



# MARLOWE & COMPANY

GOVERNMENT AFFAIRS CONSULTANTS

## Memo

**To:** Marlowe & Company Clients  
**From:** Toby Hicks, Legislative Intern  
**Re:** Cap-and-Trade Bill Comparison  
**Date:** December 3, 2009

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### Executive Summary

There are currently two cap-and-trade bills being deliberated in Congress. Either of them passing would have a significant impact on the economy and local governments, but neither one is often well understood. This memo is designed to help explain the terms and concepts underlying these bills in a concise and simple way.

### Background

Global warming, a once fervently disputed hypothesis, has gained traction in recent years. A Stanford University study in 2007 found that 84% of Americans believe that global warming is occurring. Green house gases (GHGs)<sup>1</sup> generated by the U.S. and other countries are thought to be the single most influential factor contributing to this steady increase in temperature. Scientists believe that if GHG emissions are not pared down, then the environment will continue to warm. A continuous global heat increase would be unsustainable for a wide variety of reasons, including decreased food production, sea level rise, and ecosystem devolution.

Until recently the U.S. has shown some of the strongest reluctance of all developed countries to lower its emissions. The common argument against doing so is that it would decrease the U.S.'s international competitive ability. This resistance was most prominently illustrated when, despite becoming a signatory to the Kyoto Protocol, the U.S. decided not to ratify the treaty and be bound by its cap-and-trade system. Cap-and-trade is where a limit to overall U.S. GHG production would be set and firms then compete for the rights to emit portions of it. Subsequent legislative efforts to enact a broad cap-and-trade bill in the U.S. have been blocked in Congress. Now however, two bills – H.R. 2454 the American Clean Energy and Security Act of 2009, and S. 1733 the Clean Energy

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<sup>1</sup> Acronyms used in this memo are listed on page 5.

Jobs and American Power Act – are being examined by Congress and may be synthesized into law. H.R. 2454 was passed by the House on June 26, 2009 and is currently awaiting Senate action.

Although there are significant differences between the two bills, their goal of causing a significant reduction in GHG emissions through enactment of a cap-and-trade system is identical. If passed, either bill's impact on local governments would be profound. Restrictions on GHG production will affect many types of commercial firms and, therefore, tax revenues and jobs within towns and cities.

### **The Cap-and-Trade System**

Cap-and-Trade is the system of choice for reducing emissions because it allows market forces to provide a unique fit to the different entities affected by the system. This is in contrast to a command and control approach where a strict limit or tax is set on a population to influence a desired behavior. An example of command and control would be taxing each company \$500/GHG unit to reduce GHG emissions; it will work, but doing so is akin to imposing a single exercise routine on 30 year olds, 80 year olds, and everyone in between. The cap-and-trade system begins with a nationwide cap on GHG production that allows firms and local governments to continue unfettered, but over time that cap is reduced. Some firms will lag behind their compliance obligation, some will match it, and some will outperform it. Those who outperform it can sell their unused GHG credits to the lagging firms who will need to either buy them or further reduce emissions to ensure that they meet their compliance obligation. This buy and sell dynamic establishes a marketplace where emission credits can find their most efficient place of use. To encourage continued reductions and to maintain the value of the credits, the cap is lowered over time, thus producing a net decrease of GHG emissions and creating the incentive to switch to cleaner technologies.

The total pool of annual emissions credits will be distributed through one of two ways. The first method of distribution is allowances. These are essentially permissions from the government to emit a specific amount of GHG units. Allowances will be predetermined in the statutory procedures and allotted to various industries and local governments. The second method of distribution is through an auction where the remainder of the total amount of credits will be sold by the government to the highest bidder.

The eventual cost of the reduction in emissions will be borne by individuals in the form of higher product prices caused by new technology costs or by lower wages as a result of increased firm costs. A percentage of the revenues generated from the cap-and-trade auctions will be distributed back to low income consumers, effectively levying the highest costs of GHG efficient technology on middle and upper class consumers. However, the ultimate winners in this situation will be the firms who sell green technology and energy because customers will be steered towards them and, additionally, those firms that already have relatively low emissions practices in their industries since they will, essentially, be given free credits to sell to other firms.

### **The GHG Emissions Credit Market**

One of the pivotal roles of both of these bills will be the marketization of legal GHG emissions. By defining and limiting the number of units of emissions credits available, they become a demanded, limited resource and have value as such. As the new market is created and stabilizes it will begin to integrate with other markets and be defined in monetary terms. Similar to existing currency markets, the GHG credit market will require regulation. Both bills specify that, before allowance allocations, a portion of GHG credits will be retained by the government for market maintenance. This “strategic reserve” in H.R. 2454 and “market stability reserve” in S. 1733 will be used similarly to reserve funds

in conventional currencies and for the same market manipulation purposes including GHG credit market stabilization if it becomes volatile.

H.R. 2454 would give the Federal Energy Regulatory Commission the role of overseeing the cash allowance market while the Commodity Futures Trading Commission (CFTC) would oversee allowance derivatives. Additionally, GHG energy commodities – allowances and credits – sold in over-the-counter transactions would need to be vended through a clearing house. Finally, the CFTC would set “position limits” – a maximum number of energy contracts that any person could hold. S. 1733 has not yet specified market oversight as it is still being decided in committee.

### **Comparison of H.R. 2454 and S. 1733**

According to analysis in a recent Congressional Research Service (CRS) report, both bills’ cap-and-trade systems would affect the entities producing approximately 85% of current U.S. GHGs. The remaining 15% will be left under the governance of the Environmental Protection Agency (EPA) as they are currently. Both bills’ goals are the same in that they aim to reduce GHG emissions to 80% of 2005 levels by 2020 and to 17% of 2005 levels by 2050. Interestingly, neither bills’ cap-and-trade program alone will allow them to reach their emissions reduction targets. Therefore, both bills include parallel policies for more stringent performance standards and energy efficiency to help reach their overall goals. Additionally, actual emissions may be over or under their target from year to year because of various mechanisms. These mechanisms include a firm’s ability to borrow interest-free from their next year GHG unit allowance, the purchase of offsets, and other credit banking functions.

Despite their similarities, there are numerous small differences between the two bills. CRS identifies the six differences which are most important and worth reviewing. Four of these arise from distinct differences, while two of them are because S. 1733 has not yet defined certain placeholder provisions. The defined differences are that: 1) the early emissions cap for S.1733 – between 2017 and 2019 – is slightly lower than that of H.R. 2454; 2) emissions allowances and auction revenues are allocated differently; 3) carbon offsets are treated differently; and 4) both bills limit the EPA’s current GHG regulatory authority under the Clean Air Act. The additional two differences are the result of S. 1733 not yet specifying its policy for: 5) regulation of the GHG credit market, and 6) stabilization of GHG emission prices in the U.S. with other, possibly unregulated, foreign markets.

#### *1) Early Emissions Caps*

The first difference is only slight: S.1733 has a lower initial emissions cap by 2% to 4% during the years of 2017 and 2025. The gap narrows between 2026 and 2029, and thereafter the two bills have identical caps from 2030 onwards.

#### *2) Emission Allowances and Auction Revenues*

H.R. 2454 provides lower amounts of auctioned GHG credits throughout its duration and assigns more allowances to certain industry categories. More auctions occur under S. 1733 which allows more flexibility in the distribution of emissions credits, but, consequently reduces assigned allowances. For example, under H.R. 2454, State Adaptation and State Energy Efficiency efforts are given allowances of 8% and 8.93% of available U.S. GHG credits in the years 2016 and 2030 respectively. But, under S. 1733, the allowance percentages for those same categories are set lower at 6.4% and 4.51% in those same years.

Depending on the market price of GHG credits, allowance distribution could be a good or bad thing for a GHG producer. If GHG credits are highly valued then, for a firm with a large allowance and

successful GHG-reduction efforts, the credits could be sold to make a tidy profit or distributed to favored causes. Alternatively, if credits have a low value then buying additional ones at auction would be less expensive – which would be better for polluters exceeding their compliance obligation.

Deciding your support based on these hypothetical situations is insufficient. To create an informed opinion for your area you should consider 1) your estimated ability to reduce GHG emissions, 2) what allowance category you would fall into and how much credit allowance you would receive under either bill, and 3) the projected price of GHG credits and whether you would need to purchase additional credits.

The two bills have similar intents for the revenues generated through auctioned GHG credits. In rough order of priority they are: consumer rebates, low income consumer assistance, federal deficit reduction, and other much smaller initiatives. As mentioned earlier, S.1733 has a larger percentage of auctioned credits each year than H.R. 2454 and, therefore, would probably generate a larger annual revenue from the sale of more credits.

An interesting feature of H.R. 2454 is that some GHG credits are auctioned the year before they can be used. In the year 2030 for example 17% of total GHG credits will have been auctioned prior to the actual year. The revenue generated from the sale of these future credits can be used immediately for federal deficit reduction or other tasks. However, it is likely that future-credits will be sold for a lower value than the sale of credits that can be used the same year of purchase.

### 3) *Offsets*

Offsets are a financial tool designed to reduce carbon emissions. Essentially they function as an alternative way of purchasing GHG credits. If a firm's emissions exceed its compliance obligation then the firm can invest in offsets and a portion of that investment would offset the amount of GHGs that the firm produced – hopefully to a point where they meet their compliance obligation. Some typical purchasable offsets include investments in renewable energy, methane abatement, energy efficiency, reforestation, fuel switching, and even providing substitutes to forest based products.

Under H.R. 2454, firms could use offsets to fulfill up to 27% of their compliance obligations in 2016, 36% in 2030, and 66% in 2050. Keep in mind that during that time period the overall carbon cap is being lowered, so 66% in 2050 is actually less GHG units than 27% in 2016. S.1733, on the other hand, bases offset use on actual emissions rather than the overall emissions cap. Using EPA projections, the CRS estimates the equivalent percentages to be 35%, 41%, and 48% respectively. Therefore S. 1733 is projected to be more lenient on emissions in the beginning but stricter later on.

Finally, offsets can be purchased nationally or domestically, but the two bills differ in the proportions that these two types can be used to meet compliance obligations. H.R. 2454 allows a 50:50 domestic to international ratio of offsets while S. 1733 allows a 75:25 ratio. This would foster a smaller offset industry in the U.S. under H.R. 2454 than S. 1733. Total international offsets cannot exceed 1.25 billion tons of carbon dioxide (CO<sub>2</sub>) under S. 1733, but could go up to 1.5 billion tons under H.R. 2454. The measurement in CO<sub>2</sub> reflects the ability to evaluate different GHGs (including carbon dioxide, methane, nitrous oxide, perfluorocarbons, nitrogen trifluoride, sulfur hexafluoride, and hydrofluorocarbons) as a function of their relative amounts of environmental damage caused by each. For example, a unit of methane results in 25 times as much environmental warming as the same amount of CO<sub>2</sub>.

### 4) *EPA Regulatory Authority*

Under the Clean Air Act, which has existed for over 20 years, the EPA has the authority to regulate GHGs in five different ways. Both proposed bills limit the EPA's control but still allow them some regulatory authority. Essentially this is simply a transfer of authority from one federal agency to another.

#### 5) *GHG Credit Market*

As discussed above, one of the pivotal roles of both of these bills will be the marketization of legal GHG emissions. This leads to the market where the "trade" part of a cap-and-trade system is possible. Both bills specify reserve allowances of GHG credits for market stabilization and various mechanisms of market regulation. For more information, see the "GHG Emissions Credit Market" section of this memo.

#### 6) *Stabilization of Carbon Prices*

Given that other production costs remain constant, the cost effective choice for a GHG inefficient firm is to move to where emitting GHGs will be the cheapest. This describes a phenomenon known as "carbon leakage," where the effect of a reduction of GHG emissions in a regulated country is nullified by increased GHG production in less regulated countries as businesses relocate to avoid the new regulations. This problem is mitigated slightly by the allocation of allowances, but there is still some potential for carbon leakage when a firm is unable to meet its compliance obligation.

Beyond initial allowances, the solution to carbon leakage seems to be requiring foreign made products to pay for their GHG production before being sold in U.S. markets. The two most popular proposed methods of doing this are either imposing an import duty on goods equal to their carbon emissions value or imposing an International Reserve Allowance (IRA) whereby imports would have to buy IRAs equivalent to what the imported item produced in U.S. emissions credits – a de facto tariff. H.R. 2454 incorporates the IRA approach, while S. 1733 currently has a placeholder waiting to be defined in committee.

### Citations

Congressional Research Service. *Climate change: Comparison of the cap-and-trade provisions in H.R. 2454 and S. 1733*. (Washington DC, U.S.A., 2009).

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The Woods Institute for the Environment at Stanford University in collaboration with The Associated Press. *The Second Annual "America's Report Card on the Environment" Survey*. (Stanford CA, U.S.A., 2007).

### Common acronyms used

GHG	Green House Gas
H.R. 2454	American Clean Energy and Security Act of 2009
S. 1733	Clean Energy Jobs and American Power Act
CRS	Congressional Research Service
EPA	Environmental Protection Agency
IRA	International Reserve Allowance
CO <sub>2</sub>	carbon dioxide

***For further information on this issue, please contact your Marlowe & Company team leader or email [legislation@marloweco.com](mailto:legislation@marloweco.com)***