as China, India, Mexico and Brazil, we have documented what these countries are already doing to reduce their emissions, what else they can do cost-effectively to reduce emissions, and how a new international agreement in Copenhagen can accelerate their progress. In our work in the U.S. we have been helping design climate legislation that will prevent jobs and their associated emissions in our energy intensive and trade sensitive industries from moving to other countries during the transition period when the major developing countries ramp up actions to level the carbon playing field. This includes transition assistance to U.S. industry as well as provisions to encourage further action by developing countries. We also are working to

ensure that the U.S. legislation grows the green energy jobs of the future and ensures the U.S. is a global leader in the race to produce the world's future energy technologies. This is the lens through which I offer my comments on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA).

My overarching message to you today is that it is absolutely critical to pass climate legislation as soon as possible. Passing CEJAPA, which places a cap on emissions and sets a market price for carbon, would take important steps to:

- protect the climate,
- improve energy and national security,
- drive innovation and investment needed to create the clean energy jobs of the future and ensure U.S. leadership in new energy technologies,
- and reach a global agreement this December in Copenhagen that includes meaningful action by developing countries.

By placing a price on greenhouse gas emissions and through various new incentive programs and policies, CEJAPA promises to jump-start U.S. innovation and investments in energy efficiency, carbon efficiency, and renewable energy across the economy. The bill authorizes EPA to establish new competitive grant programs, for example, to support high priority economic, environmental and energy goals and boost the competitiveness of the U.S. technology industry. Further, regulations like the renewable energy standard will result in additional new investments and bring down the costs of domestic production, enhancing the global competitiveness of U.S. industry in these important growth technologies.

In my time today, I would like to emphasize a four key points:

- First, other countries, including our key developing country trading partners, have announced and are implementing major actions to reduce emissions of greenhouse gases. China in particular is doing more than many believe to reduce the tremendous growth in their emissions and invest in the clean energy technologies of the future.

These actions represent an important start, but more reductions are needed for a solution to global climate change. Our goals should be to encourage more emissions reductions by all nations and to invest in our clean technology industries so we do not fall behind in the race to lead the market for new technologies. CEJAPA would do both.

- Second, we should be very clear, Copenhagen is not Kyoto. Unlike the Kyoto Protocol which allowed developing countries to participate on a voluntary basis, the agreement in Copenhagen is expected to require emissions reductions from developing countries. If the U.S. steps up with reasonable domestic emissions reduction targets and financial support for developing countries, developing countries are willing to take on new actions that are measurable, reportable and verifiable. The major roadblock to realizing this new shared responsibility is passage of CEJAPA, as our climate negotiators are reluctant to put U.S. reduction and financial commitments on the table without Congressional action. Passage of CEJAPA, which includes international financing for reduced deforestation, international adaptation, and clean technology, would do more to raise developing country action than anything else the U.S. could do.
- Third, and very importantly, CEJAPA has provisions that will protect our domestic energy-intensive and trade-sensitive industries during the transition to significant reduction actions by China and other key developing countries.
- Finally, CEJAPA would create strong monitoring, reporting and verification (MRV) requirements for emissions reductions domestically. The U.S. legislation should seek to ensure that other countries meet equivalent standards by indicating our support for consistent international MRV standards which we will meet.

Developing Countries are Already Reducing Projected Emissions on a Level Comparable to Developed Nations

CCAP's extensive policy work in key developing countries has shown that developing countries are doing more to reduce the growth in their emissions than conventional wisdom here in the United States would suggest. China, Brazil and Mexico have already put in place national laws that collectively, if fully implemented, will reduce the projected growth in emissions by more aggregate tons in 2010 than CEJAPA (S. 1733) is projected to achieve by 2015 and by an amount comparable to the number of tons to be reduced by the European Union's 30 percent reduction pledge for 2020 (Figure 1).

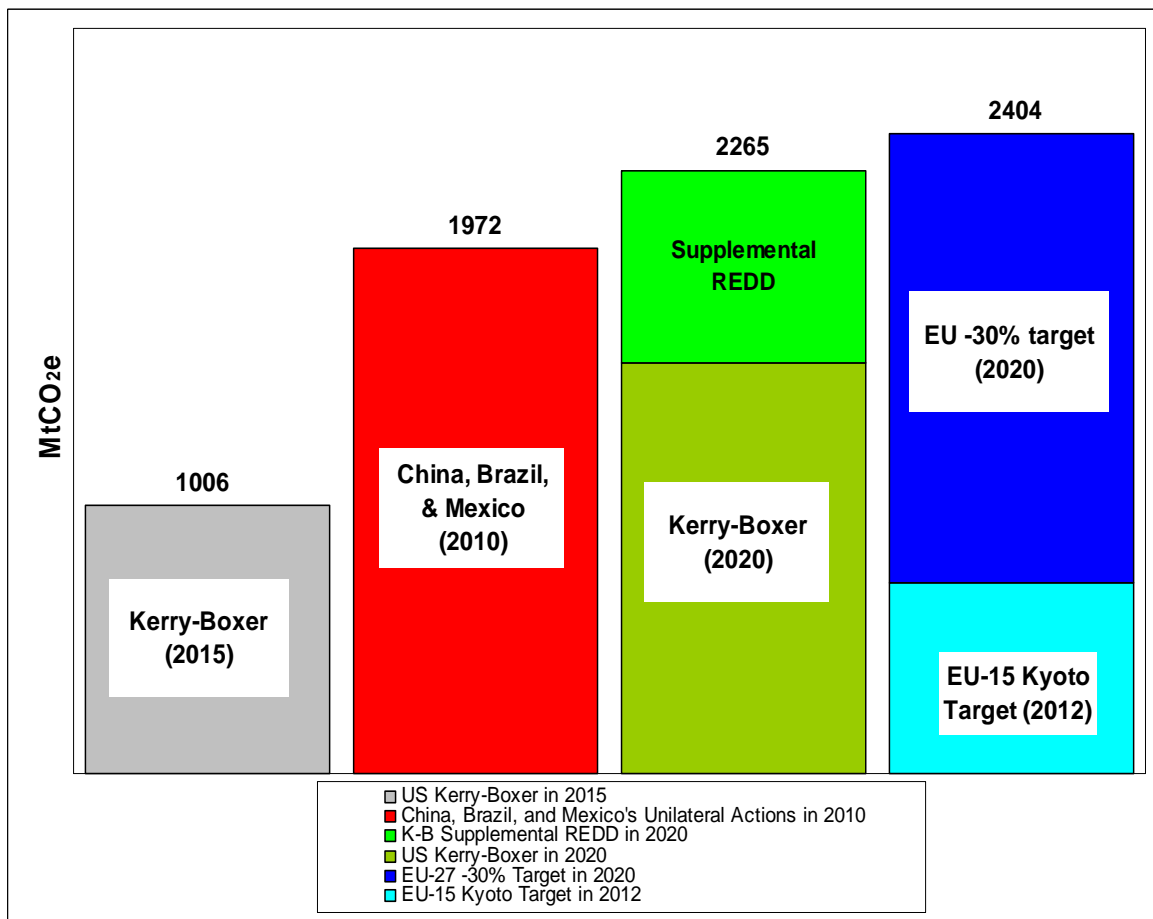


Figure 1. Emissions reductions from BAU for full implementation of proposed measures (CCAP, 2009).

CEJAPA would reduce emissions from capped sources 20 percent below 2005 by 2020. It also includes an additional 10 percent emissions reduction achieved by setting aside five percent of emissions allowances to purchase Reduced Emissions from Deforestation (RED) in developing countries. These additional reductions would not be a substitute or offset for emission reductions to be achieved in the United States. Instead, they would reflect a cooperative effort between the U.S. and key developing countries to make an additional contribution toward protecting the climate and would demonstrate our commitment to assisting those countries.

We strongly commend you for including the set aside for reducing deforestation because it has strengthened the hand of our climate negotiators and provided one of the most important positive signals the U.S. has been able to send to developing countries. The supplemental RED program has several advantages: it allows this new program for reducing forestry emissions to develop in a stable and orderly fashion; it avoids potentially flooding the allowance market with new forestry-based credits; and it also helps meet developed countries' commitments to provide financial assistance called for in the Bali Action Plan to help developing countries reduce their emissions. We also believe funding deforestation through these approaches could be cheaper and less risky than simply tightening the U.S. domestic target and allowing more offsets. It would be cheaper because such a program may be able to purchase reductions through up-front financing for less than the full market price for carbon.

Specific Actions by Developing Countries to Date

China has taken bold action to reduce emissions (which initially will reduce the growth of emissions). China's 2007 national climate plan set an aggressive goal to reduce its energy use per unit of GDP by 20 percent between 2006 and 2010. By the end of 2008, it had achieved half of this reduction target. If fully realized, this goal alone would reduce GHG emissions by more than 1.5 billion metric tons of CO₂ from business-as-usual annually by 2010.

The plan also includes measures to increase the use of renewable and nuclear energy; recover and use methane from coal beds, coal mines and landfills; increase the development and use of bio-energy; utilize clean coal technologies; improve agricultural practices; and plant forests.

China is also on target to achieve energy saving of 100 million metric tons (Mt) of coal equivalent by 2010 through the Top 1000 Energy-Consuming Enterprise Program, which could translate to a CO₂ emission reduction between 300 Mt and 450 Mt in 2010. This program has resulted in energy savings of 20 Mt and 38 Mt of coal equivalent respectively in 2006 and 2007 with a goal to save 20 Mt of coal equivalent in 2009.

To improve energy efficiency, China has shut down over 54 gigawatts (GW) of small coal-fired power plants between the beginning of 2006 and July 2009, exceeding the 2010 goal ahead of schedule. It plans to close another 31 GW of inefficient capacity between 2009 and 2011. Inefficient production capacity has also been phased out in the iron and steel, cement, aluminum, pulp and paper, and coke industries. For instance, the goal for iron, steel, and cement sectors is to phase out 100 Mt, 55 Mt, and 250 Mt of production capacity respectively by 2010.

China led the world in renewables investment in 2007 with over \$10.8 billion; it is projected to displace Germany as the world leader in investment in renewables as a percentage of GNP in 2010. Its national goal is to increase the share of renewable sources in primary energy consumption to 10 percent in 2010 and 15 percent in 2020. Achieving the 2020 goal would be equivalent to a reduction of annual CO₂ emission by 1.2 billion metric tons, according to China's "Medium and Long Term Plan for the Development of Renewable Energies," released in 2007. The actual development has exceeded the original plan and the specific goals in 2020 for some renewables have been significantly upgraded (the total renewable goal remains the same):

- For wind power, the original goal of 30 GW of total installed capacity has been raised to 100 GW after China quickly exceeded its initial 2010 goal;

- For solar power, the new goal is 10 GW which is more than five fold of the original target of 1.8 GW;
- For hydro energy, the focus was on small-scale generators, with a set target of 50 GW installed by 2010, and 75 GW by 2020. The 2010 target was reached well ahead of schedule, in 2006.

Although nuclear energy was excluded in the original plan, China now plans for nuclear energy to account for 5 percent of primary energy consumption in 2020 with total installed capacity slated to increase to 70 GW from the current 9 GW level.

Its vehicle efficiency standards are years ahead of the new U.S. standard. China has reached the 36.7 mpg standard and is considering a proposal to raise that to 42.2 mpg by 2015. In addition to direct regulation, economic incentives were utilized as well to encourage the production of more environment-friendly vehicles. Effective from the beginning of 2009, the automobile exercise tax rate on SUVs doubled to 40 percent while, for light vehicles with cylinder capacity less than one liter, the tax rate was reduced to one percent from three percent.

Many of these actions have been taken by China for good economic reasons which should give us confidence that implementation will continue. China has recognized, perhaps more quickly than we have, not only the economic benefits of expanded energy efficiency but also the global economic opportunity that taking the lead in these new markets can offer.

In his recent speech before the U.N. Climate Summing in September 2009, President Hu's promise of "reducing carbon dioxide emission intensity by a notable margin" also indicated that China will be shifting its focus on energy conservation to emission control. Although no quantified target has been announced yet, it is a strong signal that China is willing to take responsibility and slow down its carbon emission growth.

The Mexican government announced in late August major unilateral commitments to combat climate change. Their climate plan sets an aspirational goal of reducing long-term emissions by 50 percent from 2000 levels by 2050, proposes a cap-and-trade system between the oil industry and the electric industry by 2011 (potentially phasing in other sectors, such as cement and iron and steel, at a later date), and specifies a series of actions that Mexico intends to take that are projected to reduce emissions by 51 MtCO₂ (6.5 percent) from business-as-usual levels in 2012.

In addition, Mexico is putting in place many of the reforms needed to encourage implementation of key greenhouse gas mitigation options. CCAP's analysis has helped Mexico to define sectoral emission reduction goals and has demonstrated that the barriers to mobilizing many of the most promising mitigation measures in Mexico are domestic laws and regulations. Mexico has enacted significant reforms to remove these barriers, including new energy sector policies regarding fuel production and pricing, electricity pricing, and the promotion of renewable energy and efficient cogeneration. This has been accompanied by the creation of an Energy Transition Fund of three billion Mexican pesos a year for three years (about \$210 million annually) to provide incentives for more aggressive emissions reduction activities. Even in the cases in which costs are a barrier to mitigation in Mexico, the barrier is generally the up-front capital costs, so the financial assistance required by Mexico to move these measures would be in the form of loans, not large grants.

The Mexican private sector's interest in climate change policy has grown dramatically this past year as well. The cement and iron and steel industries, in particular, have recognized this as an area of opportunity for their already efficient industries and have become more active in their interaction with the Mexican government. They are analyzing their options and considering the potential impacts of a domestic cap-and-trade program and other approaches.

South Africa has analyzed a number of long-term mitigation scenarios. It has announced its intent to peak its emissions no later than 2025, by among other things moving from

traditional coal-fired electricity production to renewables, nuclear power and clean coal technologies, as well as improving energy efficiency and improving the efficiency of the transportation system.

Brazil has released a climate plan that emphasizes energy efficiency and reducing emissions from deforestation, including a goal to reduce the average deforestation rate by 70 percent over the period 2006-2017. It would lower CO₂ emissions by about 413 million metric tons CO₂ in 2010 (roughly 40 percent of the emissions reduction expected in CEJAPA by 2015) and by a total of 4.8 billion metric tons CO₂ over the 12-year life of the program. In the last two years, Brazil has reduced deforestation by more than 250 million tons of CO₂ equivalent through incentives for landowners and aggressive enforcement against those who deforest illegally.

South Korea intends to announce a long-term, economy-wide target for emissions reductions later this year. South Korea is already a global leader in the efficiency of its production in the major heavy industrial sectors, so its new effort will focus on domestic energy use and transportation-related emissions.

Copenhagen is Not Kyoto

The most common and widespread criticism of the Kyoto Protocol was that it did not require major developing countries to reduce their greenhouse gas emissions. Those concerns will be alleviated in Copenhagen, where a successor to the Kyoto Protocol is expected to ensure that developing countries take on more responsibility.

Under the Kyoto Protocol, developed countries assumed binding emissions reduction targets and the majority of the compliance costs to meet those targets. Developing countries, which faced no binding targets, were allowed to sell their emissions reductions (called offset credits) under the Clean Development Mechanism (CDM) to developed countries to help them lower the cost of their Kyoto protocol obligations. CDM offsets not only lowered the cost of compliance for developed countries, but also often made

profits for developing countries, which collected more from selling the credits than it cost to reduce emissions. This was viewed as beneficial to both developed and developing countries.

The status quo, however, has changed and CEJAPA reinforces that change. It is now well understood that developing country emissions are growing fast, even though developed countries remain responsible for the lion's share of historical emissions in the atmosphere and have high per capita emissions. Given the projected growth in developing country emissions, we could not meet the international goal of cutting global emissions 50% below 1990 levels by 2050 even if we zeroed out developed nations emissions by that date. As a result, we know the only way to avoid the worst effects of climate change is for both developed and developing countries to take action simultaneously. It is also clear many major developing countries have been taking a surprising amount of action on their own to reduce emissions outside of the CDM as demonstrated in Figure 1.

The breakthrough in the international negotiations came recently, when developing countries acknowledged for the first time that they have some responsibility to reduce their emissions. Under the Bali Action Plan, agreed to in late 2007 by all the major parties including the U.S., developing countries agreed that they would be willing to take "nationally appropriate mitigation actions" (called NAMAs) that are measurable, reportable and verifiable, in exchange for financial and technological assistance that would also be measurable, reportable and verifiable. The international negotiations since Bali and leading up to Copenhagen are all about fleshing out how NAMAs and related financing should work to fundamentally and forever move us beyond the flaws of Kyoto. For developing countries, NAMAs make sense because they can be tailored to the needs and circumstances of each country. They can also accelerate the pace of financial and technological assistance, long sought by developing countries.

In implementing this new approach in the Copenhagen agreement, we have two important goals to balance. First, we need substantial emissions reductions below

projected levels in both developed and developing countries by 2020. Second, we need to ensure the availability of offsets, which will help lower the cost of the developed countries climate programs. To strike this balance, it will no longer be possible to allow offsets to be simply the low-hanging fruit of project by project CDM. Instead, we will need to move to a sector crediting approach where offsets will need to be achieved on a sector-wide basis. For these reductions to generate offset credits, they will need to be above and beyond the domestic emission reductions that developing countries will be undertaking on their own or with some support.

The Structure of NAMAs and CEJAPA Will Raise the Bar on Developing Country Performance

The evolving analyses of NAMAs and sectoral approaches suggest an architecture that can achieve greater GHG reductions, leverage public financing, and minimize potential trade impacts. In the current international negotiations three general types of NAMAs are being considered: unilateral, supported, and credit-generating. The first two are contributions from developing countries and the last is offsets.

Unilateral Actions would be directed toward win-win actions. Since the actions are estimated to be profitable even in the absence of a carbon price signal, the developing country could presumably undertake these actions without financial assistance, taking steps to overcome barriers that may have kept this from happening already. Developed country assistance, if needed, could come in the form of technical assistance, capacity building, and supply of technology, equipment, and financing at market rates. Many of the aggregate reductions shown earlier in Figure 1 fall into this category.

Supported NAMAs would be directed toward the lower-cost mitigation actions and would be eligible for some up-front financing from developed nations for the incremental costs of the action. By financing only the incremental costs (or a portion thereof) of these actions, developed countries can avoid any adverse impacts on the competitiveness of

their industries. These reductions are a joint contribution to the protection of the atmosphere. They do not offset developed country reduction requirements.

Sectoral Crediting (or offsets) are actions that reduce emissions sector-wide below a predetermined and negotiated baseline, which makes a developing country eligible to sell offsets to developed countries. These would be directed toward the higher-cost actions, and would follow the adoption of unilateral actions and supported NAMAs. Additionally, since this approach is likely conditional upon unilateral actions and supported NAMAs, the developing country has an incentive to take these first two steps in order to partake in the financial benefits of the offsets market, and thereby increase its overall contribution.

We believe that this tiered approach to international action can balance our two goals for a Copenhagen agreement, enabling offsets that can support strong domestic commitments that are environmentally effective and economically wise, while simultaneously encouraging strong international commitments by both developed and developing countries. Such an architecture can not only avoid the troublesome effects of adverse shifts in trade competitiveness and greenhouse gas leakage, but also encourage policies that help to level the carbon playing field and better allow countries to adopt tougher environmental measures with greater economic confidence.

For Developed countries, the new architecture:

- Changes the game from the old CDM where all emission reductions were paid for by developed countries. Developing countries are bearing the bulk of NAMA costs.
- Achieves more emissions reductions sooner by developing countries. Developing countries will be responsible for reducing emissions on their own and have built-in incentives to do more.
- Would set strong standards for monitoring, reporting and verification.
- Helps competitive industries in developed countries. With developing country industries assuming new emission reduction commitments and costs, the gap in

carbon costs between the U.S. with a carbon cap and developing countries without one will begin to narrow.

The international offsets and financing provisions in CEJAPA align well with the NAMA approach. The sponsors deserve credit for designing a system that creates up-front financing for supported NAMAs and for reductions in deforestation via the allowance set-asides for Reduced Emissions from Deforestation (RED) and clean technology. This makes clear the U.S. is committed to helping developing countries move aggressively to implement policies to reduce emissions, consistent with the Bali Action Plan. In addition, the provisions directing the Secretary of State to designate sectors in the emerging economies where offsets can only be earned if a sector-wide crediting program is in place are a key innovation. This moves us beyond the project by project approach of the CDM to a comprehensive approach where all facilities in a sector need to participate in emission reductions. We would suggest that the language of this section make clear that after 2016 any crediting for emission reductions in these sectors be beyond the level of reductions achieved by supported NAMAs, with no continuing opportunity for traditional CDM projects in these sectors. In sum, CEJAPA positions the U.S. to play a very constructive role in the design of the Copenhagen agreement.

Financing for developing countries

One of the ways the U.S. and developed countries will be judged in Copenhagen is by whether they provide meaningful financing, technology and capacity building assistance to developing countries as they agreed to consider in the Bali Action Plan.

Whether financing is for deforestation or clean technology deployment, some observers incorrectly assume that any financing agreement in the Bali Action Plan must mean large unrestricted amounts of funding. However, the behind the scenes negotiations are more likely to focus on specific and tailored financial mechanisms like support to “write down” the cost of advanced but not yet commercial technologies like carbon capture and storage, and financing for special purpose entities that can help overcome resistance from banks

in developing countries to make financing available for energy efficiency. As we have seen with Mexico's recent proposals for caps in key internationally competitive industrial sectors, the financing element comes down to targeted loans that help overcome domestic policy barriers. Availability of such financing will provide the incentive for participating developing countries to establish more aggressive "performance goals." This approach also creates opportunities for leading U.S. companies to gain access to growing new markets (creating jobs at home) and moves toward leveling the playing field for carbon in internationally competitive sectors.

International Competitiveness

CEJAPA protects our domestic energy-intensive and trade-sensitive industries during the period when China and other leading developing countries are stepping up their national actions. We all have concerns about the impact on energy intensive and trade sensitive industries, such as iron and steel, cement, etc., where energy costs are a significant portion of the production costs and face international competitors which may not face a carbon price. CEJAPA solves this problem by allocating approximately 15 percent of allowances for free to these industries through 2025, with the allowances phasing out 10 percent per year through 2035. EPA's analysis of this approach in the American Clean Energy and Security Act (HR 2454) suggests that this will either fully compensate these industries or come very close to doing so for the direct costs of purchasing emissions allowances and for any increases in their indirect energy costs. These allowances provide more than 20 years of transition assistance while developing countries take more action. Although the bill does not include a border tariff, which is in Finance Committee jurisdiction, it is expected that there will also be a border adjustment on imported products from countries which have not taken sufficient action by 2020. Together, the free allowances and the border tariff backstop provide the protection U.S. industry may need.

Transparent System for Monitoring, Reporting and Verifying National Actions

To meet our goals of making an appropriate national emission reduction contribution to the global goal of holding temperature increases to 2 degrees centigrade, encouraging further developing country action, producing needed international offsets to help contain domestic costs, and protecting the competitiveness of domestic industries, we need to ensure that there is a transparent domestic and international system for monitoring, reporting and verifying national actions, emissions and offsets.

The only assurance we can have that others are doing their part is a system whereby every country reports transparently in accord with consistent international standards on their annual emissions, how many offsets they are recognizing, the nature of those offsets, and the degree to which they have complied with the emissions reductions goals they have set.

The legislation before you does a good job of ensuring that EPA and other agencies will create a transparent domestic system, and could go a little further to ensure the creation of similar, transparent standards in any international agreement. In addition, it would be helpful to clarify that the U.S. should report on our domestic actions in a way consistent with any international standards for reporting, so we can send a message that all nations must report consistently, which is the best way to verify that all countries and their industries are doing what they say they are doing and to ensure that the competitiveness of U.S. industries is protected.

In closing, I want to underline that the bill before you positions the United States effectively to make an important contribution to closing the deal at Copenhagen or shortly thereafter. The actions taken by the majority of the key developing countries coupled with the recent bold steps taken by Japan and India make clear that we no longer need to question whether others will act. The provisions in this bill and in the companion bill passed by the House will provide protection and assurance for our internationally competitive industries during the transition to full implementation of national climate

actions by our major developing country trading partners. We now need to shift our focus to the future competition for leadership in the new clean energy marketplace. This bill makes that shift. We simply need to pass it as soon as possible.

**Testimony of Ned Helme
President, Center for Clean Air Policy (CCAP)
before the
Senate Committee on Environment and Public Works**

**Legislative Hearing:
The Clean Energy Jobs and American Power Act**

October 29, 2009

Mr. Chairman, Ranking Member Inhofe, and Members of the Committee: I would like to thank you for the opportunity to testify before you today on S. 1733, the Clean Energy Jobs and American Power Act (CEJAPA). My name is Ned Helme and I am the President of the Center for Clean Air Policy (CCAP), a Washington, DC and Brussels-based environmental think tank with on the ground programs in New York, San Francisco, Mexico City, Beijing, Jakarta and many other places.

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- drive innovation and investment needed to create the clean energy jobs of the future and ensure U.S. leadership in new energy technologies,
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These actions represent an important start, but more reductions are needed for a solution to global climate change. Our goals should be to encourage more emissions reductions by all nations and to invest in our clean technology industries so we do not fall behind in the race to lead the market for new technologies. CEJAPA would do both.

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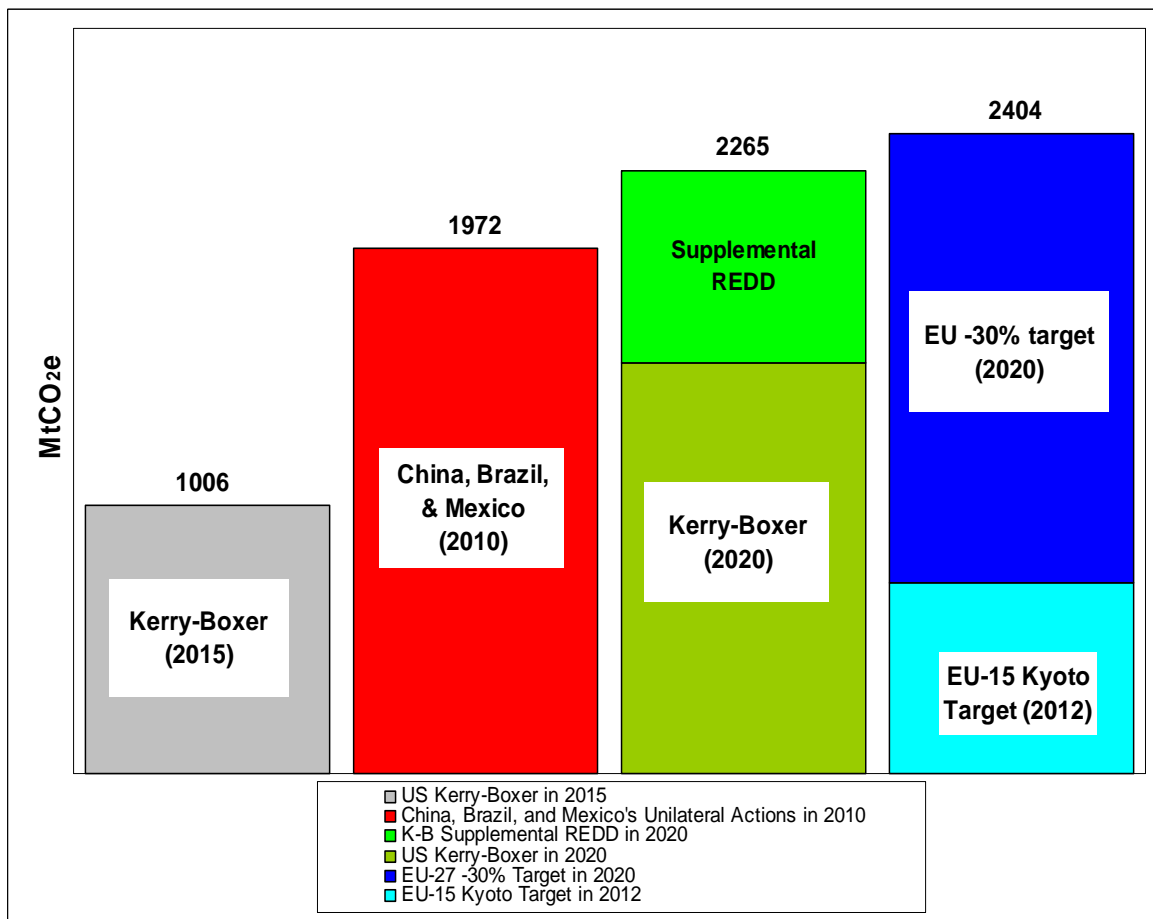


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- For wind power, the original goal of 30 GW of total installed capacity has been raised to 100 GW after China quickly exceeded its initial 2010 goal;

- For solar power, the new goal is 10 GW which is more than five fold of the original target of 1.8 GW;
- For hydro energy, the focus was on small-scale generators, with a set target of 50 GW installed by 2010, and 75 GW by 2020. The 2010 target was reached well ahead of schedule, in 2006.

Although nuclear energy was excluded in the original plan, China now plans for nuclear energy to account for 5 percent of primary energy consumption in 2020 with total installed capacity slated to increase to 70 GW from the current 9 GW level.

Its vehicle efficiency standards are years ahead of the new U.S. standard. China has reached the 36.7 mpg standard and is considering a proposal to raise that to 42.2 mpg by 2015. In addition to direct regulation, economic incentives were utilized as well to encourage the production of more environment-friendly vehicles. Effective from the beginning of 2009, the automobile exercise tax rate on SUVs doubled to 40 percent while, for light vehicles with cylinder capacity less than one liter, the tax rate was reduced to one percent from three percent.

Many of these actions have been taken by China for good economic reasons which should give us confidence that implementation will continue. China has recognized, perhaps more quickly than we have, not only the economic benefits of expanded energy efficiency but also the global economic opportunity that taking the lead in these new markets can offer.

In his recent speech before the U.N. Climate Summing in September 2009, President Hu's promise of "reducing carbon dioxide emission intensity by a notable margin" also indicated that China will be shifting its focus on energy conservation to emission control. Although no quantified target has been announced yet, it is a strong signal that China is willing to take responsibility and slow down its carbon emission growth.

The Mexican government announced in late August major unilateral commitments to combat climate change. Their climate plan sets an aspirational goal of reducing long-term emissions by 50 percent from 2000 levels by 2050, proposes a cap-and-trade system between the oil industry and the electric industry by 2011 (potentially phasing in other sectors, such as cement and iron and steel, at a later date), and specifies a series of actions that Mexico intends to take that are projected to reduce emissions by 51 MtCO₂ (6.5 percent) from business-as-usual levels in 2012.

In addition, Mexico is putting in place many of the reforms needed to encourage implementation of key greenhouse gas mitigation options. CCAP's analysis has helped Mexico to define sectoral emission reduction goals and has demonstrated that the barriers to mobilizing many of the most promising mitigation measures in Mexico are domestic laws and regulations. Mexico has enacted significant reforms to remove these barriers, including new energy sector policies regarding fuel production and pricing, electricity pricing, and the promotion of renewable energy and efficient cogeneration. This has been accompanied by the creation of an Energy Transition Fund of three billion Mexican pesos a year for three years (about \$210 million annually) to provide incentives for more aggressive emissions reduction activities. Even in the cases in which costs are a barrier to mitigation in Mexico, the barrier is generally the up-front capital costs, so the financial assistance required by Mexico to move these measures would be in the form of loans, not large grants.

The Mexican private sector's interest in climate change policy has grown dramatically this past year as well. The cement and iron and steel industries, in particular, have recognized this as an area of opportunity for their already efficient industries and have become more active in their interaction with the Mexican government. They are analyzing their options and considering the potential impacts of a domestic cap-and-trade program and other approaches.

South Africa has analyzed a number of long-term mitigation scenarios. It has announced its intent to peak its emissions no later than 2025, by among other things moving from

traditional coal-fired electricity production to renewables, nuclear power and clean coal technologies, as well as improving energy efficiency and improving the efficiency of the transportation system.

Brazil has released a climate plan that emphasizes energy efficiency and reducing emissions from deforestation, including a goal to reduce the average deforestation rate by 70 percent over the period 2006-2017. It would lower CO₂ emissions by about 413 million metric tons CO₂ in 2010 (roughly 40 percent of the emissions reduction expected in CEJAPA by 2015) and by a total of 4.8 billion metric tons CO₂ over the 12-year life of the program. In the last two years, Brazil has reduced deforestation by more than 250 million tons of CO₂ equivalent through incentives for landowners and aggressive enforcement against those who deforest illegally.

South Korea intends to announce a long-term, economy-wide target for emissions reductions later this year. South Korea is already a global leader in the efficiency of its production in the major heavy industrial sectors, so its new effort will focus on domestic energy use and transportation-related emissions.

Copenhagen is Not Kyoto

The most common and widespread criticism of the Kyoto Protocol was that it did not require major developing countries to reduce their greenhouse gas emissions. Those concerns will be alleviated in Copenhagen, where a successor to the Kyoto Protocol is expected to ensure that developing countries take on more responsibility.

Under the Kyoto Protocol, developed countries assumed binding emissions reduction targets and the majority of the compliance costs to meet those targets. Developing countries, which faced no binding targets, were allowed to sell their emissions reductions (called offset credits) under the Clean Development Mechanism (CDM) to developed countries to help them lower the cost of their Kyoto protocol obligations. CDM offsets not only lowered the cost of compliance for developed countries, but also often made

profits for developing countries, which collected more from selling the credits than it cost to reduce emissions. This was viewed as beneficial to both developed and developing countries.

The status quo, however, has changed and CEJAPA reinforces that change. It is now well understood that developing country emissions are growing fast, even though developed countries remain responsible for the lion's share of historical emissions in the atmosphere and have high per capita emissions. Given the projected growth in developing country emissions, we could not meet the international goal of cutting global emissions 50% below 1990 levels by 2050 even if we zeroed out developed nations emissions by that date. As a result, we know the only way to avoid the worst effects of climate change is for both developed and developing countries to take action simultaneously. It is also clear many major developing countries have been taking a surprising amount of action on their own to reduce emissions outside of the CDM as demonstrated in Figure 1.

The breakthrough in the international negotiations came recently, when developing countries acknowledged for the first time that they have some responsibility to reduce their emissions. Under the Bali Action Plan, agreed to in late 2007 by all the major parties including the U.S., developing countries agreed that they would be willing to take "nationally appropriate mitigation actions" (called NAMAs) that are measurable, reportable and verifiable, in exchange for financial and technological assistance that would also be measurable, reportable and verifiable. The international negotiations since Bali and leading up to Copenhagen are all about fleshing out how NAMAs and related financing should work to fundamentally and forever move us beyond the flaws of Kyoto. For developing countries, NAMAs make sense because they can be tailored to the needs and circumstances of each country. They can also accelerate the pace of financial and technological assistance, long sought by developing countries.

In implementing this new approach in the Copenhagen agreement, we have two important goals to balance. First, we need substantial emissions reductions below

projected levels in both developed and developing countries by 2020. Second, we need to ensure the availability of offsets, which will help lower the cost of the developed countries climate programs. To strike this balance, it will no longer be possible to allow offsets to be simply the low-hanging fruit of project by project CDM. Instead, we will need to move to a sector crediting approach where offsets will need to be achieved on a sector-wide basis. For these reductions to generate offset credits, they will need to be above and beyond the domestic emission reductions that developing countries will be undertaking on their own or with some support.

The Structure of NAMAs and CEJAPA Will Raise the Bar on Developing Country Performance

The evolving analyses of NAMAs and sectoral approaches suggest an architecture that can achieve greater GHG reductions, leverage public financing, and minimize potential trade impacts. In the current international negotiations three general types of NAMAs are being considered: unilateral, supported, and credit-generating. The first two are contributions from developing countries and the last is offsets.

Unilateral Actions would be directed toward win-win actions. Since the actions are estimated to be profitable even in the absence of a carbon price signal, the developing country could presumably undertake these actions without financial assistance, taking steps to overcome barriers that may have kept this from happening already. Developed country assistance, if needed, could come in the form of technical assistance, capacity building, and supply of technology, equipment, and financing at market rates. Many of the aggregate reductions shown earlier in Figure 1 fall into this category.

Supported NAMAs would be directed toward the lower-cost mitigation actions and would be eligible for some up-front financing from developed nations for the incremental costs of the action. By financing only the incremental costs (or a portion thereof) of these actions, developed countries can avoid any adverse impacts on the competitiveness of

their industries. These reductions are a joint contribution to the protection of the atmosphere. They do not offset developed country reduction requirements.

Sectoral Crediting (or offsets) are actions that reduce emissions sector-wide below a predetermined and negotiated baseline, which makes a developing country eligible to sell offsets to developed countries. These would be directed toward the higher-cost actions, and would follow the adoption of unilateral actions and supported NAMAs. Additionally, since this approach is likely conditional upon unilateral actions and supported NAMAs, the developing country has an incentive to take these first two steps in order to partake in the financial benefits of the offsets market, and thereby increase its overall contribution.

We believe that this tiered approach to international action can balance our two goals for a Copenhagen agreement, enabling offsets that can support strong domestic commitments that are environmentally effective and economically wise, while simultaneously encouraging strong international commitments by both developed and developing countries. Such an architecture can not only avoid the troublesome effects of adverse shifts in trade competitiveness and greenhouse gas leakage, but also encourage policies that help to level the carbon playing field and better allow countries to adopt tougher environmental measures with greater economic confidence.

For Developed countries, the new architecture:

- Changes the game from the old CDM where all emission reductions were paid for by developed countries. Developing countries are bearing the bulk of NAMA costs.
- Achieves more emissions reductions sooner by developing countries. Developing countries will be responsible for reducing emissions on their own and have built-in incentives to do more.
- Would set strong standards for monitoring, reporting and verification.
- Helps competitive industries in developed countries. With developing country industries assuming new emission reduction commitments and costs, the gap in

carbon costs between the U.S. with a carbon cap and developing countries without one will begin to narrow.

The international offsets and financing provisions in CEJAPA align well with the NAMA approach. The sponsors deserve credit for designing a system that creates up-front financing for supported NAMAs and for reductions in deforestation via the allowance set-asides for Reduced Emissions from Deforestation (RED) and clean technology. This makes clear the U.S. is committed to helping developing countries move aggressively to implement policies to reduce emissions, consistent with the Bali Action Plan. In addition, the provisions directing the Secretary of State to designate sectors in the emerging economies where offsets can only be earned if a sector-wide crediting program is in place are a key innovation. This moves us beyond the project by project approach of the CDM to a comprehensive approach where all facilities in a sector need to participate in emission reductions. We would suggest that the language of this section make clear that after 2016 any crediting for emission reductions in these sectors be beyond the level of reductions achieved by supported NAMAs, with no continuing opportunity for traditional CDM projects in these sectors. In sum, CEJAPA positions the U.S. to play a very constructive role in the design of the Copenhagen agreement.

Financing for developing countries

One of the ways the U.S. and developed countries will be judged in Copenhagen is by whether they provide meaningful financing, technology and capacity building assistance to developing countries as they agreed to consider in the Bali Action Plan.

Whether financing is for deforestation or clean technology deployment, some observers incorrectly assume that any financing agreement in the Bali Action Plan must mean large unrestricted amounts of funding. However, the behind the scenes negotiations are more likely to focus on specific and tailored financial mechanisms like support to “write down” the cost of advanced but not yet commercial technologies like carbon capture and storage, and financing for special purpose entities that can help overcome resistance from banks

in developing countries to make financing available for energy efficiency. As we have seen with Mexico's recent proposals for caps in key internationally competitive industrial sectors, the financing element comes down to targeted loans that help overcome domestic policy barriers. Availability of such financing will provide the incentive for participating developing countries to establish more aggressive "performance goals." This approach also creates opportunities for leading U.S. companies to gain access to growing new markets (creating jobs at home) and moves toward leveling the playing field for carbon in internationally competitive sectors.

International Competitiveness

CEJAPA protects our domestic energy-intensive and trade-sensitive industries during the period when China and other leading developing countries are stepping up their national actions. We all have concerns about the impact on energy intensive and trade sensitive industries, such as iron and steel, cement, etc., where energy costs are a significant portion of the production costs and face international competitors which may not face a carbon price. CEJAPA solves this problem by allocating approximately 15 percent of allowances for free to these industries through 2025, with the allowances phasing out 10 percent per year through 2035. EPA's analysis of this approach in the American Clean Energy and Security Act (HR 2454) suggests that this will either fully compensate these industries or come very close to doing so for the direct costs of purchasing emissions allowances and for any increases in their indirect energy costs. These allowances provide more than 20 years of transition assistance while developing countries take more action. Although the bill does not include a border tariff, which is in Finance Committee jurisdiction, it is expected that there will also be a border adjustment on imported products from countries which have not taken sufficient action by 2020. Together, the free allowances and the border tariff backstop provide the protection U.S. industry may need.

Transparent System for Monitoring, Reporting and Verifying National Actions

To meet our goals of making an appropriate national emission reduction contribution to the global goal of holding temperature increases to 2 degrees centigrade, encouraging further developing country action, producing needed international offsets to help contain domestic costs, and protecting the competitiveness of domestic industries, we need to ensure that there is a transparent domestic and international system for monitoring, reporting and verifying national actions, emissions and offsets.

The only assurance we can have that others are doing their part is a system whereby every country reports transparently in accord with consistent international standards on their annual emissions, how many offsets they are recognizing, the nature of those offsets, and the degree to which they have complied with the emissions reductions goals they have set.

The legislation before you does a good job of ensuring that EPA and other agencies will create a transparent domestic system, and could go a little further to ensure the creation of similar, transparent standards in any international agreement. In addition, it would be helpful to clarify that the U.S. should report on our domestic actions in a way consistent with any international standards for reporting, so we can send a message that all nations must report consistently, which is the best way to verify that all countries and their industries are doing what they say they are doing and to ensure that the competitiveness of U.S. industries is protected.

In closing, I want to underline that the bill before you positions the United States effectively to make an important contribution to closing the deal at Copenhagen or shortly thereafter. The actions taken by the majority of the key developing countries coupled with the recent bold steps taken by Japan and India make clear that we no longer need to question whether others will act. The provisions in this bill and in the companion bill passed by the House will provide protection and assurance for our internationally competitive industries during the transition to full implementation of national climate

actions by our major developing country trading partners. We now need to shift our focus to the future competition for leadership in the new clean energy marketplace. This bill makes that shift. We simply need to pass it as soon as possible.