

**THE
CITIZEN'S
GUIDE TO
CLIMATE
POLICY**

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With a Forward By
BILL McKIBBEN

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Forward

by *Bill McKibben*

The Copenhagen conference that will convene in early December in the Danish capital is arguably the most important international meeting ever. More important than Yalta, more than Versailles, for its successes and failures will be measured in geological time and affect all who come after us. It's extraordinarily useful, therefore, that we have this guide to serve as a kind of scorecard as the season progresses.

That season starts with Congressional action in the U.S.—if a reasonable climate bill doesn't emerge from the House and Senate, it's hard to imagine the rest of the world taking vigorous steps at Copenhagen. Since for twenty years the Congress has ignored this problem, there's no guarantee that anything *will* happen—the staggering complexity of the cap-and-trade plan works both in its favor and against it, and the outcome is seriously in doubt.

But even with a decent American plan, Copenhagen will be agonizingly difficult, not least because of the vast differences between the rich and poor worlds. China and India will be asked to forego the use of their cheap coal under these plans—a real burden, for which they will demand real compensation, which in turn would require real American political maturity. At the same time, the world's most vulnerable nations are demanding much more stringent action, recognizing that their very survival is at stake. And always the forces of the status quo—especially the fossil-fuel industry—watch and lobby, arguing always for delay.

Meanwhile, the science darkens almost daily, as we learn more about feedback loops, ice melt, spreading drought—the whole panoply of climate troubles. At the same moment that the political system bends towards easier, slower solutions, the scientific demands become more urgent.

The only way to square these conflicting trajectories is by building a movement big enough to really influence the process. For many of us, the emotional highlight of the year will come on October 24, with the global day of action sponsored by the student-led group 350.org, which is the first real grassroots attempt to push the climate issue to the fore in every country on earth. If it works, the science represented by those three digits—the dawning understanding that 350 parts per million carbon is as much as we can safely have in the atmosphere—will help drive the debate. And since we're already past that figure, at 387 parts per million, it will drive it in the direction of dramatic and thorough change.

This booklet, as I've said, is a scorecard. But not for passively sitting by and watching the game. It's an invitation to *get in the game*, to become passionately involved while there's still some hope of affecting the outcome. Thank you in advance for taking that plunge!

Bill McKibben
Author, *The End of Nature*, and co-founder 350.org
June 2009

Introduction

Dear Climate Leader,

We are in a pivotal moment in the fight against climate change. Twenty years ago, NASA scientist James Hansen testified to Congress, warning of the impending danger associated with rising greenhouse gas levels in the atmosphere. Ten years ago many nations of the world rallied around the Kyoto protocol and hailed it as a multilateral agreement to protect our world from anthropogenic climate change. Four years ago, Al Gore released “An Inconvenient Truth,” which opened the eyes of millions about impending danger. Last year, the United States elected a president who recognizes that energy and climate are two problems that must be at the top of this country’s agenda.

2009 is the year when all of that history transitions from awareness building to action. The House of Representatives passed the first bill aimed at tackling climate change with the Waxman-Markey American Clean Energy and Security Act in June 2009. The Senate will deliberate on a similar bill in Fall 2009. In December 2009, the world’s leaders will gather in Copenhagen, Denmark, tasked to devise an international climate treaty that will transition the world away from carbon-emitting industry, protect those most vulnerable to the impacts of a changing world, and set a trajectory for the future of our planet.

The climate movement has been building up as well, especially amongst the Millennium generation. In the past ten years, young people around the globe have marched, lobbied, blogged, argued, and spoken out about the dangers of climate change and about the opportunities that will accompany the low-carbon solutions our world so desperately needs. Through actions including The Road to Detroit, Step It Up, PowerShift 2007, Power Vote, PowerShift ’09, the International Youth Delegation to the UN Climate Change Negotiations, and many others, young people have been at the center of this social

movement, making their case for change. After all, it’s our future that’s at stake.

Right now, we are up against an incredible foe. Big Oil and Big Coal have thousands of lobbyists working full-time in favor of the dirty energy economy. We envision a similar body of lobbyists – a mass of thousands of smart, friendly, engaged, and YOUNG lobbyists. These lobbyists are the young people that are organized on campuses across the country, the twenty-somethings just out of school who are looking to make a difference in the world, the high-schoolers who are worried about their future. But how can we prepare this massive youth climate lobby to take on the entrenched special interests?

We hope this guide will help you become one of those informed advocates. Our allies at 1Sky and a whole host of other organizations released a document called a “National Call to Action” which contains dozens of policy recommendations that the grassroots climate movement can stand behind. This document, however, is still somewhat wonky and confusing. We took elements of this call to action and tried to flesh them out a bit, for the purpose of enabling students to understand the comprehensive issues behind the policy that’s being discussed by our leaders in Washington. We’ve also placed this policy knowledge in today’s political context, focusing on the Waxman-Markey energy bill that is making its way through Congress now. We hope you find this guide helpful in your participation in the climate movement and encourage you to check out our “additional resources” section if you want to learn more!

Here’s to action, let’s go!

Lois Parshley & Ben Wessel
June 2009

1

PRE-REQUISITES TO GOOD CLIMATE POLICY

In 2008, a coalition of green groups and civic organizations came together to author a list of basic principles that should be included in fair and effective climate legislation. They laid out their principles clearly and concisely in a 6-page “National Call to Action on Global Warming.” These principles are in line with what we, as members of the youth climate movement, feel are crucial elements to a comprehensive piece of climate legislation. The goal of this guide is to get climate advocates comfortable

and familiar with the justifications behind many of the policy stances advocated in this call to action. We hope that our guide fleshes out these policy points in order to make them more understandable to the casual fan of climate policy, rather than the wonky die-hard. We also aim to put this platform in context of the current congressional debate over the Waxman-Markey American Clean Energy and Security Act (H.R. 2454).

National Call to Action on Global Warming

...

We, the undersigned organizations and individuals, have come together to ensure that U.S. action on global warming is commensurate with the scale of the challenge confronting us and that the path we choose benefits the public at large, not narrow special interests.

...

To that end, we call on President Obama and Congress to pass global warming legislation that meets the following objectives:

Take Prudent Action to Reduce the Risk of Catastrophic Global Warming.

- **Establish Science-Based Pollution Reduction Targets.** Cut total, economy-wide global warming emissions by at least 25 percent below 1990 levels by 2020 and by at least 80 percent below 1990 levels by 2050.² To achieve these targets, the United States should reduce its total absolute emissions from fossil fuels by at least 8-14 percent below 1990 levels by 2020,³ with the additional reductions achieved through appropriate incentives and programs for domestic and international forest protection and for other sound U.S. climate-friendly agricultural and land-use practices.

² These emissions-reduction targets are equivalent to a 35 percent reduction from today’s (2006) levels by 2020 and an 83 percent reduction from today’s levels by 2050.

³ This emissions-reduction range is equivalent to a 20-25 percent reduction from today’s (2006) levels by 2020.

National Call to Action on Global Warming

- **Enable Periodic Science Review and Update.** Include a mechanism for periodic reviews of developments in the science and the effectiveness of the program and to require the Environmental Protection Agency and other agencies, as appropriate, to adjust the regulatory response and propose legislative changes if the latest science indicates that greater reductions are needed.
- **Take International Leadership.** Facilitate work with other nations to reach an equitable climate agreement at the Copenhagen climate summit at the end of 2009 that keeps further warming to below 2 degrees Celsius over pre-industrial levels. Lead a worldwide effort to finance clean energy deployment, protections for forests in developing countries, and adaptation to unavoidable climate impacts, including a robust U.S. program of international global warming assistance for developing nations.

Be Effective and Efficient.

- **Auction All Pollution Allowances and Devote All Proceeds to Mitigation and Addressing Impacts on Consumers, Workers, Vulnerable Communities, and Natural Resources.** By placing a price on carbon, the auctioning of allowances should generate the maximum amount of revenue feasible, amounting to hundreds of billions of dollars a year. These precious dollars should not provide polluting industries windfall profits nor should such industries be able to spend our public resources indiscriminately. Instead, the revenue should be used to most effectively achieve our nation's pollution-reduction goals, assist consumers and affected workers transition to a clean energy economy, protect our natural resources from the impacts of global warming, and finance mitigation and adaptation for developing countries.
- **Effectively Include and Fund Sound Land Use, Agriculture, and Forest Practices.** A robust set of financial incentives and policies are needed to encourage American land owners to enhance the sequestration of carbon on private lands with healthy forests, sustainable agriculture, and other actions. The nation's public lands should be managed to preserve sequestered carbon. Further, financial incentives and other programs are needed to ensure reductions in domestic and international deforestation and forest degradation; international deforestation alone contributes about 20 percent of worldwide emissions. These incentives and programs should protect biodiversity and the rights of Indigenous Peoples.
- **Ensure Strong Parameters for Any Offsets.** Offsets within a cap-and-auction program should only be used with strong quality safeguards to ensure they are real, additional, verifiable, permanent, and enforceable. If offsets are included, they should be limited to a percentage of the required emissions reductions set in a manner to ensure that they do not undermine either the rapid transformation beginning this decade to a clean energy economy or the pollution reduction targets, including the need to reduce domestic emissions from fossil fuels by at least 8-14% from 1990 levels by 2020. This will create jobs, reduce our dependence on oil, and galvanize the made-in-America technologies that will be needed to accelerate emission reductions by nations around the world. In addition to meeting the quality criteria, international offsets should be allowed only if they result in emissions reductions beyond a nationally appropriate country emission-reduction commitment consistent with our global science-based emission-reductions goals.

National Call to Action on Global Warming

- **Reject Mechanisms that Delay Pollution Cuts.** Mechanisms that provide compliance flexibility cannot be allowed to interfere with the schedule for achieving the necessary reductions in pollution. Delays only serve to increase climate risks and costs to future generations.
- **Preserve the Ability of States to Act.** State innovation has been critical to our environmental progress over the last four decades and must be permitted to continue. States should be allowed to set standards for energy, transportation, and global warming emissions that go beyond what is required nationally, with the federal standard serving as a floor, not a ceiling.
- **Don't Dig the Hole Deeper.** We cannot reduce U.S. global warming emissions to levels consistent with the science if at the same time we construct new sources of global warming pollution. A responsible carbon-reduction plan must prohibit the construction of new coal-fired power plants that do not sequester the vast majority of their carbon dioxide emissions.
- **Don't Offshore U.S. Global Warming Emissions.** The United States has the world's largest coal reserves. If even a fraction of the carbon contained in these coal reserves is released, it will be impossible to prevent catastrophic effects of global warming. The United States should phase out the export of coal to countries that do not have a carbon control program comparable to that of the United States.
- **Provide for Strong Citizen Enforcement and Public Involvement.** Ensure the vital check and balance of strong citizen enforcement and public involvement in order to help guarantee that our pollution-reduction goals are met and to guard against agency failure in implementation and enforcement.

Act in a Fair and Just Manner to Alleviate the Impacts of Climate Justice Issues.⁴

- **Help Low- and Moderate-Income Americans Transition to Clean Energy.** Because low- and moderate-income households, especially people of color, spend a larger share of their budgets on energy and other basic costs of living than better-off households, ensure that any energy-related price increases are offset by direct consumer rebates that effectively and efficiently reach these households and workers, with the assistance delivered in ways that are consistent with energy conservation goals, and with particular attention to those most in need.
- **Protect American Workers' Transition to a Low Carbon Economy.** Provide assistance to workers in older industries that are highly reliant on carbon-based energy – and the communities they live in, especially minority communities. Make available the tools necessary to make the transition to the clean energy economy and to be competitive for good jobs within it. In addition, ensure that American companies and workers do not face unfair competition from countries that fail to address global warming, providing worker and community transition benefits, including training, education, and job placement assistance, as well as wage replacement, health care, retirement bridges, and other forms of economic and social assistance.
- **Address Needs of Less Developed Countries.** Assist developing countries that have contributed the least to global warming to increase their resilience, adapt to global warming impacts that are now unavoidable, and develop sustainable low-carbon economies. Funding for adaptation and mitigation must be in addition to other overseas relief and development commitments. Expediently provide these countries appropriate technology for both adaptation and mitigation.

⁴ Much of the language and concepts in this section are drawn from the Climate Equity Alliance principles. <http://www.greenforall.org/what-we-do/working-with-washington/climate-equity>

*National Call to Action on Global Warming****Accelerate the Transition to a Clean Energy Economy.***

- **Invest in a Clean Energy Economy.** Invest a significant portion of the revenue from auctioning pollution allowances in energy efficiency and clean energy, targeted to the technologies and practices that are the cleanest, cheapest, safest, and fastest at reducing pollution, as determined by the application of clear standards set by Congress.
- **Establish Clean Energy Standards.** Move forward with aggressive clean energy standards including, but not limited to, stronger building codes, appliance standards, and vehicle and fuel standards; an energy efficiency resource standard for electric and gas utilities; and an aggressive renewable electricity standard.
- **Invest in Transportation Infrastructure that Reduces Global Warming Emissions.** Reform transportation policies to focus on moving people rather than cars and trucks. Prioritize efficiency through mass transit, passenger rail, and bicycle and pedestrian options, and encourage more efficient land-use and development patterns, giving people viable alternatives to driving.
- **Expand Opportunity for America's Workers and Communities.** The shift to a clean economy has the potential to create large numbers of quality green-collar jobs for American workers, grow emerging industries, and improve the health of low- and moderate-income Americans and people of color, who suffer disproportionately from cancer, asthma, and other respiratory ailments in the current pollution-based economy. This shift represents a significant opportunity to make cost-effective public and private investments that help rebuild and retrofit our nation, and through training and job readiness programs, to ensure that those who most need work are prepared to do the work that most needs to be done.⁵
- **Promote a Global Clean Technology Transition.** A global clean technology transition is needed to avoid the worst impacts of global warming. Many developing countries will need support to transition to lower carbon economies without compromising basic development needs and without undermining basic rights. The United States should assist in this transition by investing in a global clean energy economy.

⁵ Drawn from the Climate Equity Alliance principles. <http://www.greenforall.org/what-we-do/working-with-washington/climate-equity>

Plan for a Warming World.

- **Prepare for the Changes We Cannot Avoid.** Assist states, localities, and tribes in preparing to adapt to the degree of global warming that is now unavoidable. Provide targeted assistance to low-income communities, especially people of color, which face distinct and disproportionate economic and public health threats from the impacts of global warming and climate justice issues.
- **Safeguard Our Natural Resources.** Ensure that our natural resources, upon which all human health and economic vitality depend, are protected from impacts of global warming that are now unavoidable. Investments should be guided by an interagency national strategy, based upon the best available science, and dedicated to efforts at the federal, state, tribal, and local levels to make our fish and wildlife populations, forests, coasts, and other ecosystems more resilient in the face of a changing climate.

Organizations Endorsing the National Call to Action on Global Warming:

1Sky • ACORN • Alliance for Climate Protection • Audubon • Catholic Healthcare West • Center for International Environmental Law • Ceres • Clean Water Action • Climate Law and Policy Project • Climate Protection Campaign • Climate Solutions • Defenders of Wildlife • Democracia USA • Earthjustice • Eco-Equity • Ecology Center • Energize America • Energy Action Coalition • Environment America • Environment and Energy Study Institute • Environment Northeast • Environmental Law and Policy Center • Green for All • Greenpeace • Health Professionals for Clean Air • Hip Hop Caucus • ICLEI USA • Insitute for Agriculture and Trade Policy • Interfaith Power and Light • International Forum on Globalization • Kyoto USA • League of Conservation Voters • League of Women Voters • League of Young Voters • Massachusetts Climate Action Network • National Hispanic Environmental Council • National Teach-In on Global Warming Solutions • National Wildlife Federation • Oceana • Oxfam • Physicians for Social Responsibility • Progressive Future • Public Citizen • Religious Witness for the Earth • Rock the Vote • SEED Coalition • Sierra Club • Southern Alliance for Clean Energy • Teleosis Institute • The Humane Society of the United States • The Student Public Interest Research Groups • The Wilderness Society • Union of Concerned Scientists •

2

What is the Waxman-Markey Bill?

As soon as President Obama won the 2008 presidential election and the Democratic party increased their majorities in the House and Senate, leading lawmakers and policy specialists began drafting climate and energy legislation that would help enable transition of the United States towards a clean energy economy and a sustainable future. Co-authored by Chairman of the House Energy and Commerce Committee Representative Henry Waxman (D-CA) and Chairman of the Subcommittee on Energy and the Environment Representative Ed Markey (D-MA), the American Clean Energy and Security Act of 2009 (H.R. 2454) was initially introduced in late March 2009. This bill was massively influenced by a coalition called USCAP, or the US Climate Action Partnership (www.us-cap.org). USCAP brings together four mainstream green non-governmental organizations (“NGO’s”) (the Environmental Defense Fund, Natural Resources Defense Council, Pew Center on Global Climate Change, and World Resources Institute), with a large number of major corporations including Alcoa, Duke Energy, PG&E Corporation, Ford Motor Company, DuPont, and many others. On January 15, 2009, USCAP issued a document called “A Blueprint for Legislative Action” which laid forward a framework for legislation to address climate change. Chairmen Waxman and Markey recognized that this blueprint would appeal to many of the moderate Democrats in Congress whose votes they needed and followed many recommendations that USCAP outlined in their blueprint in crafting their piece of legislation. Thus, the Waxman-Markey bill is definitely a reflection of the compromises reached by more moderate environmental groups and some of the largest energy and manufacturing corporations in the world. This is important to note as you read this guide.

A “discussion draft” of the Waxman-Markey American Clean Energy and Security Act (known as ACES) was released on March 31, 2009. The draft, at over 600 pages, had four “titles”:

- An energy title that creates a renewable energy standard (RES).
- An energy efficiency title that promotes efficiency across all sectors of the economy.
- A global warming title that establishes a cap-and-trade system to reduce greenhouse gas emissions, the American Clean Energy and Security Act of 2009.
- A transition title that promotes green jobs and protects American consumers and industries during the transition to a clean energy economy.

In the weeks that followed the introduction of this discussion draft, the Energy and Commerce Committee held a series of hearings on the proposed legislation, followed by a period of negotiation in the committee known as “mark-up.” This process watered down the initial draft as moderate Democrats, primarily from coal states in the Midwest and South, weakened the emissions reductions targets, changed the way allowances to emit pollution would be distributed, altered the sorts of offsets that would be included in the bill, and made many other changes. The implications of these changes, and of the bill as a whole, are detailed in this guide. At the end of this guide, there is a section entitled “Additional Resources.” Since the passage of the Waxman-Markey bill in late June 2009, the Senate has been closely examining the bill and will likely begin discussing climate legislation that looks a lot like the ACES bill. These resources will come in handy in describing the changes

taking place. This guide is simply a “snapshot in time” when it comes to describing policy options under consideration in Washington now.

Also important to note is that the part of the bill that this guide is most concerned with is the third title, the “global warming” title. In each section of this guide, we try to discuss how the ACES bill deals with the topic of that section. Due to time and resources constraints, there are parts of the ACES bill that we haven’t covered, but we’ve tried to isolate the points that we think are most important for young people to know about. If you’ve got questions about other parts of the ACES legislation, we encourage you to check out the resources we mention in the “Additional Resources” section.

In regards to some of the more contentious policy details that we aim to tackle in this guide, the Waxman-Markey bill says:

Emissions Reductions Targets

- 17% below 2005 levels by 2020
- 42% below 2005 levels by 2030
- 83% below 2005 levels by 2050

Allowance Auctions and Giveaways

(all percentages are rough)

- Auctions 15% of allowances for low-income rebates
- Gives 25% to fossil fuel companies and energy-intensive industries
- Gives 36% to local electricity and natural gas distribution companies to reduce retail energy prices
- Gives 14% to invest in clean energy and energy efficiency
- Gives 7% to invest in international adaptation, reduced deforestation, and international clean technology transfer.

Offsets

- Allows 2 billion offsets (split domestically and internationally) a year, allowing companies to offset pollution rather than abate or purchase emissions permits

Renewable Electricity Standard

- Creates a Renewable Electricity Standard that requires utilities to meet 20% of their needs with renewable energy sources or by saving energy from efficiency measures by 2020.

3

Carbon Tax Versus Cap and Trade Program

What is a cap and trade program?

A cap and trade program is policy used to control pollution by providing economic incentives for reducing pollution emissions. A central authority (either international, national, or state) sets a limit or a “cap” on the amount of pollution that can be emitted. Either companies or individuals are issued permits to emit, and are required to have as many permits or “allowances” as the units they emit, therefore limiting total emissions. Companies that want to emit more than that amount must buy allowances from those who are polluting less than their total allowances. This transfer creates a trading system of permits. In other words, companies are forced to pay a charge for polluting, but are rewarded for reducing emissions by being able to sell their permits. Therefore, those who can easily reduce emissions or who can reduce emissions cheaply will do so, causing the most emissions reduction at the lowest total cost.

What is a carbon tax?

A carbon tax is a policy used to control pollution by providing economic incentives for reducing pollution emissions. A central authority (at a national or state level) taxes emissions in proportion to their carbon content. This gives pollution a direct monetary value, and internalizes the real costs of a good's production. This means that the cost of polluting will be included in the final price of a good. A carbon tax is an indirect tax, which means it is a tax on transactions, i.e. the tax is levied at the point of emitting (for example, when factory smokestacks emit carbon). It is also usually proposed as a flat tax, meaning at a fixed rate not dependent on income.

Obviously the pros and cons of assessing a carbon tax are complex, and the conversation generates heated debate. Because

there is a large amount of resources already available on this subject, we are including a basic summary from Pew Center for Global Climate Change, an environmental organization on this issue. If you are still interested in learning more, we have additional resources in our index.

What are the similarities between a Carbon Tax and a Cap and Trade program?

Both correct a market failure. Both cap and trade and a tax have as their objective the correction of an existing market failure. Currently, sources responsible for green house gas (“GHG”) emissions do not have to pay for the damages they impose on society as a whole. The failure to internalize these costs leads to greater levels of emissions than would be socially optimal.

Both put a price on carbon. By placing a price on carbon, and thus correcting the present market failure, both approaches create an incentive to develop and invest in energy-saving technologies. This will encourage the shift to a lower carbon economy.

Both take advantage of market efficiencies. Unlike direct regulations, both harness market forces to achieve the lowest cost reductions in GHG emissions.

Both can generate revenue. A tax by definition is designed to raise revenue, but a cap-and-trade system, to the extent that allowances are auctioned, can also raise similar amounts of revenue. How such revenues are used becomes an important issue in both systems. Some proposals rebate the revenue directly back to consumers, some use part of the revenues to ease the transition to a low carbon economy (e.g. for consumers, energy-intensive manufacturers, research development and deployments,

etc.) and some combine both approaches.

Both impose a compliance obligation on a limited number of firms. Depending on who pays the tax or is responsible for holding allowances, the number of firms directly impacted by these systems can be large or small. Most proposals focus on a limited number of firms with the goal of maximizing emissions coverage and reducing administrative costs.

Both necessitate special provisions to minimize adverse impacts. By putting a price on carbon, both systems raise concerns about adverse impacts on energy-intensive firms and manufacturing states, and on workers and communities that historically have been dependent on fossil fuels. For example, both could result in large wealth transfers from coal and manufacturing states to other parts of the country. However, through special tax provisions or the use of allowance value, either can be designed in a way to mitigate adverse impacts on disadvantaged groups. Similarly, both systems would require special provisions to avoid imposing requirements on GHGs that are consumed as feedstocks or to provide credit for reductions that result from capturing and storing carbon or expanding carbon sinks.

Both require monitoring, reporting and verification. Both systems require similar data on emissions, reporting and verification of that data, and enforcement in the event of noncompliance.”¹

What are the important differences between a Carbon Tax and a Cap and Trade program?

“Cost certainty v. environmental certainty. By setting a cap and issuing a corresponding number of allowances, a cap-and-trade system achieves a set environmental goal, but the cost of reaching that goal is determined by market forces. In contrast, a tax provides certainty about the costs of compliance, but the resulting reductions in GHG emissions are not predetermined and would result from market forces.

Compliance flexibility for firms. A tax requires a firm each year to decide how much to reduce its emissions and how much tax to pay. Under a cap-and-trade system, borrowing, banking and extended compliance periods allow firms the flexibility to make compliance planning decisions on a multi-year basis.

Impact of economic conditions. Changes in economic activity impact a firm’s behavior under either system. Under a cap-and-trade system, reduced economic growth would lower allowance prices. Under a tax, government action to lower the amount of the tax, not market forces, would be required to

reduce the carbon price seen by firms. In times of economic expansion, the opposite would be true – under cap and trade, allowance prices would rise based on market forces, but taxes would remain the same unless adjusted through government action. In this sense, cap and trade can be seen as providing a self-adjusting price, high when the economy is doing well and low when the economy is in a downturn. A tax in contrast is not self-adjusting.

Linkage to other systems. Ideally, a global price for carbon would develop and allow cost efficiencies to be realized across borders. While we are a long way from a global system, several trading regimes are already operating, expanding, or are planned which could allow international linkages across systems in the future. Far fewer jurisdictions have either instituted or are considering carbon taxes and the notion of an international carbon tax has been considered but generally rejected as not realistic.

Experiences to date: Cap and trade has become the cornerstone of successful efforts to achieve low-cost reductions in sulfur dioxide emissions in the United States. For GHGs, this same approach is also being relied upon in the European Union (EU). The EU has implemented a GHG cap-and-trade program covering thousands of sources and has created a market with millions of transactions producing a market price for carbon determined through supply and demand. Following a trial period, during which a number of start-up challenges were encountered (e.g., lack of data, different approaches across Member States), the EU has succeeded in establishing the building blocks for a successful trading regime. Cap and trade is also being used in three regional trading programs in the United States and Canada. The use of taxes aimed at reducing GHG emissions has initially been used in several countries, including Norway, Sweden and Germany that are now relying increasingly on emissions trading. Carbon taxes have also been used in a few local governments in the United States and Canada. A carbon tax was considered by the Clinton Administration in 1992, but quickly became loaded down with special exemptions, so was redirected away from carbon to be a BTU tax to avoid burdening coal, and was ultimately enacted as a few pennies tax on gasoline.

This review of cap and trade and taxes suggests that many of the longstanding myths about these approaches fail to recognize advances in design options aimed at addressing earlier concerns. While a tax regime sounds simpler in theory, history suggests that special provisions would be added, for example, to avoid adversely impacting specific regions, to exempt feedstocks

and to mitigate competitiveness concerns. While a cap-and-trade regime doesn't directly provide price certainty, recent proposals include temporal flexibility (e.g., banking, borrowing, and multi-year compliance periods) as well as floor prices and offset provisions that would dampen price volatility. In the end, history suggests that it is unlikely that a tax would result in a simpler system. The greater flexibility for firms and greater certainty that environmental objectives will be met appear to be the greatest strengths of a cap-and-trade policy.”¹

Citations

¹ “Cap and Trade v. Carbon Tax.” Pew Center on Global Climate Change. May 2009. <http://www.pewclimate.org/DDCF-policy-memo/cap-and-trade-v-tax>

4

Emissions Reductions Targets and Time Tables

What are emissions reductions targets?

A cap-and-trade system has the ability to set the amount of carbon that is allowed to be emitted under a certain cap. Cap and trade legislation has the power to determine what level a cap is set at times over the life of the cap and trade system. There is ample debate over how stringent the emissions targets must be; a debate that too often pits scientists and concerned citizens against those who disregard the notion of urgency of action on the climate crisis, often because they underestimate the costs of inaction.

An interesting fact about emissions reductions targets is that they often don't stress where the emissions reductions are taking place. Broad slogans that have become a central part of the climate movement like "80 by 50" don't call into question how those emissions are being reduced, be it at home in the US by shutting down coal-fired power plants or abroad through programs like carbon offsets (see section on "Offsets"). Most climate advocates in the US are calling for a higher percentage of reductions at home rather than in other countries. This is just a key point to keep in mind as you decide what targets to advocate for.

What are science-based pollution reduction targets?

There is a broad scientific consensus that we must limit additional planetary warming to no more than 2 degrees Celsius above pre-industrial levels. According to the fourth assessment report of the Intergovernmental Panel on Climate Change (IPCC), we have a reasonable chance of meeting this target if developed countries as whole cut their emissions by 25-40% below 1990 levels by 2020, and by 80-95% below 1990 levels by 2025. The IPCC also says that in that time major developing

countries must reduce their emissions as well. That said, the IPCC's work is being called into question by many scientists and environmental advocates. Written in 2007, it seems that the IPCC's predictions and recommendations are not sufficient, as the actual climate science on the ground continues to outpace worst-case scenarios put forth by the IPCC. NASA climatologist James Hansen has concluded that we need to reduce the carbon dioxide content in the atmosphere to no greater than 350 parts per million (ppm). Since we are already at 387 ppm now, the science is telling us that we need to cut our emissions drastically and immediately.

In order to meet this goal in the United States, we need to cut total, economy-wide global warming emissions by at least 25%-40% below 1990 levels by 2020, and by at least 80%-95% by 2050. This is equivalent to at least a 35% reduction below 2005 levels and an 83% reduction below 2005 levels. These are the targets that have been determined by the foremost scientists and climatologists, not by economists or policymakers. If there's one thing that can be assumed in the climate policy debate, it is that the science is non-negotiable.

What are the targets being discussed in Congress?

Targets are one of the most contentious issues in the policy debate today. Upon entering office, the President Obama asked Congress to deliver a cap and trade bill that would result in reductions of 14% below 2005 levels by 2020 and more than 80% below 2005 levels by 2050. Congressmen Markey and Waxman took a bolder step when they introduced their discussion draft, calling for domestic reductions of 17% below 2005 levels by 2020, 42% below 2005 levels by 2030, and 83% below 2005 levels by 2050. Interestingly, the Waxman-Markey

draft calls for a total cut of 30% by 2020, with 13% of that coming from avoided deforestation, additional measures outside the cap-and-trade program, and via offsets, although this is completely conjecture, as many of those emissions reductions take place “outside the cap,” and thus, can’t be guaranteed.

Many in Congress are working on trying to weaken those targets, arguing that the targets proposed by Waxman and Markey are too aggressive and will have detrimental impacts on the economy. Representatives John Dingell (D-MI) and Rick Boucher (D-VA) led the charge to weaken emissions targets to ones similar to their discussion draft of a climate bill in the 110th congress, with a short-term (2020) target of 6%. The ACES bill calls for cuts of 17% below 2005 levels by 2020.

Are these targets adequate?

The short answer is no. As is mentioned above, science demands carbon emission cuts of at least 35% below 2005 levels by 2020. In addition, these targets should be achieved through direct investments in emissions reductions (a.k.a. a switch from fossil-based energy to clean energy), rather than offsets that come in place of actually reducing fossil fuel consumption. Short-term targets with strictly limited offsets are particularly important because reductions sooner rather than later increase our chances of avoiding irreversible climate changes and feedback loops.

Another reason these targets are inadequate is because they hinder the possibility of a strong, binding international climate treaty (which will be discussed more in the section on international policy). One of the main sticking points in the international climate policy realm is the short-term targets that developed countries will agree to take on. Many developing countries, particularly those feeling the impacts of climate change the hardest, are mandating that the United States take on emissions targets as stringent as 50% reduction by 2020. In fact, many other developed countries have taken on reductions much, much stronger than the US and are on target to achieve those goals, such as the UK’s commitment to reduce carbon pollution 34% by 2020. Discussions at the international debate often center around reducing emissions to achieve carbon content of 450-550ppm. As is stated above, the science dictates that we must get below 350ppm, a position that has been taken up at the international climate negotiations by the most vulnerable and least developed countries. Since the State Department’s negotiating stance at international meetings is dictated by Congress’ legislative process, it will be hard for the Americans

to agree to stronger short-term targets at the Copenhagen negotiations even if they wanted to, if Congress doesn’t strengthen them.

Take Home Points

- Science dictates that emissions must be reduced at least 35% below current levels by 2020 and 80% below current levels by 2050 in order to have a shot at getting below 350ppm.
- President Obama’s budget and the current proposals in Congress advocate for strong long-term targets, but are much weaker than what the science demands in the short-term.
- Waxman-Markey has short term targets of 17% by 2020 and 83% by 2050.
- If the US does not adopt more ambitious short-term targets, it will be difficult to get a strong international climate agreement.
- As the Senate debates climate policy, the climate movement will push to strengthen targets, particularly short-term targets.

5

Point of Regulation

What are the different approaches to emissions pricing?

Any climate policy debate includes the placement point of regulation, that is, who will pay for reducing emissions? Creating a successful emissions reduction program in real world markets with strong oppositional political factions requires careful consideration of how the regulation will be paid for, both directly and indirectly. If the ultimate costs are perceived to be too high by any constituent, the program will prove to be unsustainable. Thus both the point of regulation, and the point for any potential offsetting must be considered.

There are two main approaches to emissions pricing. One is called “upstream pricing,” which regulates fossil fuel suppliers at the point that the carbon enters the economy, when fuels are produced. This means coal mines, oil rigs, and gas wellheads are considered the starting point of the pollution, and the producing companies are required to pay according to the carbon content of the fuels they produce.¹ This cost is then passed downstream to the electric utilities or oil refineries, who in turn pass the cost down to their customers. This pricing approach is the most administratively simplified as it directly assesses the fewest industry and consumer participants, and as it is based on the carbon content of fuels which is readily measurable.

The alternative approach is called “downstream pricing,” which regulates carbon as it is emitted into the atmosphere, at the point of fuel combustion. This means that power plant stacks, factory emissions and automobile exhaust pipes are considered the starting point of metered emissions, and polluting industries and consumers are required to pay accordingly. This strategy focuses attention on carbon emissions permits and the level of carbon dioxide produced through daily activities.¹ To be fully inclusive, a downstream policy would have

to regulate millions of transactions, increasing the administrative costs and thus likely reducing the scope of the program, lessening the effectiveness in reducing total emissions.²

Effectiveness of Meeting Reduced GHG Emission Goals

While the discussion above focuses on carbon, of course there are non-energy sources of GHG emissions other than carbon dioxide, such as methane emissions from landfills, cattle lots and dairy farms. These GHG emissions can be measured and included in upstream or downstream emissions regulations.

Hypothetically speaking, whenever a policy is imposed, the burden of the cost increase will be passed up and down the supply chain. According to economic theory, a tax, regardless of where it is assessed, will impact the demand curve and thus impact both the consumer and supplier. In reality, this might not be the case. Downstream consumers can be slow to respond to price increases when they are not transparent, and firms’ ability to pass on increased costs to their customers vary. Therefore, depending on the industry and type of GHG, a hybrid assessment approach between the two extremes of upstream and downstream may provide for a larger percentage of emissions reduction.¹

What percentage of the economy should be accounted for in emissions trading policy?

The decision of what should be regulated is one which obviously has a drastic impact on the success of reaching emissions goals and the costs of the program. Resources for the Future, an environmental economics group, presents the general consensus of green groups when they advocate for “A single, broad-based, economy wide program that includes all

emissions sources and all major greenhouse gases (GHGs; most notably carbon dioxide, but also methane, nitrous oxide, and fluorinated gases). [This] will be the most cost-effective because it will include the most opportunities for emissions reductions, including inexpensive reductions.”²

Past and Present U.S. Legislative Emissions Pricing Proposals

In just the last two years, the U.S. legislature has seen multiple GHG mitigation bills proposed. The Stark- McDermott bill introduced in 2007 would have imposed a tax on coal, petroleum and natural gas, with the tax rate increasing each year until U.S. carbon dioxide emissions level fell to a defined point. Representative Larson (D-CT) introduced a similar bill in terms of imposing an upstream carbon tax with a ratcheted rate, with the tax revenues targeted to fund research and development for clean energy technology, also targeted assistance to affected industries and companies. In 2007 Representative Dingell (D-MI) proposed an upstream carbon tax and then in 2008 promoted a cap and trade concept. None of the above measures were able to gain sufficient traction.⁴

What does the Markey-Waxman bill propose?

The Waxman-Markey bill covers five “Kyoto” gases (carbon dioxide, methane, nitrous oxide, perfluorocarbons, and sulfur hexafluoride), as well as hydrofluorocarbons, or HFCs. The draft bill phases in different sources of GHG emissions over time as the cap-and-trade system is put into practice. In the initial stage of the program, to start in 2012, the draft assumes it would cover about 68% of all US emissions. This includes all electric power generators (downstream pricing), natural gas, oil, and coal based fuel producers and importers whose products emit over 25,000 tons annually (upstream pricing), producers and importers of fluorinated gases (upstream pricing), and geologic storage sites.³

As the program builds, more sources of pollution would be added. In 2014, the draft bill assumes it would cover more than 75% of total US emissions. This expansion includes not only the regulation of industrial sources that emit 25,000 tons or more (downstream pricing) of GHG of non-petroleum and biomass combustion but also all sources in certain energy intensive sectors, including glass and ceramics. By 2016, the draft bill assumes it would cover 84.5% of total US emissions. This expansion includes coverage of natural gas local distribution companies that deliver gas to non-covered entities.³

This mix of upstream and downstream pricing is very complex, and doesn't necessarily make for the most effective or efficient regulation. By placing the cap “upstream” in all situations, the bill could ensure that the smallest number of entities fall under the system while still controlling most pollution. This would be a more simply way to regulate greenhouse gas emissions.

Take Home Points

- Policy decides which greenhouse gases must be reduced in

a cap-and-trade system, and which part of the pollution chain they are regulated at.

- By covering as many greenhouse gases as possible and enacting an “economy-wide” regulation, a cap-and-trade system can ensure that the cheapest, more efficient reductions take place first.
- Upstream regulation is the simplest, and probably most efficient, way to control greenhouse gases.

Citations

¹ “Point of Regulation in a Greenhouse Gas Tradable Permit Program”. Joe Aldy. Resources for the Future NECP Program. September 16, 2005. May, 2009. <http://74.125.47.132/search?q=cache:UoRxDL_

xJgk]:www.energycommission.org/files/contentFiles/Joe%2520Aldy%2520RFP%2520-%2520Point%2520of%2520Regulation%2520in%2520a%2520Greenhouse%2520Gas%2520Trad_440cd0b53d3b8.f+point+of+regulation&cd=1&hl=en&ct=clnk&gl=us&client=firefox-a

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³ “Brief Summary of the Waxman-Markey Discussion Draft”. World Resources Institute. April 20, 2009. May 2009. <<http://www.wri.org/stories/2009/04/brief-summary-waxman-markey-discussion-draft>>

⁴ “Tax Policies to Reduce Greenhouse Gas Emissions”. Pew Center On Global Climate Change. May 2009. <http://www.pewclimate.org/docUploads/DDCF-Taxes.pdf>

6

Auctions

How should we give out emissions allowances?

Cap-and-trade will create emissions allowances that, according to the Congressional Budget Office, would be worth between \$50 billion and \$300 billion (in 2006 dollars) generated every year in the next decade.¹ The central policy debate centers around how many of these permits will be given away for free and how many will be sold through an auction. This debate is one of the major sticking points for many members of Congress and will likely be one of the deciding factors in when a climate bill gets passed in the US and whether it will be ambitious enough to achieve science-based pollution targets. Interestingly, the Waxman-Markey discussion draft did not specify what percentage of the permits should be auctioned off and what percentage should be given away, favoring instead to leave the point up for debate in Congress. After much deliberation, a complex scheme was forged in the Energy and Commerce Committee to initially giveaway 85% of the allowances for free, while auctioning the remaining 15%. This would change over time.

What are the arguments in support of giving away all permits for free?

Many business and industry groups are advocating for a 100% giveaway of all pollution permits. One rationale for doing so is that, according to their data, a full auction of allowances “will impact consumers in coal-dependent states disproportionately by requiring utilities and their customers to buy allowances just to keep current facilities running. These same consumers will then pay even more when their utilities make the significant capital investments necessary to meet the increasingly stringent cap.”²

Another argument that favors giving away permits is that it essentially buys off the political opposition. Many large corporations, and the politicians who are indebted to them, don’t like the idea for having to pay to pollute. In order to satisfy their demands, some are willing to give away free permits as a subsidy to diminish the political opposition represented by companies like Peabody Coal, Exxon Mobil, and American Electric Power. This is less of an economic argument than a political one, but it is important to note just the same.

What are the arguments that favor 100% auctions?

At the same time, many people advocate for 100% of emissions allowances to be auctioned off. There are many reasons for holding this viewpoint. The first reason is moral – polluters should have to pay for the harmful pollutants they put into our shared atmosphere. The second is economic – not auctioning off permits would be giving massive and unearned profits to large polluting companies. The third is progressive – auctioning off permits would provide great sums of revenue that could be spent furthering the clean energy economy and helping those hurt most by climate change. The fourth is political – auctioning all the permits is transparent and simple.

The moral reason is that polluters should have to pay for the harmful emissions that they produce. Put simply, the “polluter pays principle” has been in vogue in the past twenty years of American environmental policymaking and makes sure that polluters pay to clean up the environmental degradation they are creating. Since emissions permits are essentially giving a limited number of companies the “right to pollute,” it would be in line with the polluter pays principle to have companies buy this right.

A convincing economic argument is that giving away emissions permits for free would result in unearned windfall profits, or large unexpected sums of revenue, for the shareholders and executives of polluting companies. Emissions permits are commodities that have a monetary value associated with them. If they do not auction them off, the government would be giving away these valuable permits to big polluters. Because permits are worth money, giving them away amounts to the government distributing money to private interests with no transparency at all. In addition, costs to the consumer would rise whether there is a free giveaway to polluters or an auction. The Center for American Progress explains, “Basic economics therefore tells us that companies will charge the consumers for the opportunity cost of the emissions permits that could otherwise be sold. Thus regardless of whether permits are auctioned or handed out for free, consumers and ratepayers will see the cost associated with emissions reductions reflected in their electricity bills and the purchase of energy intensive goods.”³ The bipartisan National Commission on Energy Policy echoed this statement, saying “Energy companies can and will pass most program costs through to consumers and businesses at the end of the energy supply chain. If the same companies get a large allocation of free allowances, the value of those allowances is likely to substantially exceed any actual net costs they incur as a result of the policy.”⁴

This is a complicated point so here's our best attempt to explain it. A cap and trade scheme causes the price of goods to go up to reflect the value placed on emissions. For every ton emitted, someone will have to submit an allowance that has a real monetary value. The price of that allowance is set by the most expensive emission reduction that someone is implemented. If the permit cost less, someone would buy it instead of reducing their emissions. All producers, whether they are given free allowances or not, are going to set prices of their goods, such as electricity, at that higher level. Thus, costs to consumers will be raised and companies will get additional revenue from the higher prices no matter what. Basically, not auctioning permits would be an act of government spending and would transfer wealth from taxpayers and consumers to the shareholders of polluting companies. Thus, it is unjust not to auction permits.

A progressive economic and political reason to auction off all permits is that the money raised by auctioning those permits can be used in very important ways. First, much of that money can go to those who are feeling the negative effects of climate change and the cap-and-trade system the most. This group

includes low-income people who spend a higher proportion of their incomes on energy and gas and residents of states that are heavily dependent on fossil fuel, such as Indiana or Wyoming. Second, some of this money can go towards transitioning America to a clean energy future by providing grants for clean energy R&D, smart grid transmission lines, green jobs programs, or other similar projects. Third, some of this money could go towards funding for adaptation to climate change both domestically and internationally, such as providing for better levees in the Gulf Coast or funding wildfire prevention efforts in the West. The list of ways to spend these billions goes on, but what is most important is that it is money that it is money given to the public policy process to be used in a manner that the American people, not polluting corporations, see fit.

Dallas Burtraw, a Ph.D. in economics and a Senior Fellow at Resources for the Future provides an interesting political analysis: “A majority of economists favor the use of auctions over the free allocation of emissions allowances,” Burtraw says, “An auction satisfies the principle of simplicity and transparency.”⁵ Many policymakers, environmentalists, economists, researchers and others have spoken out about the increased economic efficiency of auctioning permits, including representatives of the White House Office of Management and Budget and Congressional Budget Office.

What is being discussed now?

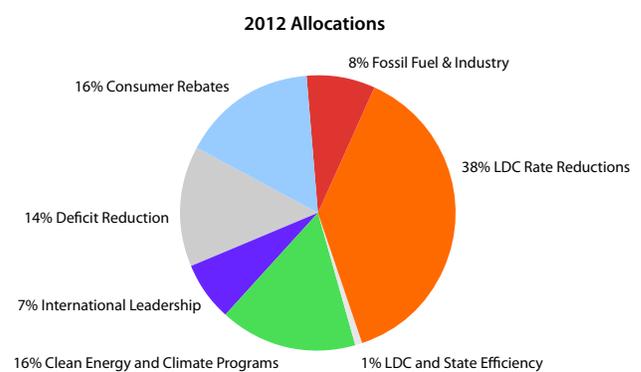
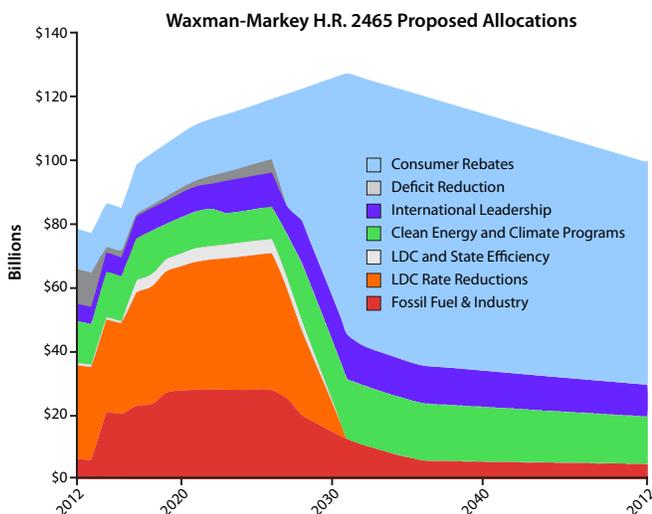
As is mentioned above, the Markey-Waxman discussion draft didn't specify whether to auction or giveaway allowances for free. In the first few weeks of negotiation on the bill, permit auction was a big sticking point in the negotiations. Many energy-intensive industries are demanding that they be given permits for free, otherwise costs will be too high and their business will suffer. Consequently, congressmen and senators from coal or gas-and-oil states are feeling the pressure from their industry campaign donors and other special interests at home and are pushing to give away as many of the allowances away for free as possible. In the run-up to the election, President Obama consistently promised legislation that would auction all permits, but during the past few months, administration officials have been maneuvering into a more politically tenable position.

1Sky has a great breakdown of how the compromise in the Energy and Commerce committee gives out allowances. This is roughly the same as the final bill.

1 Sky Summary of Allocation Provisions of H.R. 2454, 2020

Allowance %	Major Provisions (2020 snapshot)
Fossil Fuel Companies and Energy-Intensive Industries 25%	2% Oil Refineries <ul style="list-style-type: none"> ✓ These allowances are given to the oil industry. Oil companies still feel the market signal of a price on carbon, but they also receive money to help offsets the new costs associated with fossil fuels. 5% Coal Plant Operators <ul style="list-style-type: none"> ✓ Allowances given to merchant coal and long-term power purchase agreements according to a formula developed by utilities. Utilities still feel the market signal of a price on carbon, but they also receive money to help offsets the new costs associated with fossil fuels. 5% Coal CCS (Carbon Capture and Sequestration) <ul style="list-style-type: none"> ✓ This provision gives public funding to new commercial-scale plants that use CCS technology to capture and sequester at least 50% of their carbon pollution. More funding is distributed to better-performing large-scale plants 13% Energy-Intensive Trade-Exposed Industries <ul style="list-style-type: none"> ✓ These allowances are designed to prevent energy-intensive industries from moving jobs and emissions abroad. Allocations start at 15% and decline over time. ✓ Supplemented and eventually replaced by a border tax adjustment (carbon tariff) in 2025.
Reducing Retail Energy Prices via Local Distribution Companies (LDCs) 36%	30% Electricity Rate Reductions via LDCs (Utilities) <ul style="list-style-type: none"> ✓ The value of these allowances is equal to 90% of the increased costs for utilities under a carbon cap. With allowance value going to LDCs, power generators still feel the market signal of a price on carbon, but commercial and residential ratepayers are buffered from 90% of the price increase, which reduces the incentive for them to invest in cost-effective energy efficiency measures. State-based public utility commissions and the EPA are given the power to revoke allowances from LDCs if they do not pass the full value of these allowances to consumers through reduced electricity bills. 6% Natural Gas Rate Reductions via LDCs (Energy Providers) <ul style="list-style-type: none"> ✓ The value of these allowances is equal to two thirds of the increased costs for natural gas companies under a carbon cap. Like the electric utilities, natural gas companies will still feel the market signal of a price on carbon, but commercial and residential ratepayers are buffered from two thirds of the price increase, which reduces the incentive for them to invest in cost-effective energy efficiency measures. As with electric utilities, state-based public utility commissions and the EPA are given the power to revoke allowances from LDCs if they do not pass the full value of these allowances to consumers through natural gas bills.
State and LDC Energy Efficiency Investments 4%	4% State and LDC Energy Efficiency <ul style="list-style-type: none"> ✓ These allowances are distributed to LDCs and states to invest in heating oil and natural gas efficiency measures. These projects are designed to save consumers money, by investing in low-cost common sense energy-saving projects.

Allowance %	Major Provisions (2020 snapshot)
Consumer Rebates 16%	15% Federal Low-Income Consumer Rebates. ✓ These allocations are auctioned and used to send direct lump-sum payments to low-income consumers, whose prices will be influenced by climate policy. Because low-income households spend a higher percentage of their income on energy than other households, it's important to target rebates to this segment of the population. 1% Home Heating Oil Consumer Rebates ✓ Distributed through states most impacted by higher heating oil prices.
Public Investment in a Clean Energy Future 10%	7.0% to Renewables and Energy Efficiency ✓ 5.5% for clean tech deployment. ✓ 1.5% for clean tech R&D. 1% Electric Vehicles ✓ A program to help fund research, development, implementation for electric vehicles and other advanced automobile technology. Funded at 3% for the first 6 years. 0.5% for Green Job and Transition Programs ✓ Funding is targeted toward workers who are affected by the transition from fossil fuels to clean energy. 2% for Domestic Adaptation ✓ Funds to help vulnerable communities and ecosystems adapt to climate change. Half for wildlife and natural resource protection, and half for other adaptation purposes, like public health.
Crucial International Investments 7%	1% International Adaptation 5% Reducing Tropical Deforestation 1% Exporting Clean Energy ✓ Allocating funds to help vulnerable communities adapt to climate change, protect tropical forests, and export clean energy technology increase our bargaining power at the international climate negotiations coming up this December in Copenhagen. These funds assist vulnerable communities in developing countries as they transition to low-carbon economies and adapt to the changing climate.
Deficit Reduction 2%	✓ Allowance value is transferred to the U.S. Treasury, which allows the bill to be scored as deficit-neutral by the CBO (Congressional Budget Office).



(table and graphs adapted from *Preliminary Analysis of H.R. 2454, The Waxman-Markey "American Clean Energy and Security Act of 2009,"* available at www.1sky.org, used with permission from 1Sky)

What is the climate movement advocating for and why?

It is hard to adequately stress what a sticking point distribution of allowances is in the current debate and the different contentious views that surround it. It seems likely that a very few number of people will decide how billions of dollars worth of allowances will be distributed. The youth climate movement is working as hard as possible to ensure that our elected officials know that 100% of allowances must be auctioned off, for the reasons mentioned above. Many moderate lawmakers say that some percentage of the allowances must be given away for free in order gain their support. The youth climate movement refuses to moderate its stance based on current notions of political feasibility and maintains that a 100% percent auction is the most equitable, economically beneficial, and morally correct solution to the allowance distribution debate.

One particular part of the allowance auction debate that has emerged after the compromises of the ACES bill is the mechanism to give 36% of the allowances to Local Distribution Companies (“LDCs”), in an attempt to protect the consumer from higher energy prices. Many in the youth climate movement feel that there is a more efficient, fair, and credible way to make sure that this money gets to the consumer, a process called “revenue recycling.” Some advocate for revenue recycling through the tax code, in which consumers and firms pay fewer taxes (particularly the payroll tax) in order to mitigate higher energy costs. Others advocate for a direct dividend or rebate that would be given to households annually or quarterly to allow them to cope with higher prices. While there are flaws with both these systems, it is at least guaranteed that Americans will get some money back, while the LDC system is incredibly complex and non-transparent, and could lead to some consumers not receiving the benefits they deserve. In addition, as the 1Sky chart mentions, the price of electricity would be kept artificially low, which eliminates a price signal that would spur innovation, R&D investment, and the creation of green jobs.

Citations

- ¹ “Issues in Designing a Cap-and-Trade Program for Carbon Dioxide Emissions,” Testimony of Peter Orszag, Director of Congressional Budget Office before the Committee on Ways and Means, September 18, 2008. <http://www.cbo.gov/ftpdocs/97xx/doc9727/09-18_ClimateChange_Testimony.shtml>
- ² Testimony of James E. Rogers, Chairman, President and CEO, Duke Energy Corporation before the House Committee on Energy and Commerce, April 22, 2009. <energycommerce.house.gov/Press_111/20090422/testimony_rogers.pdf>

Take Home Points

- Emissions allowances are extremely valuable and there is a large political debate over how many should be given away for free and how many should be auctioned off.
- Those that advocate 100% giveaway say that auctioning permits will hurt consumers and raise costs.
- Others support 100% auction of allowances, arguing that revenue generated will go towards helping low-income Americans adapt to higher prices, transitioning to a clean energy economy, funding forest protection efforts, adaptation measures, and other purposes. This is widely regarded as the most economically efficient way to deal with allowances.
- 100% auction makes sure there isn’t a massive transfer of wealth from the government to polluting industries
- The ACES bill has a complex scheme that gives out 85% of permits for free.
- The youth climate movement is calling for the 100% auction of all permits.

³ Kit Batten, Benjamin Goldstein, and Bracken Hendricks, Center for American Progress, “Investing in a Green Economy: Using Cap-and-Trade Auction Revenue to Help American Families and Spur Clean Energy Innovation, June 2008. p. 4. <www.americanprogress.org/issues/2008/06/auction_revenue_report.html>

⁴ “Allocating Allowances in a Greenhouse Gas Trading System,” National Commission on Energy Policy. p. viii. <www.energycommission.org/ht/display/ContentDetails/i/1578/pid/493>

⁵ Cap, Trade, and Auction: Auctions and Revenue Recycling under Carbon Cap and Trade.; Testimony of Dallas Burtraw, Senior Fellow, Resources for the Future before the House Select Committee on Energy Independence and Global Warming. <globalwarming.house.gov/tools/assets/files/0326.pdf>

7

Offsets

What is an offset?

According to the Government Accountability Office (GAO), carbon offsets are “reductions of greenhouse gas emissions from an activity in one place to compensate for emissions elsewhere.”¹ Offsets allow emitters who are covered by the carbon caps of a cap-and-trade system to comply with the need to reduce a certain amount of pollution by paying for emissions reductions at facilities or activities that aren't covered in the cap-and-trade program. These offsets could come from inside the U.S. or from somewhere overseas. For example, the owner of an American coal-fired power plant might receive an offset by paying a farmer to set aside croplands from agricultural production to rebuild carbon in the soil and vegetation, thereby enabling the power plant to continue to emit more carbon dioxide. In theory, the owner of the power plant will do this because it is cheaper for her to pay for the reductions on the farm than it is to reduce emissions from her power plant. Since all tons of carbon emissions affect the atmosphere the same, this offset could be accepted as equivalent to a permit.

Offsets are very controversial in the climate policy debate. Many proponents of using offsets argue that the use of carbon offsets will drive emissions reductions in areas of cap-and-trade where it is hard to reduce ones own emissions and will ensure that the price of emissions reductions permits don't skyrocket. Opponents often point to the fact that it's hard to prove that the reductions driven by offsets would be real, permanent, measurable, verifiable, and additional (don't worry, we'll go into all this in a few minutes). In addition, some offsets don't offer emissions reductions – rather, they just prevent potential emissions from being emitted, thus not really reducing any emissions at all. One of the central battles in Congress will be

whether or not we include offsets in domestic legislation, where those offsets can come from, and how many we will allow polluters to purchase.

Where have offsets been used before? Did they work?

The biggest use of carbon offsets right now is as a part of the Clean Development Mechanism (CDM), an international carbon offset market that was set up as part of the Kyoto Protocol (See section on “International Policy”). The CDM is regarded as one of the most controversial parts of the Protocol, and as even been referred to as the “Kyoto surprise.” In a nutshell, the CDM allows for engineers and contractors who are planning a sustainable development project in a developing nation to apply for Certified Emissions Reductions credits (“CERs”) that can be purchased by developed countries and will then be counted towards that nation's emissions reductions.

For example, pretend a company is planning to build a dam in Bhutan. They apply for CERs from the CDM board, arguing that without funding from an international source, this project, which has very few carbon emissions associated with it, would never occur. The CDM board grants the dam project CERs equivalent to 100,000 tons of carbon dioxide not emitted. These are granted on the presumption that this dam is being built to provide the people of Bhutan with non-fossil power, which would be the alternative if the dam weren't built. These CERs are put on the market and developed nations compete to buy them. Let's pretend the government of Sweden, which has a target of reducing their carbon emissions by 5% in the next four years, needs some help getting to that target. By purchasing the CERs generated from the dam project in Bhutan, they can get credit for reductions that took place in Bhutan without

necessarily having to shut dirty power plants back home in Sweden.

What are the good things about offsets?

Proponents of offsets demand that we are allowed to use offsets as a large part of the US' emissions reductions strategy. There are many different rationales given to support this view.

The first argument for offsets is that a “well-designed offsets program significantly improves the cost effectiveness of achieving the environmental goals of the program by including a broader scope of low- and moderate-cost emissions reduction opportunities.”² This argument is centered around the idea that offsets reduce costs to the U.S. economy by allowing firms to purchase emission reductions that occur elsewhere when they are cheaper than the cost of reducing their own emissions. Just as a cap-and-trade program allows firms to purchase allowances from other companies that can reduce emissions more cheaply, offsets are opportunities for emissions reductions to take place at a smaller expense to dirty companies. In this sense, offsets are a cost-containment mechanism (See “Cost Containment” section).

A second argument for offsets is that they are an excellent tool for CO₂ reductions in developing countries. It may be many years before a cap-and-trade systems covers all of the economies in all parts of the world, yet emissions reductions need to be introduced into all sectors and countries not immediately covered. International offsets are one way to do this.³ Another argument is that offsets “provide a critical transition period to meet their compliance obligation while still developing and deploying emerging low-carbon technologies, thereby helping to safeguard the economy from drastic shocks in fuel use and prices.”³

Proponents of offset programs also stress the fact that offsets will help preserve forests from deforestation and degradation. One common example of an offset project is essentially a company paying a developing nation not to cut down a tropical forest. The company that pays for this offset gets certified emissions reductions the emissions not emitted from the forest that is no longer going to be cut down. Since tropical deforestation accounts for 20% of global carbon emissions, this is a huge deal.

What are the problems with offsets?

There is long list of problems with using offsets as a major part of our long-term emissions reductions strategy.

As Environment America's Emily Figdor said in testimony in front of Congress, “The bottom line is that ensuring offsets deliver emission reductions that are of the same quality as those achieved within the bounds of a cap-and-trade program is extremely difficult, if not impossible. Offsets that fail to meet key criteria – that they are real, additional, permanent, quantifiable, and enforceable cuts in pollution – provide no environmental benefit, thus undermining the emissions cap.”⁴ Here's a blow by blow breakdown of Ms. Figdor's concerns and some commonly cited problems with offsets:

Additionality: The central tenet behind offsets is that they are funding reductions that would not have occurred without the presence of outside funding, raised by selling offsets. This concept is called additionality. As Figdor puts so eloquently, “Determining additionality requires the development of accurate forecasts that predict what would have happened under business-as-usual conditions and then comparing them with the actual emission reductions achieved. The reality is that this process requires crystal ball-gazing. Consider a situation in which rising natural resource prices bring an industrial facility abroad to the verge of shutdown – a step that would reduce carbon dioxide emissions. A U.S. utility might agree to pay the factory owner if she shuts down the facility, thus generating credits that the utility can use to expand its own operations. The key question in this scenario becomes: Would the factory have shut down anyway in the absence of the money from the utility? If the answer is yes, no surplus emissions have been gained. Indeed, by allowing credits generated from an illusory emission reduction to be used to increase emissions from the power plant, the offsets program results in an increase in overall emissions versus business as usual.”

Real: A real emission reduction reduces emissions globally, rather than merely shifting emissions from one facility or country to another. If a forester agrees not to cut down one forest, but instead decides to cut down a different one, there are no emissions reductions. This process is called “leakage,” and is a big problem because carbon dioxide is a global pollutant.

Permanent: Many offset projects are temporary. For example, planting a forest absorbs carbon from the air, but it will eventually be released again when the trees die. Temporary offset projects should only receive credit as offsets for the period in which they are actively reducing emissions.

Quantifiable: Emissions reductions from offsets must be able to be measured by generally accepted and replicable techniques. For example, there is no standard for how much carbon is

reduced by planting a forest because that depends on the types of trees, the soil, the geographic location, management practices, and other factors. Creating a standard would take lots of time, people, and money. Also, quantifying methods have to factor in reductions that are shifted to other locations, that would have occurred anyway, or that are temporary.

Enforceable: The EPA or some other government entity must be able to take enforcement action against a peddler of fake or imaginary offsets, including projects in other nations. Third-party verification by private groups or international bodies could help, but these organizations would have little to no government oversight.

In addition to this list of arguments about the potential issues with the offsets themselves, many argue that these offsets will delay America's transition to a clean energy economy, and the economic benefits that go along with it. Today, America has lost its role as the leader in development and deployment of clean and renewable energy technologies to countries like Germany, Japan, and even China. A cap on global warming pollution provides an enormous opportunity for American businesses and industries to adjust and innovate to create new energy solutions that don't contribute to climate change. If offsets are used to make reductions elsewhere, however, then the opportunity to transform our industries at home is diminished.

Another problem with offsets is that it could drive production in other energy systems that do damage to our natural environment. The CDM allows both large-scale hydro power projects, coal plants that employ carbon capture and storage, and natural gas power plants to qualify for CERs. Natural gas is a fossil fuel, albeit cleaner than coal or oil, that still gives off carbon emissions when burned. A coal plant that uses carbon capture and storage has yet to be built and still perpetuates the dirty impacts of coal on people and the natural environment. Many large-scale dams that have been approved by the CDM board have flooded huge valleys in places like China and India, displacing millions of villagers without their consent. Right now, the CDM does not cover the nuclear industry, but there are definitely lobbyists pushing for nuclear development to count as an offset.

How are offsets factoring into the policy decisions made today?

The Waxman-Markey discussion draft allowed firms covered by a cap to "increase their emissions above their allowances if they can obtain 'offsetting' reductions at lower cost from

other sources. The total quantity of offsets allowed in any year cannot exceed 2 billion tons, split evenly between domestic and international offsets. Covered entities using offsets must submit five tons of offset credits for every four tons of emissions being offset." This means that emitters will be allowed to offset some of their emissions to the tune of two billion tons per year, one billion tons from offset programs within the US and one billion tons internationally. Also, emitters must submit five tons of offset credits from every four tons of emissions being offset. This means that if Coal Company X wished to offset 80 tons of carbon emitted into the atmosphere, they would have to provide the EPA with 100 tons of offsets from an offset project, like our Bhutanese dam project mentioned above.

The version of the ACES bill that was passed out of the Energy and Commerce committee alters this offset plan slightly. The 4-to-5 ratio of emissions to offsets no longer applies to domestic offsets, and doesn't apply to international offsets for the first five years of the program (i.e. until 2017).

Today, American industries that would be covered under a cap produce more than 7 billion tons of carbon pollution a year. This means that the leading piece of clean energy legislation at this point in time would allow about a quarter of all current American emissions to be offset elsewhere every year. According to some legislators and NGOs, this means that we may not see domestic global warming emissions reductions from fossil fuels for at least a decade.

Many people who fundamentally argue against the inclusion of carbon offsets in any piece of legislation have seen this large number of offsets included in the Markey-Waxman draft and have gotten very worried. In response, they are demanding that if there are offsets in a cap-and-trade bill, then we must have strict limits on the number of offsets that can be used and strict quality standards that ensures that offsets are additional, permanent, and real. Advocates also call for more of the offsets that are in the legislation to be done at home in the U.S. rather than abroad, where it is harder to verify the offsets are good offsets and where human rights and other justice issues aren't monitored as closely. It is unlikely that there are even 2 billion tons worth of offset projects that can be completed internationally, which suggests that some of the allowed offsets included in the bill won't be able to actually take place. This has ramifications for cost containment (see section on "Cost Containment"), among other things.

Take Home Points

- Carbon offsets are reductions of greenhouse gas emissions from an activity in one place to compensate for emissions elsewhere.
- Carbon offsets have been used in international carbon markets before, like the CDM, and many problems have come out of these programs.
- It's hard to ensure quality offsets. If we are to use offsets in a cap-and-trade scheme, they must be additional, real, verifiable, quantifiable, and permanent
- Despite questions regarding offsets, they are a necessary mechanism to keep a cap-and-trade system economically and politically viable.
- Offsets are bad for our domestic economy. They do not drive development of the clean tech sector.
- The Markey-Waxman bill has an enormous amount of offset provisions, too many of which cannot be guaranteed to meet strict standards that represent real emissions reductions.

Citations

¹ “Observations on the Potential Role of Carbon Offsets in Climate Change Legislation,” Testimony of John Stephenson, Director of Natural Resources & Environment, Government Accountability Office before the House Committee on Energy and Commerce, Subcommittee on Energy and the Environment, March 5, 2009. <www.gao.gov/products/GAO-09-456T>

² USCAP, “Blueprint for Legislative Action,” p.8. <www.us-cap.org/blueprint/>

³ Testimony of Graeme Martin, Manager of Business Development, Environmental Products, Shell Energy North America before the House Committee on Energy and Commerce Subcommittee on Energy and the Environment, March 5, 2009. <energycommerce.house.gov/Press_111/20090305/testimony_martin.pdf>

⁴ Testimony of Emily Figdor, Federal Global Warming Program Director, Environment America before the House Committee on Energy and Commerce, Subcommittee on Energy and the Environment, March 5, 2009. <energycommerce.house.gov/Press_111/20090305/testimony_figdor.pdf>

8

Cost Containment Mechanisms

What is cost containment?

It's no secret that a carbon market established by a piece of cap-and-trade legislation is going to be complicated and marked by a certain level of uncertainty. In order to help rectify some of the price uncertainty that cause businesses and industry to be wary of a cap-and-trade program, there are certain cost containment mechanisms that aim to stabilize the cost of permits in order to increase compliance flexibility and, therefore, reduce cost uncertainty.

What is banking?

Banking permits is a strategy intended to allow emitters to have more flexibility in when they have to use the permits that they purchase. Put simply, "Banking occurs when firms present an unused permit for emissions in the current year and, in exchange, get permit(s) for the subsequent year from the regulatory authority."¹ This means that voluntary "over-mitigation" of carbon pollution occurs, allowing polluters to keep the permit that they did not need to use because they unexpectedly reduced emissions enough to not have to turn in that permit. Banking allows you to have this permit for the next year.

This banking is a cost containment mechanism because the price of permits will only rise in time. Thus, if Polluter Z buys a permit in 2015 when permit prices are \$40 each and waits to use that permit until 2017 when permit prices have risen to \$60, Polluter Z will have saved twenty dollars and achieved cost-effective mitigation. It is likely that corporate investors will treat emissions allowances like other commodities and try to stockpile them when they are cheapest.

What is borrowing?

Borrowing permits is another cost containment mechanism which allows polluters to "borrow" emissions allowances from the future if the price current price of carbon is deemed too expensive to comply with.

What is a strategic reserve?

A strategic reserve is a pool of emissions allowances that are available for polluters to address the potential for spikes in carbon prices. If carbon prices skyrocket and polluters are hard-pressed to pay for them, the allowances in the strategic reserve become available for auction. There are limits on how much of the reserve pool can be drawn in any one year and there is a system that supplements the reserve with international offsets in the ACES bill (see "International" section). The strategic reserve does not "break the cap" as the allowances in a strategic reserve are borrowed from the future.

What is a safety valve or price collar?

Some advocates argue that the best way to contain costs is to create a price floor and price ceiling that the price of carbon must stay between. This is called a price collar. This mechanism would allow polluters to buy an unlimited amount of permits if the price of carbon went above a certain price. This would in effect violate the "hard cap" on emissions, as emitters could buy more permits without having to borrow from the future, but advocates for a price collar say that if the ceiling is set at the correct price, this mechanism would still allow for the same emissions reductions without having to bring the complex strategic reserve pool into play and without having to deal with

questionable international forestry offsets.

What issues are there with cost containment?

There are many issues with cost containment mechanisms that potentially allow polluters to game the system and lead to catastrophe in the carbon market. As far as banking goes, there is the potential for the government to “over allocate” emissions allowances, and companies have been able to bank allocations that they never were going to need. This presents a problem of “slack caps” in which there are too many banked allowances in the system and the price of carbon is depressed, discouraging mitigation. Borrowing has issues as well, as some borrowing proposals do not have strong caps on the amount of allowances a polluter can borrow nor do they have limits on the duration of the loan from the future. A problem which incorporates both banking and borrowing is if polluters try to bank while they borrow, allowing polluters to borrow cheaper permits from the future and while selling banked permits which may be worth more. A strategic reserve auction has issues because it demands the government buy international forestry offsets which may not be available or real. These are complex ideas that requires strong economic thinking, so don't be nervous if you don't understand them right away.

A great analysis of some of these issues has been put together by Friends of the Earth in their report entitled “Subprime Carbon,” which is available at <http://www.foe.org/subprimecarbon>. The report, which also touches on issues with carbon offsets (see “Offsets” section), stresses that a carbon market could be manipulated by speculation and futures trading, just as the credit market was in the 2008 financial crisis. We suggest that students interested in fiscal policy and economic diehards take a look at the report to get an idea of the issues they put forward.

What does Waxman-Markey say about cost containment?

The ACES bill has some cost containment provisions that aim to ease the ability for polluters to mitigate in a cost-effective manner. The bill allows for unlimited banking of permits. It also allows polluters to satisfy up to 15% of their obligations with borrowed allowances from 5 years in the future. These allowances must be repaid at a rate that is found by multiplying .08 by the number of years between when the allowances are being used and the year the allowance was issued for. For example, a polluter who borrows allowances from 4 years in the future would have to pay the full value of the allowances plus

32% more.

Most notable, the bill establishes a strategic reserve auction that allows polluters to buy a certain amount of allowances if prices reach a certain level. The EPA is required to set a minimum price per emission allowance that an auction is started at, and there are strict limits to the quantity of allowances that the EPA can sell at a strategic reserve auction. These are allowances that are borrowed from the future. The EPA would take the revenue generated from a strategic reserve auction and use it to buy international forestry offsets, which it would then include in a future strategic reserve auction. The ACES bill also puts in a price floor on the price of carbon, ensuring that the price cannot go below \$10/ton, a value that increases over time.

Take Home Points

- Carbon markets are going to be unpredictable and business and industry are very wary that costs could become extremely expensive, making cost containment mechanisms necessary to lasting cap-and-trade program.
- Banking, borrowing, a strategic reserve, and a price collar are four potential cost containment mechanisms that could make it easier for businesses to comply with cap-and-trade policy
- There is potential for these cost containment mechanisms to allow the speculators and traders to manipulate the market, and policy must correct this.
- Waxman-Markey has some cost containment mechanisms, including a very specific strategic reserve auction.
- The environmental community tends to support cost containment mechanisms that guarantee a hard cap on emissions reductions, whereas some economists prioritize price stability and cost containment over these guaranteed environmental benefits.

Citations

- ¹ Richard Newell, William Pizer, and Jiangfeng Zhang, Resources for the Future, “Managing Permit Markets to Stabilize Prices,” p.10. <www.rff.org/Documents/RFF-DP-03-34.pdf>

9

Beyond Carbon Pricing: The Need for Complimentary Policy

The following concepts are not immediately tied to pricing carbon, but are pertinent as complementary policy given that they are supportive of alternative energy sources. Europe and Australia have already instituted many of these policies, as have several US states and utility districts. It is likely the same concepts will be moved forward at the national level by either the EPA or the legislature in the near future as President Obama continues to push energy initiatives. Given the positive benefits of these policies, they are something for activists to become educated about and to pressure our lawmakers to take action to implement.

FEED-IN TARIFFS

What is a feed-in tariff?

A feed-in tariff (otherwise known as FiT, Feed-in Law, FiL, Renewable Tariff, or renewable energy payment) is government legislation that creates an incentive to use renewable energy. A tariff is a utility price structure, which means that the government controls the price. “Feed-in” means that producers are paid to “feed” their electricity into the grid.¹ When a feed-in tariff is in place, electricity utilities are required to buy electricity generated from renewable sources at a price set by the government which is higher than people are used to paying for traditional carbon based power or hydropower. The tariff rates are dependent on what renewable energy source is being used. Feed-in tariffs are normally temporary, phased out once the renewably created electricity reaches a certain percentage of the market, as it becomes no longer feasible for the government to fund.

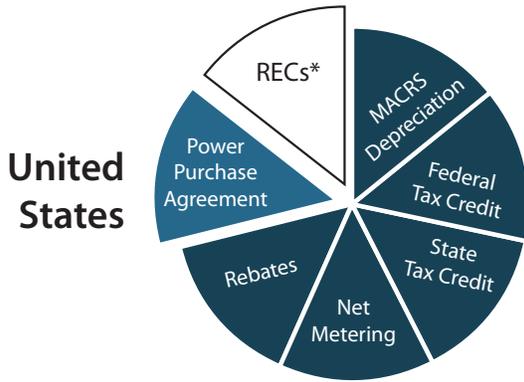
Because renewable energy sources usually produce electricity at higher retail prices than fossil fuels, a FiT is a way to encourage renewable energy. For example, if the retail price of electricity is 10 cents/kilowatt hour and the rate of renewable energy power is 35 cents/kilowatt hour, with a feed-in tariff, the renewable energy power will be purchased by utilities for 35 cents/kilowatt hour, and the price difference of 25 cents/kilowatt hour spread to all of the customers of the utility, thereby minimizing the price differential to each customer.¹

There are also more complicated elements to feed-in tariffs, such as tariff degression to accommodate improving technology, tiered tariffs based on the size of an energy producer and the quality of the renewable source, and set rates for the different type of renewable technology.

What are good things about feed-in tariffs?

In the United States, renewable energy policy is currently disjointed and draws from a wide variety of state and federal incentives and regulations. The process of investing in renewable energy is therefore confusing and burdened with bureaucratic paperwork. For example, thirty-eight states currently have renewable electricity mandates, which require a specific quantity of electricity consumption to be renewable energy, while the price of electricity is left up to the market. The price uncertainty impedes investment in alternative energy generation sources. The European Union however, has created a specific price for renewable energy electricity and allows the quantity produced to be dictated by the market. This simplifies the financing of renewable energy projects. The fixed higher price helps overcome the cost disadvantages of renewable energy sources.

Additionally, feed-in tariffs make multiple incentives and



Revenue Streams for Renewable Energy Projects

- Market Based
- Semi-Market Based
- Fixed

European Union

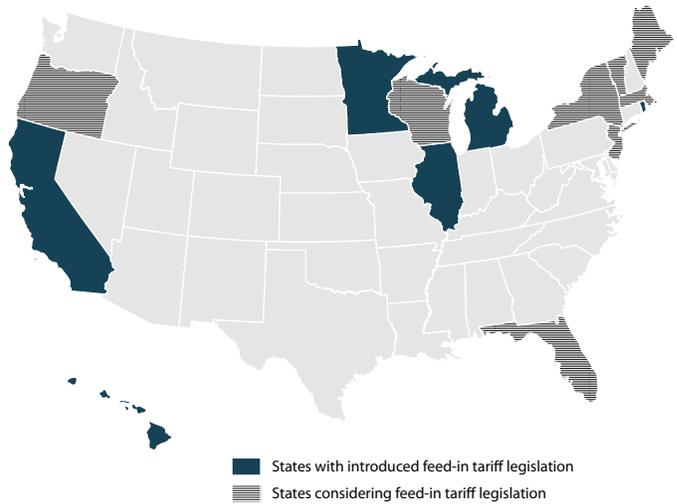


(graphs and map adapted from *Feed-in Tariffs in America: Driving the Economy with Renewable Energy Policy that Works*,¹ used with permission from the author)

* Renewable Energy Credits

Feed-in Tariffs in the United States

The U.S. considered adopting a feed-in tariff policy thirty years ago after the Public Utility Regulatory Policies Act policy allowed electricity to be generated outside utility monopolies. In the early 1980's California had a de facto feed-in tariff with a policy that fixed a high price for wind energy, but this policy was discarded in the 1990's. Now, European success stories are causing a resurgence of feed-in tariff policy proposals. In 2008, Rep. Jay Inslee (D-WA) suggested a federal feed-in tariff bill.¹



POLICY ALTERNATIVES TO FEED-IN TARIFFS

What is Net Metering?

Net metering policy frequently precedes FiT policy. Net metering is electricity policy for small renewable energy facilities, such as home-based solar or wind production. “Net” contextually means subtracting renewable energy production on-site from the total normal electricity consumption. In other words, the small producer is paid for the portion of the electricity they generate. The meters also become an effective way of storing extra electricity for future payment, known in the industry as “credits”. This banked credit system varies depending on the country, but most net metering laws allow monthly roll over of credits, a monthly connection fee, and monthly payments of electricity not provided through renewable energy (a normal electric bill for the energy used over the amounts produced through the on-site renewables). Unlike a feed-in tariff system, net metering does not directly regulate the market prices of electricity.^{1,2}

Since 2005, all public electric utilities in the United States have been required to make net metering available to their customers.²

value based financing obsolete. European countries including Denmark, Germany, France and Spain have adopted a feed-in tariff program. By reviewing the price of the tariff periodically, these countries can control investments in renewable projects. Studies show that feed-in tariff systems result in renewable energy at a lower price than with incentives or mandated system.

Under a feed-in tariff system, producers are paid a set rate above market value for every kilowatt-hour produced, and there is no limit on the payment based on volume. Thus renewable energy projects become stable investments and encourage maximum sized facilities with higher start up costs.

Finally, feed-in tariffs allow profits to stay in the community. A report by John Farrell of the New Rules Project concludes, “In Germany, 45 percent of wind projects are locally owned. In Denmark, 83 percent of wind projects are owned by individuals or local cooperatives. And for each of these locally owned projects, more of the investment dollar stays in the community and country, creating a cycle of more investment and jobs.”¹

What are the good things about net metering?

Studies have shown that people tend to consume less energy when net metering systems are in place.² With net metering systems, people become more aware of their energy consumption and are able to lower their electricity expense by selling back to the utility the alternative energy power they generate but do not need to use.

What are the problems with net metering?

While net metering is a good way to reimburse consumers who have invested in small renewable energy projects, net metering doesn't do anything to reduce the initial investment cost of renewable energy projects. This means that average citizens who might want to generate renewable energy can't afford the upfront investment cost. It can also be difficult for people to deal with the large electricity companies in order to actually get the credits from a net metering system. Basically, net metering puts all of the effort on the neophyte green consumer and allows established utility companies and the government to take it easy.

Furthermore, if the net metering policy ends up working, that is, if the policy results in a substantial amount of surplus green energy fed back into the grid, the electricity utilities are likely to lose money in the process. The utilities might then charge higher rates for all customers, which would disproportionately burden lower income people.²

What is Market Rate Net Metering?

In a market rate net metering system, small renewable energy projects are paid for the portion of energy they produce. However, because the price of the payback is equal to the wholesale electric prices, this means that you can't make money from selling the electricity back to the grid. The main difference in market-rate net metering from regular net metering is that if you generate more electricity than you use in a billing period you will be billed zero, but not make any money. Effectively, you give away any extra energy produced.³

What is Time of Use ("TOU") Net Metering?

Time of use (TOU) net metering uses a computerized meter to determine when electricity is being used. This allows utility prices to be dependent on when the electricity was used. Using electricity is therefore more expensive during the middle of the day peak periods, and lower at late night when usage is low. This provides an incentive for people not to use electricity during

peak periods. This is a big issue since solar power produces more electricity during the day, rather than during the late night when prices are lower.⁴

What is Decoupling?

The way electrical companies make money depends on how much electricity they sell. Their rates are determined by a formula that combines their estimate of how much providing service will cost, increases that number for their profit, and then divides that cost number by how many units of energy they expect to sell in that time period. If the sales turn out to be as they predicted, then the company covers their costs and makes a profit. But if the sales are below what they predicted, the company might not make enough to cover its costs and make a profit. Therefore, any kind of energy efficiency initiative is against an electric company's best interest because it will cause them to lose income as they sell less energy.

Decoupling is legislative policy that changes this negative relationship between electrical companies and energy efficiency. It does this by a rate adjustment mechanism, which means that a utility can earn income through promoting energy efficiency.

The basic idea is that if sales are less than what was predicted, the price of electricity is increased slightly so the utility does not end up losing money. These adjustments are usually only 2-3 percent of the consumers' electricity bills, and many decoupling programs contain automatic caps so that the prices can't be raised exorbitantly. This increase usually doesn't cause consumers' energy bills to increase, because their bills are decreased overall due to their lessened energy consumption (that is the price of their energy used goes up, but the volume of their energy used goes down, with the net effect being a lower bill). Studies have shown that "typical rate changes due to current decoupling is almost imperceptible to consumers."⁵ Furthermore, because energy demand is not increasing, consumers don't have to pay for the construction of new energy production facilities.

California adopted the first decoupling policy in the United States in 1982. Additional states, including Oregon, Maryland, Idaho, New York, and Minnesota have adopted some form of decoupling policies in the last few years.⁵

What are the good things about Decoupling?

Besides its poetic name, decoupling allows utilities to get on board with the climate movement. By making it profitable for utilities to support green policy rather than their usual oppositional stance, we can encourage a significant reduction in

our nation's energy usage.

What are the bad things about Decoupling?

Obviously decoupling is a complex system. It is very challenging to develop a mechanism for decoupling that fits with the rest of the state's rate structure and existing energy efficiency programs. Furthermore, some such as the Electricity Consumers Resource Council argue that potential electricity price raises are going to be drastic and hurt consumers. In practice, states with decoupling programs have not had trouble with rapidly escalating rates.

RENEWABLE PORTFOLIO STANDARDS

What is a Renewable Electricity Standard Mechanism?

A Renewable Electricity Standard ("RES") is a policy that requires electricity utilities to increase production of renewable energy sources. The RES mechanism requires electricity supply companies to produce a fixed fraction of their electricity from renewable energy sources. This process allows energy producers to earn certificates for every unit of renewable-source electricity they produce and to sell the certificates to the supply companies. The supply companies then have to show regulators their certificates to prove there are complying with the law.⁶ By increasing the required fraction of renewable energy, the RES can encourage sustainability.

These certificates are called Renewable Energy Credits, and are tradable. One credit is a proof that one kilowatt hour of electricity has been produced from renewable energy, with RES neutral as to what renewable source is used.⁶ The credit units are therefore in kilowatt hours and can be bought and sold separately from the power itself. This allows investors and companies a lot of flexibility in complying with the regulation, including what type of energy to support, what technologies to use, and what price to pay.

Government involvement is limited in the administration of the RES mechanism. The main role of the government is enforcing an automatic penalty at high cost to make the policy effective. The federal sulfur dioxide (SO₂) allowance trading program, which has an automatic \$2,000/ton penalty indexed to inflation for each excess ton of SO₂ produced is a good model for the RES mechanism. With such high cost penalties, no other enforcement has been necessary for the SO₂ program, and none could be expected for the RES mechanism.⁶

Important Aspects of an RES Mechanism

Defining what "renewable" means is crucial to the success of an RES system. The definition needs to be limited to those resources which are actually environmentally friendly, like wind, solar, and geothermal. Similarly, setting the level of the standard and its rate of increase is very important.

What are the good things about RES?

Because it relies on the private market for its implementation, RES mechanisms will cause increased competition, energy efficiency and innovation so renewable energy will be produced at the lowest possible cost, hopefully at competitive prices to fossil fuels.

The RES allows avoids government agency involvement in the dispersal of funds. Other artificial regulatory constraints which tend to increase costs are also absent from an RES program.

Furthermore, no renewable energy project is guaranteed in the market. Each project must constantly compete to keep its place, unlike one-time competition for funds, and this leads to the development of the most efficient technologies. The stability of the renewables market created by an RES mechanism makes long-term contracts and financing more feasible, which in turn lowers consumer costs.

Finally, large companies will have an interest in lowering the cost of renewable energy so they can pay less to comply with RES regulation. This aligns large electricity companies' goals with energy efficiency goals. Large generators are more likely therefore to fund renewable projects, seek out the lowest priced renewable technologies, and develop long-term contracts. This kind of a "competitive dynamic" is not achieved through direct subsidies.⁶

RES Mechanism in the United States

While RES mechanisms have been put in place in Britain, Italy, and Belgium, only 27 states in America have one. Regulations vary depending on the state, and there is no federal policy. So far, RES mechanisms in the United States have been the most successful when federal Production Tax Credits are also in place. Federal Production Tax Credits are federal tax credits given to companies for the first ten years of their production of renewable energy, offsetting the startup costs of the projects. In periods where there have been no production tax credits, the RES alone has been insufficient incentive for large volumes of energy to be shifted.⁷

What are the problems with RES Mechanisms?

RES Mechanisms are difficult to design effectively and complicated to implement. Furthermore, RES mechanisms tend to benefit large companies and do little for individual or smaller companies. Finally, RES mechanisms function on the theory of perfect competition, in other words that there are large numbers of buyers and sellers in a market so no single buyer or seller can significantly impact prices. In reality, markets are usually not perfectly competitive, so problems can arise in implementation.

What does Waxman-Markey say about an RES?

Combining renewable energy and electricity savings from the federal energy efficiency standard, the ACES bill creates an RES (called the Combined Efficiency and Renewable Energy Standard, or CERES) of 20% by 2020. Three-quarters of this requirement must be met by renewable energy, while the last quarter can be met through reduced electricity use due to efficiency. This means that 15% of each state's electricity load must be met by renewable energy and 5% with electricity savings. Upon petition by each state's governor, this can be switched to 12% from renewable energy and 8% from electricity savings. The bill's definition of renewables includes some sketchy practices, including combustion of coal bed methane, the burning of trash, new nuclear plants, and fossil fuel plants with CCS (carbon capture and sequestration).

Many in the environmental community feel that the CERES is much too weak (it was moderated down from an initial 25% in the discussion draft) to drive strong emissions reductions, ensure that renewable power deployment exceeds the business as usual scenario nationwide, and create millions of new green jobs. Many are calling for a stronger target that prioritizes renewables much more and would allow for fewer loopholes allowing states to opt out. Conversations in the Senate have already begun that may change this definition. A great article that expands on this list of issues appears at the Southern Alliance for Clean Energy's blog, which can be accessed at <http://blog.cleanenergy.org/2009/06/04/renewable-electricity-standard/>.

Take Home Points:

- There are many complementary policies that lead to an increase in renewable energy and electricity use, thus reducing emissions.
- A feed-in tariff requires a government to pay a certain special rate for renewable energy.
- Net metering allows small-scale renewable energy projects to sell excess energy created back into the electricity grid.
- Decoupling is a policy that allows electricity utilities to encourage energy efficiency measures without lowering their own profits
- A Renewable Electricity Standard (RES) mandates a certain percentage of a state's energy consumption come from a renewable source or decreased through energy efficiency.
- The ACES bill includes an renewable energy standard that is regarded by many as too weak.

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10

State Preemption

What is State Preemption?

Substantial debate has been waged over regulating emissions in the United States, including what should or should not be regulated, how the regulations should be defined, and who should be the regulator. The issue of state preemption is part of this debate. State preemption occurs when individual states take a leadership role in more aggressive legislative or regulatory action than the federal government. State preemption on emissions regulation has resulted in angry industrial factions and lawsuits in federal court. The issue of state versus federal regulation has a long history of controversy on topics as varied as discrimination in employment, interstate trade banking regulation or environmental issues.

Constitutional Construction of State Preemption

The United States Constitution's Supremacy Clause (Article VI, Section 2) states that the laws of the United States are the "supreme Law of the land."¹ Therefore, when there is a conflict between a state and a federal law, the federal law takes precedence over the state law.

There are two types of state preemption: express and implied. Express preemption occurs when Congress states within a statute that the federal law they are passing explicitly precludes state or regional regulations. Implied preemption has three sub-categories: conflicts preemption, preemption because state law impedes the achievement of a federal objective, and preemption because federal law occupies the field.

Conflicts preemption exists when federal law and state law cannot both be followed; thus preemption only occurs when federal and state laws are mutually exclusive. It is, however, possible to have different federal and state laws without

preemption. For example, if the federal law is a minimum standard, and the state law is stricter, the state law in such case would not be preempted.

Implied preemption occurs when a state or local law interferes with a goal of a federal law. The purpose of the laws must be compared and if both laws are trying to achieve the same goal, the federal law will preempt the state or local law. The final type of implied preemption is when federal law is intended to be exclusive in that area. Examples of this include foreign policy and immigration. Congress may declare its intent to make the federal government the primary source of law in a particular area, which will result in state laws regulating that area being preempted even if they are not inconsistent with the federal law.

Courts have developed a large body of precedents to resolve issues of preemption. In general the courts try to make state and federal laws mutually compatible, and use preemption only when absolutely necessary. The courts will be more likely to find a state law to be preempted by federal law if it touches upon an area where there has historically been a strong federal interest, such as banking, interstate commerce, or foreign affairs.

Recent Examples of Environmental State Based Action

1. *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007) is a U.S. Supreme Court case decided in 2007 where twelve states and several cities sued the United States Environmental Protection Agency (EPA) because they wanted more aggressive regulation of carbon dioxide and other greenhouse gases on a federal level. The Administrator of the EPA decided in 2003 that the EPA lacked the authority under the Clean Air Act to regulate carbon dioxide and other greenhouse gases (GHGs), and furthermore decided that even

if the EPA did have the authority, they would decline regulation of carbon dioxide and other GHGs. The twelve petitioner states, various cities and environmental non-governmental organizations argued against the EPA and various automobile industry lobbying groups. The Supreme Court took special interest in the case and therefore awarded the case an appeal. The case was decided in the U.S. Supreme Court with a 5-4 decision that: the petitioners had legal standing to bring the case to court; the EPA does in fact have the authority to regulate tailpipe emissions of greenhouse gases (carbon dioxide) under the Clean Air Act; and therefore the EPA must revise their regulations to include carbon dioxide and GHGs or develop a more compelling argument.¹ Individual states, led by California, brought this case because they are interested in moving aggressively into what they have seen as a “regulatory vacuum”.²

In 2006, California passed the Global Warming Solutions Act, which establishes a timetable to bring California close to compliance with the Kyoto Protocol, including the creation of a market-based cap & trade system of the state's GHG sources as early 2012.³

2. Regional Greenhouse Gas Initiative (RGGI, or ReGGIe) is a regional initiative by states in the Northeastern United States region to reduce greenhouse gas emissions. In 2003 the Governor of New York, decided to “to develop a strategy that will help the region lead the nation in the effort to fight global climate change.”⁴ In August 2005, the RGGI staff working group proposed an emissions reduction program from power plants that would start in 2009 and lead to a stabilization of emissions at current levels (an average of 2002-2004 levels) by 2015. This would be followed by a 10% reduction in emissions between 2015 and 2020. The proposal would also allow participants to purchase offsets to meet 50% of their emission reductions. Seven states currently participate in the initiative, and other states only participate as an observer, including Pennsylvania which is a major coal producer and manufacturing state.⁶

3. A parallel effort to reduce emissions in the Northeast is the New England Governors/Eastern Canadian Premiers Climate Change Action Plan (NEG-ECP), which calls for a reduction in greenhouse gas emissions to 10% below 1990 levels by 2020. For point of comparison, the EU aims to reduce emissions to 20% below 1990 levels by 2020. The NEG-ECP was adopted in 2001 by New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) as well as the Eastern Canadian provinces (New Brunswick,

Newfoundland and Labrador, Nova Scotia, Prince Edward Island, and Québec).⁷

4. The Northeast States for Coordinated Air Use Management (NESCAUM) is building a Regional Greenhouse Gas Registry (RGGR) to help track emissions in the region. The regional greenhouse gas registry (RGGR) for the Northeast was launched in 2003, and includes both voluntary and mandatory emission reporting regulations.⁸ NESCAUM coordinated work on RGGR with the California Climate Action Registry, and is adopting the California Registry's data collection software. The California Climate Action Registry is a private non-profit organization originally formed by the State of California. The California Registry serves as a voluntary greenhouse gas (GHG) registry to protect and promote early actions to reduce GHG emissions by organizations. California Registry members voluntarily measure, verify, and publicly report their GHG emissions.⁹

5. Western governors are working collectively and individually to move the region toward a cleaner more diverse energy future, founding the Western Governors' Association Clean and Diversified Energy Initiative. The Governors priorities were outlined in a resolution that the Governors passed at their 2006 Annual Meeting, including making the necessary changes in state and federal policy to achieve 30,000 megawatts of new clean and diverse energy generation by 2015, a 20 percent increase in energy efficiency by 2020, and adequate transmission capacity for the region over the next 25 years.¹⁰

6. The Western Climate Initiative (WCI) was adopted in 2007 and sets a goal of reducing greenhouse gas emissions by 15% from 2005 levels by 2020 through a cap and trade proposal beginning in 2012. The goal is to start state based action to combat climate change and lay the foundation for an international cap and trade program. The WCI was started by six states and two provinces along the western rim of North American to combat climate change caused by global warming, independent of their national governments.¹¹

What does Waxman-Markey say about state preemption?

ACES disallows states that have already passed legislation implement or enforce a cap on greenhouse gas emissions between 2012 and 2017. This means that the states that are a part of RGGI will have to exchange their permits for national cap-and-trade permits. States are allowed to regulate emissions in other ways, however, such as through fuel standards.

Take Home Points

- States have often clashed with the federal government over who has jurisdiction to take action on environmental issues.
- During the Bush Administration, many states took on their own initiatives to combat GHG emissions due to the federal government's unwillingness to do so.
- The Waxman-Markey bill plans to take over state carbon control policies and incorporate them into the national cap-and-trade system.

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11

The Intersection of U.S. and International Climate Policy

What is the UNFCCC and international policy timeline?

The United Nations Framework Convention on Climate Change (UNFCCC) is the international body that was established in 1992 at the UN Earth Summit in Rio de Janeiro to tackle the issue of climate change. The UNFCCC holds an annual meeting, called the Conference of the Parties (COP), to negotiate international climate policy. The most well known product of the UNFCCC is the Kyoto Protocol, which was negotiated at COP3 in Kyoto, Japan in 1997. The Kyoto Protocol set binding targets to reduce GHG emissions an average of 5.2% percent below 1990 levels by 2012. One hundred eighty-three countries, not including the U.S., ratified the Kyoto Protocol. It entered into force in February 2005 and participating countries are meeting reduction targets in the first compliance period, which runs 2008-2012.

At COP13 in Bali, Indonesia in December 2007, the parties of the UNFCCC agreed to a plan of action called the Bali Roadmap, a negotiating path that set forth at two year process which will culminate with a binding agreement at COP15 in Copenhagen, Denmark. In Copenhagen, the world's leaders will attempt to agree on matters regarding adaptation, finance, technology, forestry policy, international targets and timetables, a shared vision on how to move forward, and more. This is a tall order, but many view Copenhagen as a crucial deadline in determining the fate of our climate. Hopefully, this binding new agreement, the Copenhagen Protocol, will set the stage for a global transition to a low carbon economy and GHG stabilization.

How does US policy interact with international climate negotiations?

The US Constitution says that in order for the United States to sign on to any sort of treaty, that treaty must be ratified by a two-thirds majority of the Senate (that is 67 senators.) In 1998 Vice President Al Gore symbolically signed the Kyoto Protocol, although the Senate had made clear that it would not ratify the protocol unless there was participation from developing countries. Neither the Clinton Administration nor the George W. Bush Administration submitted the Protocol for ratification. The participation of developing countries in a global climate agreement has remained a contentious issue for US policymakers, who want firm reduction commitments from China and India.

The State Department is the US government body that works with the United Nations. In January 2009, President Obama appointed Todd Stern as a Special Envoy for Climate Change, making him the US's chief climate negotiator. Stern was formerly the senior White House representative to the Kyoto negotiations in the Clinton White House. Mr. Stern has said that he will take his directives and negotiating stance from the Obama officials in the White House, but also from Congress and the laws they pass there. International climate negotiators have no choice at international meetings but to advocate for the laws that Congress passes. Thus, attempting to influence Congress is an indirect way to influence the State Department's decision makers on climate issues.

The success of the Copenhagen conference essentially lies in the hands of the United States. The past eight years of negotiation have consistently seen the Bush Administration attempting to block progress from moving forward. Thus, there's

an air of mistrust in the international negotiations, with many wary of the ideas the United States proposes. So far, however, the Obama Administration is being received warmly and the American negotiators have begun to get serious about a global deal. That said, there's a long list of things that the United States must do in order to ensure that the Copenhagen meeting is successful in creating a lasting, binding global strategy for tackling climate change. Some of these tasks include:

- setting a short-term (ie 2020) and long-term (ie. 2050) emissions reductions target
- creating positive incentives for stronger reductions and commitments from developing countries like China and India
- dedicating resources to funding adaptation measures in developing countries and countries that are particularly vulnerable to the impacts of climate change.
- linking whatever US emissions trading system gets decided upon into the international greenhouse gas market
- contributing to the dialogue about reducing emissions from deforestation and degradation (REDD) and land use, land use change, and forestry (LULUCF).
- helping to work out a mechanism to allow for the transfer of clean energy and development technologies from the US to developing countries.

Given that this is only a partial list, one can see how the United States is sort of a deal-breaker at these international discussions. It is also important to note that the United States is not the only developed country who has to fulfill these tasks, many others (including Australia, Japan, and Canada) have lots of work to do before Copenhagen.

How do targets matter?

The targets decided on by the United States are probably the biggest hinge in deciding the success of Copenhagen. The UNFCCC process is working on coming up with a specific number for Annex 1 (a.k.a. developed countries) reductions as a whole. Since many of the EU countries and other Annex 1 countries have had a head start on their reductions since they ratified the Kyoto Protocol, the United States will probably not have to meet a target that is as strict as some other rich countries. That said, determining a feasible “comparable effort” for the United States is going to be a keystone of the negotiations. Todd Stern has laid out Congress’ targets of about 17% emissions reductions by 2020, but this is regarded as way too low a goal by many in the international community. Since the scale of reductions from Annex 1 parties as a whole will never

be decided until America makes a target choice, it is essential that Congress lay forth a target before the Copenhagen meetings in December. Obama’s goal long-term goal of 80% reductions by 2050 has been applauded by the international community, but focus at the UNFCCC has been on 2020 targets.

What is REDD and other Forestry issues?

The IPCC estimates that emissions from tropical deforestation accounted for 20% of global carbon emissions in the 1990s. One of the major tasks of the UNFCCC process is to create a mechanism that addresses this problem. There have been an unbelievable amount of proposals to reduce emissions from deforestation and forest degradation in developing countries (REDD). The Global Canopy Programme’s “The Little REDD Book” (<http://www.globalcanopy.org/main.php?m=117&sm=176&t=1>) provides a great summary: “The basic idea behind REDD is simple: Countries that are willing and able to reduce emissions from deforestation should be financially compensated for doing so. Previous approaches to curb global deforestation have so far been unsuccessful, however, and REDD provides a new framework.”¹ Although there has been lots of talk about deforestation at COP, the only official language regarding REDD is from the Bali Action Plan, and it merely calls for: “Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.” It is important to note that what is mentioned in the Bali Action Plan is called REDD+, with the “+” acknowledging the existence of programs that would plant new forests.²

There are some serious concerns regarding REDD and human and indigenous rights. There is the potential for some of the “conservation” measures mentioned above to lead to large-scale evictions and loss of rights for indigenous peoples and local communities who live tropical forests. “Enhancement of forest carbon stocks” could lead to industrial tree plantations, with some scary implications for biodiversity and local communities. It is important to note that even though the overarching goal of REDD is a good one, there are some justice concerns that must be discussed when deciding on a policy.

There are three main proposed mechanisms for funding REDD: carbon trading, a REDD fund, and a hybrid mixture of the two. Proponents of market mechanisms argue that all that is needed to stop deforestation and clear cutting for cattle ranches

or oil palm plantations is a price signal. For these advocates, allowing countries to trade forest carbon credits would incentivize forest protection. Opponents of this strategy argue that financing REDD through carbon trading would mean that the rich developed countries can continue to burn fossil fuels by offsetting its emissions with carbon stored in forests. Since trading forest carbon allows pollution to continue somewhere else, there are no emissions reductions associated with the plan. In addition, it is hard to quantify the amount of carbon stored in a forest and there is potential for forest carbon trading to stop deforestation in one area, while increasing deforestation elsewhere.³ Another option would be a global fund for forests which would be set up to allow cash flow to developing countries based on domestic forest management and conservation plans. This fund, however, would probably be voluntary and without mandatory requirements from Annex-I countries, a fund might raise significantly less money than a market mechanism. Hybrids proposals between the two systems are becoming a popular, with potential market-linked mechanisms which would generate finances through an auction or by creating two different markets for emissions reductions and forest carbon. Again, “The Little REDD Book” is the best resource for details on all sorts of proposals.

Most relevant to the domestic policy debate, however, is funding set aside to in a domestic bill to help finance whatever REDD mechanism gets decided upon. A percentage of auction revenue from a domestic carbon market could be set aside to prevent tropical deforestation, provide technical assistance and capacity building for developing countries working to end deforestation, development of programs to measure forest carbon emissions and guarantee actual carbon sequestration from REDD programs, and other similar measures. In addition, the climate bill could call for the protection of indigenous and human rights in regards to a global REDD deal.

What is international adaptation funding?

Adaptation to climate change is vital. Impacts from high carbon levels are already happening, and will only get worse in the future. Many of the most vulnerable countries to the impacts of climate change are ones that are least responsible for the problem and have the smallest capacity to fund protection of their country and citizens. Thus, it has fallen to the UNFCCC to come up with a mechanism for funding international adaptation programs to adapt to a changing world.

Currently, there are a couple different mechanisms that

provide funding within the UNFCCC. The main one of these mechanisms is called “The Adaptation Fund” (in a world full of acronyms it is refreshing for something to have such a simple name) and is financed by taking a small share (2%) of the proceeds of CDM activities and is supposed to get funding from other sources as well. So far, however, the developed nations of the world, which have stated that they would give millions of dollars into the adaptation fund, have yet to give a single dime. Interestingly, students from the Gymnasium Marienschule in Euskirchen, Germany provided the first contribution to the Adaptation Fund at a press conference at UNFCCC negotiations in Bonn, Germany in March 2009.

What are other important international issues that will be discussed in Copenhagen?

The international climate negotiations currently underway are so extensive and complex that there’s no way they could all be covered here, but we want to give you at least a hint of what some particularly troublesome issues are (in addition to REDD, adaptation, and targets)

- Clean Technology Transfer – As the Third World Network says, “If developing countries are to moderate their emissions growth and eventually cut their emissions, while still having the capacity to have economic growth (of the appropriate type, consistent with sustainable development), the key is for them to have access to climate-friendly technology at affordable prices.”⁴ The details of a mechanism that would allow for clean development technology to be available to developing countries for reasonable prices must be worked out at the UNFCCC. This is a problem similar to the lack of availability of affordable AIDS drugs in much of sub-Saharan Africa.
- Land Use, Land Use Change, and Forestry (LULUCF) – This is essentially an issue just like REDD, although in developed countries rather than developing ones. It has become a sticky issue, as some developed nations (particularly New Zealand) have been calling for harvested wood products (such as wooden furniture) to be regarded as carbon sinks under a treaty.
- Clean Development Mechanism – See “Offsets” section.
- Compliance – It is hard to make an international climate treaty work unless each country that signs on complies with the terms of agreement. The only way to make this work is to make an international treaty legally binding, where a breach of the agreement has some sort of serious repercussions.
- There are many other issues at stake. Check out www.fccc.int for an idea of all the negotiation information.

What does Markey-Waxman say on these issues?

Markey-Waxman discussion draft does have some commitments to address some of the issues mentioned above, but does not touch on everything.

- Targets – see “Emissions Reductions Targets” section.
- Forestry and REDD – The Waxman-Markey bill directs the EPA to use allowances from under the cap to fund international forestry projects which will achieve 720 million tons of emissions reductions by 2020 and a total of 6 billion by 2025. In addition, REDD credits are explicitly mentioned in the draft as acceptable offsets, and the bill mandates that 1.25 credits must be purchased for every 1 ton of carbon offset (see Offsets section). Thirdly, the bill provides for strategic reserve auctions (see Cost Containment section) that would be made up of allowances that can be purchased at auction by polluters to meet a small portion of their reduction obligations. The proceeds from this special auction would be used to purchase and then retire (a.k.a. not use) international offset credits used for tropical deforestation issues.
- Adaptation – according to the World Resources Institute, the bill “establishes a framework for an international adaptation with no explicit levels or sources of fund...The program would be administered by USAID (the US Agency for International Development), although 40-60 percent of funding should be distributed to international funds.”⁵
- Clean Tech Transfer – the bill would enable developing countries who have adopted nationally appropriate mitigation activities (known as NAMAs) to qualify for clean tech transfer funding, although there are few specifics on amount and sources of funding.

What is the youth climate position on these international issues?

It is hard to generalize a united youth climate stance on all of the issues above. It sincerely depends on whether you ask American youth or Indian youth or Fijian youth or South African youth. In general, however, there will definitely be some common messages that would come from each young person. There is a focus on science-based targets, particularly in the short term, that will give us a better shot at escaping climate catastrophe. These targets are generally around an Annex-1 target of 40% by 2020 and an overall goal of stabilization below 350ppm. On the matter of REDD, some young people are unsure of market mechanism’s ability to reduce global emissions, but almost all can agree that there must be a significant amount of money set aside to provide for an end to deforestation in tropical forests. Young people also feel very strongly that any

REDD policy enacted must be fair to local and indigenous communities, involving them in decisions, ensuring their land rights, and protecting the biodiversity of the area. As for adaptation, the youth see a need for vast increases in funding, as well as a mechanism to manage these funds equitably. On technology transfer, young people call on developed countries to research, develop, and commercialize energy efficient technologies and then provide capacity building and the transfer of intellectual property equitably so that developing countries are empowered to develop in a sustainable manner. The guiding principles of the International Youth Delegation at the COP14 meeting in Poznan, Poland can be found at <http://sites.google.com/site/polandplanning/archive---poland-page/policy/IntlYouthPolicyPrinciples.pdf>.

Take Home Points

- American policymakers are at the center of the international climate negotiations and the power to make or break these negotiations are pretty much in their hands.
- The COP15 meetings in December will determine the structure of an international climate treaty.
- Congress must pass strong short-term targets, increased funding for REDD and other forestry and land use mechanisms, increased funding for adaptation to climate impacts, provide for the transfer of technology to developing countries, and spur the development of a binding international climate treaty.
- The senate must ratify a Copenhagen Protocol when it is written.
- Young people differ in regards to specific policy proposals, but all can agree that an international climate treaty must be bold, binding, and fair in order to truthfully tackle the climate crisis.

(see following page for Chapter 11 citations)

Conclusion

We hope this guide has provided a helpful tool for you and has made you more conversant in the climate policy arena. When we started this project, our goal was to provide climate advocates, particularly young people like ourselves, more familiarity with the complex ideas and hard-to-understand lingo that surrounds any piece of policy regarding climate change. Hopefully, you too have broadened your understanding and have had some of your questions answered.

As we've researched and written this guide, we've answered some of our own questions, but also come up with many questions that we had a hard time answering. As activists and part of the larger climate movement, this foray into the climate policy world has left us with some troubling queries:

- How do we deal with the need to compromise between our policy principles and the political realities in Congress?
- After watered down climate legislation is passed, what are the next steps for the climate movement?
- How can we advocate for local, state, and national level officials to pursue strong climate policy enacted? Where should we focus our energy?

We hope this guide will encourage you to continue to become a more informed climate advocate, activist, and leader. We hope you will let us know if you have any ideas by emailing us at middleburyclimate@gmail.com

Of course, this guide wouldn't be complete if we didn't thank everyone who helped us. There are too many people to list than can fit here, but in particular we'd like to single out Jason Kowalski, Meg Boyle, Professor Chris McGrory Klyza, Nan Janks-Jay, Chester Harvey, Sierra Murdoch, Janet Wiseman, the Middlebury College Sunday Night Group, Kate Sheppard,

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Chapter 11 Citations

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- 4 Third World Network, "Climate Change Subsidiary Bodies' Sessions Bonn I, Briefing Paper 1" <www.twinside.org.sg/title2/climate/briefings/TWN.BP.bonn.1.doc>
- 5 World Resources Institute, "Brief Summary of the Waxman-Markey Discussion Draft," <<http://www.wri.org/stories/2009/04/brief-summary-waxman-markey-discussion-draft>>

Additional Resources

We hope the resources in this guide are helpful for you. We don't pretend, however, that this is an all-inclusive review, and of course this is a rapidly evolving arena. Thus, we'd like to direct you to some resources that offer other analyses of climate policy and news sites that will continue to follow the political and scientific updates in the climate debate.

GENERAL CLIMATE BLOGS

SolveClimate

www.solveclimate.com

SolveClimate offers daily climate news and analysis by compiling articles written in the mainstream media about the politics of climate change, green tech solutions, and the climate movement. They also write a blog that is a helpful source of perspective and analysis on the climate debate.

Climate Progress

www.climateprogress.org

Climate Progress is the blog of Joe Romm, a Senior Fellow at the Center for American Progress and a former Acting Assistant Secretary of Energy for Energy Efficiency and Renewable Energy at the Department of Energy during the Clinton Administration. The blog offers "an insider's view of climate science, politics and solutions," as well as some incredibly witty, biting, and sometimes downright mean responses to the comments of climate deniers and delayers.

Grist

www.grist.org

Grist is one of the leading environmental news sources available today, providing a humorous look at the state of the environment. Grist's David Roberts and Kate Sheppard are two reporters who focus on the politics of global warming and related topics.

THE CLIMATE MOVEMENT

In addition to all the bigger green groups that have been around for decades (such as the Sierra Club, Greenpeace, WWF, and others), there are numerous new groups working solely on climate change. Some of these new groups include:

1Sky

www.1sky.org

1Sky's goal is to build a diverse, society-wide mobilization that will convince the federal government to take bold climate action as soon as possible. They organize local groups around the country to lobby their representatives and senators on climate policy, and provide great policy analysis on their blog.

350.org

www.350.org

350.org aims to build the climate movement internationally by spreading knowledge of the need to get our CO₂ levels in the atmosphere below 350ppm. On October 24, 2009, the 350 day of action will link together climate advocates all around the world calling for a strong international climate treaty.

Breakthrough Institute

www.thebreakthrough.org

The Breakthrough Institute was established by Michael Shellenberger and Ted Nordhaus, the authors of the controversial "Death of Environmentalism," to provide an alternative voice in the climate debate. They continue to prod the mainstream green groups and provide interesting and provocative analysis of American climate politics. They run a student arm called Breakthrough Generation, as well.

YOUTH CLIMATE MOVEMENT

Young people are, not surprisingly, taking on a significant leadership role in the climate movement. As the people who will be dealing with the ramifications of the decisions we make today regarding climate change, the youth are mobilizing to let our elected officials know how serious this issue is and the urgency with which we need to see action. Here are some resources from the youth climate movement:

Energy Action Coalition

www.powershift09.org
www.energyactioncoalition.org

The Energy Action Coalition is the group of about 50 organizations that lead the American youth climate movement. They hosted the PowerShift 2007 and Powershift '09 conferences that brought thousands of students from all over the country (and the world) to DC to convince our elected officials to take action now on climate.

It's Getting Hot in Here

www.itsgivinghotinhere.org

It's Getting Hot in Here (IGHIH) is the blog of the youth climate movement, highlighting actions taken by young people all around the world to try and influence climate policy. Ranging from posts about direct actions taken at mountain top removal coal mines to analytical pieces about how to diversify the climate movement, IGHIIH is a great resource to see what young people are doing about the climate problem.

Focus the Nation

www.focusthenation.org

Focus the Nation aims to empower young people to help transition to a clean and just energy future by facilitating dialogue with elected officials and other civic engagement activities. In April 2009, Focus the Nation helped organize over 100 town hall meetings nationwide that saw students on campuses talking to their members of Congress about the need for strong climate policy.

Dispatches from the International Youth Climate Movement

www.youthclimate.org

YouthClimate.org is a great resource that compiles all the blogs of the various organizations and young people that are part of the International Youth Delegation to the UNFCCC.

SustainUS

www.sustainUS.org

SustainUS is the US Youth Network for Sustainable Development, and the main international wing of the American youth climate network. They send young people to various UN meetings to articulate the need for strong agreements on sustainable development and play a leadership role in the international youth climate movement.

TWITTER

A great way to follow all the updates in the climate world is by following bloggers, activists, policymakers, and others on Twitter. Below is a list of people that we follow who provide helpful insights into the climate policy debate:

- PowerShift09
- Solveclimate
- kate_sheppard
- david_h_roberts
- 1Sky
- JesseJenkins
- Climateprogress
- Worldresources
- Climatebill
- cop15
- AlexTinker
- DanJWeiss
- FocusTheNation
- Enbclimate
- 350
- jisham
- grist
- and many, many others