POLICY BRIEF

January 2008

Carbon Caps With Universal Dividends:

Equitable, Ethical & Politically Effective Climate Policy

JOHN BAILEY
bailey@ilsr.org

Executive Summary

Common to many proposals addressing climate change is a cap on carbon emissions or carbon content of fuels. A cap will generate a market value for carbon. A key issue is who will receive this value. Many agree that there should be a 100 percent auction of carbon permits, but there many opinions about how to disburse the money gained from selling these permits. This paper argues for a universal, equal dividend returned to each person.

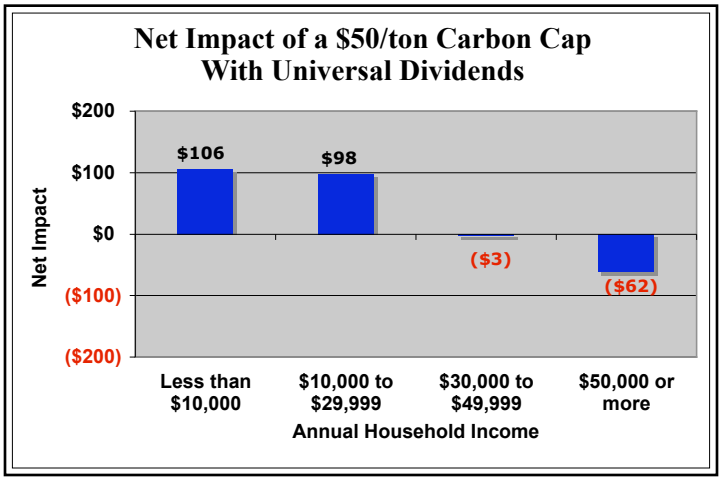
A nationwide auction of carbon allowances conservatively could raise $50 - $200 billion annually or about $1 billion to $4 billion per year at the state level in Minnesota (at the higher level, this represents about 15 percent of annual state government spending).

A universal dividend makes a carbon cap ethical, equitable and politically effective.

Ethical – If the sky is owned by all humanity equally, then any value created from carbon caps should be distributed in equal amounts to everyone.

Equitable – A cap on carbon will raise the price of energy and energy intensive goods and services. A universal dividend will especially help low and middle income households absorb and manage those cost increases. Indeed, lower income households, on average, should receive back more in dividends than they pay in higher prices for fuels and products.

Politically Effective – Per capita dividends will enhance public acceptance of a carbon cap by largely or completely offsetting the negative economic impacts on tens of millions of households. In the early years of the cap, the price of carbon (along with energy and most consumer products) will increase as we establish a market price that will encourage supplies and manufacturers to substitute existing energy sources for low carbon fuels. But since the dividends rise as the value of carbon rises, the net impact on most households will be small.



New Rules Project
1313 5th St. SE, Suite 303
Minneapolis, MN 55414

612-379-3815
www.newrules.org

Introduction

In two short years, the conversation in the United States has shifted from one focused on whether climate change is occurring to one focused on how to stop and reduce greenhouse gas (GHG) emissions.

The Atmosphere is a Commons - all are equal owners

- A carbon cap should be comprehensive, covering all major sources of carbon or GHG emissions
- 100% of carbon allowances should be sold by auction
- Safety valves or ceiling prices for carbon allowances should not be allowed
- Carbon offsets should be forbidden or extremely limited
- Revenues from auctioning carbon allowances should be distributed on a per capita basis in equal amounts

Common to many designs is a carbon cap – limiting and lowering GHG emissions or carbon (e.g. fossil fuels) – because a carbon cap and reduction is the only strategy that, if enforced, can guarantee reductions. The design of a carbon cap raises many thorny issues. How comprehensive should the cap be? Who should be required to have emission permits? How should permits be acquired?

This paper focuses on a critical and often overlooked issue. ***How should we allocate the value created by a carbon cap?***

Right now there is essentially no cost to GHG emissions from the burning of carbon-based fossil fuels. Unlike lead or CFCs or PCBs, we cannot ban carbon dioxide (CO2). It is part of the natural system. But our CO2 and other GHG emissions have overloaded the cleansing and recycling capacity of the atmosphere. Over the last 20 years, the world's scientists have gained an increasingly precise understanding of the quantity of emissions that could be emitted on a sustainable basis. Energy experts and policymakers have translated this estimate of atmospheric sustainability into a need to reduce GHG emissions by 80 percent below 2005 levels by 2050.

Nationwide, GHG emissions (mostly CO2) are 6-7 billion metric tons (or 1.5-2 billion metric tons of carbon).[1] At the state level, the actions of Minnesota households, businesses, farms and government result in about 150 million metric tons of carbon dioxide equivalent (CO2e) emissions each year.[2]

A cap on carbon or GHG emissions puts an economic value on pollution from burning carbon-based fuels and establishes a level of carbon permits (lowered each year). If a carbon cap is put in place, auctioning of carbon allowances is generally accepted as the best way to allocate the permits. Estimating the auction price for carbon allowances is a problematic exercise. Nevertheless, a 100 percent auction of carbon emission permits may well raise $50 billion to $200 billion per year at the national level and $1 billion and $4 billion per year at the state level in Minnesota.[3] These are large sums. At the higher amount at the state level, it represents about 15 percent of annual Minnesota state government spending.[4]

How should these revenues be allocated or spent? In the mid-1990s, ILSR researched the impacts of a $1.5 billion, revenue-neutral "tax shift" in Minnesota. Energy taxes would have been imposed and those revenues would have been given back to Minnesota residents[5]. Building on our past work, this paper argues for a universal and equal per capita dividend, that is, all (or nearly all) of the money raised from a carbon cap should be returned in equal shares to everyone.

Universal Dividends: Ethical, Equitable and Politically Effective

Ethical

"Who Owns the Sky?" Peter Barnes asks in his book of the same title. He and most observers answer, "We all do." Which means we all have equal shares in the limited absorption and recycling capacity of the atmosphere. The atmosphere is a commons[6]. We can all make use of it so long as we do so without undermining the potential of future generations to also make use of it. We all should have equal emission rights, but only to the extent the emissions do not alter the climate.

This clear and widely embraced ethical principle has dramatic implications for the design of public policy. If the sky is a commons, then ownership extends globally. And if the sky is owned by all humanity equally, then any value created from carbon caps must be distributed in equal amounts to everyone[7]. In Barnes' terms, a "sky trust" is formed, held in perpetuity by humanity. The revenues for the trust come from selling carbon or CO2 emission permits. The revenues are then distributed in equal amounts to everyone.

A clear consequence from embracing the concept of the atmosphere as a commons is that the burden of proof rests on those who would divert the carbon cap revenues from the rightful owners for other purposes. We will address this point in more detail below.

Equitable

A cap on carbon will raise the price of energy and, indirectly, goods and services. If society decides not to return the money raised by auctioning off the emission permits the result will be a very high and very regressive economic impact, potentially a thousand dollars a year or more per household.

Most current strategies recognize the burdens such price increases would impose. Virtually all address the problem by proposing to set aside money to lessen the impacts on low-income households. But decades of experience demonstrates that programs to protect the poor never come near to covering the need. The stark political reality is that low-income households have little clout.

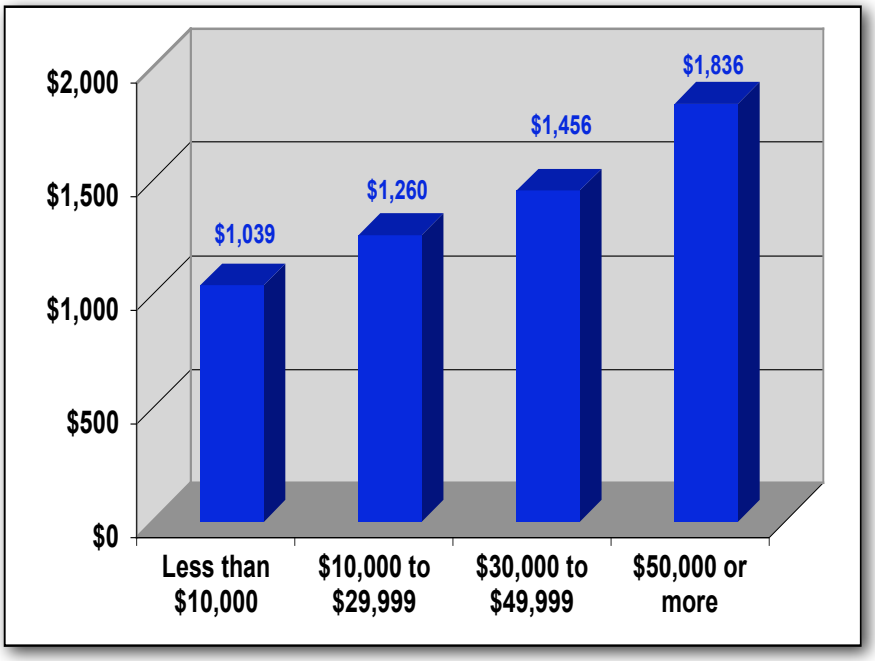
On a more fundamental level, a scheme to protect only low-income households inevitably violates the principle that the sky belongs to us all equally because it is a means-testing policy that requires households to document their poverty status. The sky trust should operate on the universalist principles of social security or Medicare (for those 65 and older), rather than welfare or Medicaid. Avoiding the means-test policy approach and using universal dividends will also protect and benefit middle-income households.

Annual Consumption and Expenditures for Transportation Fuels by Household Income Levels - 2001

2001 Household Income Level	Number of Households with Vehicles (millions)	Avg. Number of Vehicles per household	Vehicle-Miles Traveled (Thousands)	Fuel Consumption (gallons)	Annual Expenditures at $2.75 per gallon
Less than $5,000	1.7	1.4	13.5	620	$1,705
$5,000 to $9,999	4.1	1.4	13.4	647	$1,779
$10,000 to $14,999	4.7	1.4	13.2	644	$1,771
$15,000 to $19,999	6.3	1.5	16.2	788	$2,167
$20,000 to $24,999	5.6	1.6	16.6	794	$2,184
$25,000 to $34,999	13.3	1.7	19.3	940	$2,585
$35,000 to $49,999	18.9	2.0	23.8	1,183	$3,253
$50,000 to $74,999	17.2	2.1	28.3	1,393	$3,831
$75,000 or More	20.6	2.5	31.9	1,549	$4,260

Source: *Household Vehicles Energy Use: Latest Data & Trends*, Energy Information Administration, November 2005

Annual Expenditures on Non-Transportation Fuels by Household Income - 2001



Source: *2001 Residential Energy Consumption Survey: Household Energy Consumption and Expenditures Tables*, Energy Information Administration. Price assumptions: Electricity - $0.088/kWh; Natural Gas -$9.98/Mcf; Fuel Oil - $1.24/gallon; Kerosene - $1.50/gallon; LPG - $1.36/gallon.

Price Impact of Carbon Tax on Various Fuels

Unit	$10 per ton	$50 per ton
Gallon of gasoline	$0.03	$0.15
Ton of Coal	$6.00	$30.00
100 cubic ft. Natural Gas	$0.15	$0.76
kWh Electricity (coal fired)	$0.003	$0.015

Note: Sometimes a carbon tax is confused with carbon dioxide (CO_2) tax. A $10/ton and $50/ton carbon tax translates into a CO_2 tax of approx. $2.70 and $13.50 per ton, respectively. In another words, there are 2.7 tons of carbon in 10 tons of carbon dioxide.

For most low-income households, a per capita dividend or rebate may generate a net benefit.
While low-income households spend a higher percentage of their income on energy than wealthier households, in absolute amounts they use much less energy. The data on the previous page reveals that wealthier households consume about two times as much energy as low-income households. Thus if revenues are returned on an equal basis, high-income households will pay in more than they receive back while lower income households will receive back more than they pay in. Researchers at the University of Massachusetts Amherst estimate that 60 percent of households would be held harmless or see benefits from a cap with dividend policy.[8]

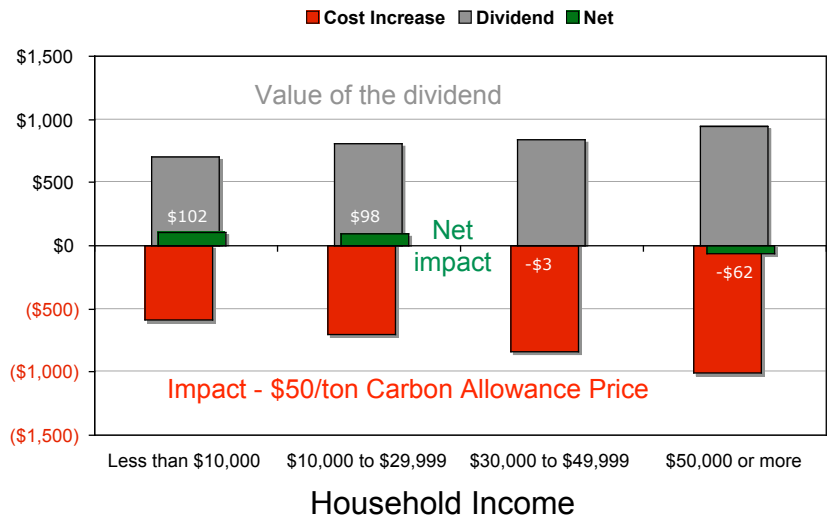
The chart to the right, prepared by ILSR, gives a snapshot of the impact of a relatively modest $50/ metric ton carbon allowance price (~$13.50/metric ton of CO2) on households in various income brackets. Rising energy costs and higher prices of products (the indirect use of energy by the production and delivery of products constitutes about 30% of the overall cost increase) range from about $600/yr for the lowest-income household to $1,000/yr in a higher income household. As the chart shows, without a universal rebate policy, a carbon cap will hurt all households.

The per capita dividend under the $50/ton scenario would be about $350. Since higher income households tend to be larger than lower income households (on average), total dividends paid to the lowest income households would be about $700. Higher income households would receive annual dividends totaling about $950.

Combining the price increases along with the dividend, the chart shows that lower income households will receive a net benefit of about $100 per year while higher income households will pay about $60 more on a net basis.

There is one other equitable result of a cap and universal dividend program: a built-in incentive for households and businesses to change their consumption habits. As Peter Barnes observes, "how you fare depends on what you do." The more energy you use, the more you pay. Since everyone gets the same amount back, you gain if you conserve and lose if you guzzle. And it takes politicians off the hook for rising energy prices. If voters complain, politicians can truthfully say, "The market sets prices and you determine by your own energy use whether you gain or lose. If you conserve, you can come out ahead."

Combined Annual Impact on Households of Carbon Cap with Per Capita Dividend



Politically Effective

A policy of capping and then reducing carbon will cause the price of energy and thus the price of most consumer products to rise. This could prove a major stumbling block to the enactment of such policies, since there will be widespread resistance to what will widely be described as a major new and highly regressive energy tax. A per capita dividend overcomes these stumbling blocks and will provide the time needed for energy saving technologies and low carbon fuels to expand in the marketplace.

Lending support to our chart on the previous page, a 2007 report[9] by James Boyce and Matthew Riddle of the University of Massachusetts, Amherst, concludes that the average family will pay $1,570 a year in higher prices when GHG emissions are cut by just 7 percent. This is a fraction of the 80 percent reduction goals that many states are considering. Collectively, these households may well vigorously oppose a carbon cap that isn't designed to mitigate this substantial cost increase.

Providing a dividend to people can rally political support while providing a price signal that will accelerate the introduction of clean energy and energy efficiency technologies.

As we noted above, the principle that the sky belongs to all of us equally applies globally, as well as nationally. On the global level, applying a cap and dividend policy would result in a major redistribution of money (from west to east and north to south) based on the widely varying consumption habits around the globe. Such a policy could provide the support needed for a universal and global carbon cap (although it is unclear if the U.S. would support such an effort since most Americans would become net losers under a global cap and dividend policy). Currently, countries that account for over 2/3 of the increase in GHG emissions (in 2007, China surpassed the U.S. as the single largest emitter) are not signatories to emission reduction treaties.

Another political reason to support universal dividends is that they largely protect the majority of the population from potentially steep increases in the price of carbon. These steep increases might occur if consumer habits don't change quickly while the supply of carbon credits is ratcheted down. Some carbon cap proposals attempt to protect consumers by including "safety valve" provisions, a ceiling is imposed on how rapidly or how high the price of carbon can reach. This is politically expedient but undermines the effectiveness of a carbon cap and should be avoided. A strong cap with dividend can allow the price to rise substantially while still protecting consumers. A true cap and reduction scheme will let the carbon allowance price rise to the level necessary to achieve the needed reductions.

> "And most important of all, we need to put a price on carbon- with a CO2 tax **that is then rebated back to the people, progressively**, according to the laws of each nation, in ways that shift the burden of taxation from employment to pollution. This is by far the most effective and simplest way to accelerate solutions to this crisis."
> *- Al Gore's Nobel Prize Acceptance Speech- Oslo, Norway, December 10, 2007*
>
> "If I were a candidate, I'd latch on to cab and dividend in a flash. After all, what's not to like? **With cap and dividend, we'd limit carbon emissions, spur private investment in clean energy, create jobs and send money to everybody.** Who wouldn't vote for that?"
> *- Peter Barnes, author of* Who Owns the Sky?- *December 13, 2007*

It is likely that in the first 5-15 years of the carbon cap and reduction, the price of carbon allowances will increase substantially. This is necessary to give the private sector the proper market signals, and allow new low carbon technologies to scale up and become significant players. A universal dividend can make most households indifferent to and ultimately welcome the policy, at least in a holistic sense, of steep increases in the cost of carbon and the gradual reduction in the use of fossil fueled technologies. Higher values for carbon allowances will translate not only into higher prices for energy and other products but also commensurately higher universal dividends. The carbon cap is allowed to work its will on the marketplace, while most households are held harmless.

In a carbon cap and dividend regime, individuals play at least two distinct roles. One is as a recipient of the money that is raised through the carbon allowance auctions. The other is as a consumer making decisions in a marketplace where low carbon alternatives have become much more attractive. If the price of carbon soars, most individuals overall will not pay out more than they receive than they did under a low carbon price regime, but will still respond to the price signals when buying goods or carbon-based energy sources.

Why not spend the carbon auction revenue rather than give it back?

With the potential for an enormous new pot of money, if a universal and 100 percent rebate is not built into the carbon cap policy from the beginning, there will be an equally enormous pressure to spend the newfound money on myriad projects. We will have, in state capitals and/or in Washington, a feeding frenzy. A striking example of this phenomenon is how state governments use (some say squander) the payments they receive as part the more than $200 billion settlement with the tobacco industry.[10] The money was largely intended to be used to reduce smoking and pay for medical costs related to smoking, but the majority of the revenue is not used for these purposes.

Many environmentalists want the money to be spent on accelerating efficiency improvements and an expansion of low carbon fuels. But history offers at least three reasons why this may be a problematic strategy.

First, energy conservation and even renewable energy will not be given a primary seat at the bargaining table. Powerful constituencies will argue for tax reductions, a highly regressive variation on the universal dividend. Others will argue for spending in many worthwhile sectors (e.g. health, education, infrastructure). Still others will see it as a way of reducing the deficit.

Second, the portion that does go to energy programs, as history again clearly demonstrates, will be wastefully spent on sectors and technologies that have the most powerful voice in Washington (e.g. nuclear, coal, oil). Already in Congress the largest single subsidies being proposed are for "clean" coal and nuclear power.

Third, and perhaps most tellingly, the historical record does not suggest that federal expenditures significantly accelerate improvements in efficiency or expansions renewable energy. Virtually all improvements in efficiency and renewable energy in the past 30 years have come from mandates not incentives, or from evolving technologies financed by the private sector, or from the changing composition of economies (e.g. from heavy manufacturing to information intensive).

A few examples. Fleet vehicle efficiency significantly improved from 1975 to 1987 because of a federal mandate and declined from 1987 to 2007 when the federal efficiency requirement was not increased. This was not a result of federal R&D expenditures, or tax credits or even gasoline prices. Indeed, from 1981 to 1987 vehicle efficiency increased, even though gasoline prices plummeted. From 2003-2007 vehicle efficiency decreased even though gasoline prices soared.

Building energy efficiencies, on a square foot basis, have dramatically increased since the 1970s because of improved state and local building codes. Appliance efficiencies have more than doubled because of federally mandated standards.

The same dynamic applies in the renewable energy arena. Over 90 percent of the wind generated electricity and biofuels now produced in the United States are primarily a result of mandates, not federal aid. The tax incentives for wind energy and biofuels have been useful, but not instrumental. Arguably, mandates without incentives would have led to much the same result in terms of installed capacity. On the other hand, incentives without the mandates would not.

As for federal R&D, there is little evidence that federal spending accelerates the process of discovery or commercialization, except possibly in the agricultural sector before 1980, a time when all federally supported knowledge was freely and publicly available. Indeed, even the most ardent advocates of federal technology spending can only cite a handful of successful interventions, all of them in the military sector (e.g. the commercialization of the transistor and the integrated circuit, the development of the Internet). But in all these cases the Pentagon had a specific military use for the technologies and thus created a large new market, and had unlimited spending capacity.

A carbon cap, if comprehensive and enforced will galvanize R&D investments by the private sector. This is inherent to the process. A carbon cap essentially shrinks the supply. This in turn drives up the price of carbon-based energy technologies. If industry and households do not change their production and consumption habits, the price of carbon will soar, which will deliver a strong signal to the private sector to improve efficiency and substitute low carbon for high carbon fuels.

There is certainly a role for further government involvement to remove obstacles (e.g. access to distribution lines for renewable energy, access to gas stations for biofuels, new building codes and appliance efficiency codes, etc.) There are certain future investments that may make sense for the federal government to make such as assisting mass transit development across the country and re-training workers in the industries that will be most impacted by a move to limit carbon and GHG emissions.[11] But the financing for such investments should come from a redirection of the enormous existing subsidies provided to the fossil fuel industry, rather than using revenues from the carbon allowance auctions.

And finally, we must remember the essential principle of the atmosphere as commons. It belongs to all of us equally. Attempts to use revenues from the carbon allowance auctions to pay for projects, incentives or new programs must shoulder the burden of proving that using the revenues in those ways is equitable and fair.

Wouldn't a universal dividend result in a built-in constituency to maintain high levels of carbon emissions?

Some in the environmental community have raised a concern that dividends will cause individuals to become dependent on them and thus will create a constituency to maintain high levels of emissions.

First, it is unclear why there is such a concern. Per capita dividends will actually tend to work in the opposite way. People will try to maximize the value of their dividend by choosing low carbon and efficient technologies. Furthermore, the price of carbon allowances (and dividends) goes up as the supply of carbon goes down. Thus, at least until the transition to a low carbon economy is completed, the constituency would, if anything, be in favor of a more rapid reduction to expand revenues.

One can argue that any use of the revenues from the carbon auction other than dividends will have the potential to create a situation where the beneficiaries of the revenue will want those revenues to continue. If instead of universal dividends revenues are used for renewable energy, energy efficiency or job training, there will be inertia (e.g. financial stake) to keep revenues flowing to those programs. But a carbon cap that's real and comprehensive will simply not allow the citizenry or other potential recipients of the carbon auction revenue to game the system in order to get more money.

Second, there is little or no historical evidence to support such a fear. A somewhat comparable situation has occurred with cigarette taxes. The main goal was to reduce smoking, and a high tax was a tool. In a number of states the taxes went to support health and education measures, among other uses. But this did not lead to any constituency for increased smoking. In virtually all states, cigarette use went down. The government found other sources of revenue to support essential services.

In some respects, the argument that people would become addicted to emission-related dividends is the reverse side of the argument made above that a universal dividend would be critical for a carbon cap strategy to gain widespread support. But without the political and public support, an effective carbon cap won't be established and there will be no allowances to generate revenues for any purpose.

Wouldn't administration of a universal rebate be prohibitive?

We have significant experience in widespread and automatic revenue distribution. In Alaska, every resident receives an equal dividend from revenues generated from state oil leases. At the federal level, social security payments are wired monthly into an individual's bank account. Earned income tax credits are disbursed to millions of workers. The electronic benefit transfer (EBT) systems provide various types of state and federal assistance to low-income families and individuals through a debit card can also be used for distributing universal rebates. EBT appears to be very efficient in reaching the low-income population.

The Center on Budget and Policy Priorities says that using the EBT, "would immediately reach all households that receive food stamps. This is important, because the Food Stamp Program is the sole low-income program that serves nearly all categories of low-income households (instead of only reaching specific groups such as the elderly, people with disabilities, or families with children). Nearly 12 million households receive food stamps in an average month."[12]

On the collection side, the administration of a carbon cap can be further streamlined by establishing the cap as far "upstream" in the economy as possible. An upstream cap would auction allowances to producers and importers of fossil fuels where carbon enters the economy. A "downstream" approach would provide allowance to producers and users closer to the point where the fuels are combusted (e.g. power plant). The Center for Clean Air Policy estimated that an upstream cap would probably involve less than 2,000 entities.[13] The Congressional Budget Office notes, "By placing the allowance requirement upstream on those suppliers, policymakers could cap virtually all fossil-fuel-based carbon emissions in the United States while minimizing the government's administrative costs and the private-sector's reporting costs. Moving the allowance requirement downstream, in contrast, could require monitoring and regulating many more entities."[14] Certainly each approach has its advantages and disadvantages and some carbon cap advocates are looking at a hybrid approach using upstream in some sectors, and downstream in others.

Conclusion

Universal dividends are a critically important tool to create the political will and public acceptance of a carbon cap. Universal dividends have the potential to hold harmless a large segment of consumers while we move to a low-carbon economy. Moreover, the universal dividend honors the principle that the sky belongs to all of us equally, a principle that can gain widespread support not only domestically, but globally. Private investment in clean and efficient technologies will be driven by a carbon cap and steady reductions over time of GHG emissions and carbon-based fuels throughout our economy.

Endnotes

1 Energy Information Administration data. Carbon, GHG and CO2 emissions are often used interchangeably but, although they are related, they are different. Carbon-based fossil fuels generate CO2 when they are burned to generate electricity, heat our homes and offices, and power our automobiles. Other GHG sources such as methane often come as a result of industrial or agricultural processes. There are six primary greenhouse gases: Carbon dioxide (CO2); Methane (CH4); Nitrous oxide (N2O); Hydrofluorocarbons (HFCs); Perfluorocarbons (PFCs) and Sulfur hexafluoride (SF6). Each has a different heat-containing impact and duration in the atmosphere. The warming impact of carbon dioxide is often used as the basic measure, and emissions of other GHG are given in terms of CO2 equivalencies (denoted as CO2e).

2 *DRAFT Minnesota Greenhouse Gas Inventory and Reference Case Projections 1990-2020*, Center for Climate Strategies, July 2007. http://www.mnclimatechange.us/

3 Carbon dioxide is 27 percent carbon. Thus a $10 CO2 tax is equivalent to a $37.00 tax on carbon. We would just note that these numbers appear fairly conservative. The EU Emissions Trading Scheme (related to implementation of the Kyoto Protocol) shows December 2008 allowance prices of about € 23.00/metric ton CO2 (about $33.00/metric ton at exchange rates of 1 Euro = 1.43 U.S. dollars).

4 Minnesota Department of Finance

5 An archive of ILSR's research on the Minnesota tax shift proposal is available at http://www.newrules.org/de/greentax/

6 For a comprehensive discussion of the commons as a general concept and as it applies to different issues and sectors go to http://www.OntheCommons.org/

7 The same would be true if a substantial carbon tax is imposed in the future rather than a carbon cap; all or most of the revenues should still be returned as a universal dividend.

8 James K. Boyce and Matthew Riddle, *How to Curb Global Warming While Protecting the Incomes of American Families*, University of Massachusetts Amherst, October 2007. http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_101-150/WP150.pdf

9 *Ibid*

10 A good example can be found in " Connecticut Is Criticized on Spending on Smoking," by Alison Leigh Cowan, *The New York Times*, January 1, 2008. http://www.nytimes.com/2008/01/01/nyregion/01tobacco.html

11 One example is the Apollo Alliance's idea of a $30 billion/yr program over 10 years to be spent on clean energy initiatives and developing a work force for the new clean energy economy. *New Energy for America*, Apollo Alliance, 2004. http://www.apolloalliance.org/downloads/resources_ApolloReport_022404_122748.pdf

12 "Designing Climate-Change Legislation That Shields Low-Income Households From Increased Poverty And Hardship," by Robert Greenstein, Sharon Parrott, and Arloc Sherman, Center on Budget and Policy Priorities, October 25, 2007. http://www.cbpp.org/

13 *US Carbon Emissions Trading: Description of an Upstream Approach*, Center for Clean Air Policy, March 1998. http://www.ccap.org/

14 *An Evaluation of Cap-and-Trade Programs for Reducing U.S. Carbon Emissions*, Congressional Budget Office, June 2001. http://www.cbo.gov/

Acknowledgments

I'd like to thank Peter Barnes for his insights into the carbon cap and dividend policy and for sharing his wealth of knowledge and to Prof. James Boyce for his very helpful comments on a draft version of this report. And to my colleagues at ILSR who helped me put this report together and get it out the door, I am very grateful.

Other publications from the Institute for Local Self-Reliance

Minnesota Feed-In Tariff Could Lower Cost, Boost Renewables and Expand Local Ownership, by John Farrell, January 2008

The Policy Gap: Minnesota Energy Policy vs. Minnesota Climate Policy, by John Farrell, John Bailey and David Morris, November 2007

Lessons from the Pioneers: Tackling Global Warming at the Local Level, by John Bailey, January 2007

Since 1974, the Institute for Local Self-Reliance (ILSR) has worked with citizen groups, governments and private businesses to develop practices that extract the maximum value from local resources. A program of ILSR, the New Rules Project helps policy makers to develop rules as if community matters.