



# CLIMATE FOCUS

Climate Focus: Carbon Market Background Paper. May 2008

## Briefing: Lieberman-Warner Climate Security Act

---

### Background

On December 5, 2007 the Lieberman-Warner Climate Security Act<sup>1</sup> (“CSA”) received a favorable vote of 12-8 in the Senate Environment and Public Works Committee (“EPW”). This gives the bill the distinction of being the first proposed federal legislation on climate change in the United States to make it out of committee. While the CSA received several substantive changes in EPW, the bill did retain its primary design features. A number of additional amendments were proposed for the bill in EPW but were not adopted. This memorandum examines the CSA in its most recent form.

### Summary

The CSA gives an indication of what future US climate change legislation may look like. If passed, the CSA will affect many sectors, creating both restrictions and opportunities for covered and non-covered entities. The primary features of the CSA are:

- An cap on greenhouse gases (“GHG”) emitted by many sectors of the US economy that will apply from 2012 to 2050
- Financial incentives for deployment of new technologies to address climate change
- Utilization of an emission trading program

The CSA requires each covered facility to surrender at the end of each year the number of emission allowances equalling the CO<sub>2</sub> equivalents that the facility emitted in that year. The cap on emissions will affect a number of facilities that emit greenhouse gas emissions (such as coal-fired power stations and facilities that emit hydrofluorocarbons) as well as a range of facilities that produce, process, or import fossil fuels and chemicals. Emission allowances will be auctioned and also allocated to different groups. Initially 21.5% of total allowances will be auctioned in 2012, and this will gradually increase until it plateaus at 69.5% in 2031.

The revenue generated from auctioning allowances is placed into funds directed at purposes relating to climate change mitigation ranging from support for new technology to worker training and international assistance. Additionally, the CSA provides for the free allocation of allowances to reward actions on the part of entities or states, or provide financial assistance to covered facilities.

The emissions trading program allows anyone to trade in allowances, and also allows covered facilities to “borrow” from future allocations of allowances. A covered facility may satisfy up to 15% of its annual compliance obligation from offset allowances generated within the US. In addition to domestic offset allowances, a covered facility may satisfy up to 15% of its annual compliance obligation with international allowances that come from another country that has a comparably stringent cap on its emissions. International allowances or emission

---

<sup>1</sup> Senate Bill S.2191, America’s Climate Security Act.



## CLIMATE FOCUS

reduction credits from countries that do not have caps, such as from the Kyoto Protocol's Clean Development Mechanism, are *not* eligible for compliance under the CSA.<sup>2</sup>

### Baseline and Overall Goals

The CSA directs the United States Environmental Protection Agency ("EPA") to establish a separate Emission Allowance Account for each calendar year from 2012 through 2050. The total emission allowances for each year from 2012 through 2050 have been pre-determined and allocated to the Emission Allowance Account established for each respective year. The size of the 2012 Account is 5.775 billion allowances. This is the number of CO<sub>2</sub> equivalent tons of GHG emissions that facilities covered under the CSA emitted in 2005. From there the number of allowances decreases by 106 million each year (or 1.8%). This results in a reduction of allowances of 19% below the 2005 emissions level by 2020 and 71% below the 2005 emissions level by 2050.

### Covered Facilities

Facilities included under the cap-and-trade provisions of the CSA are coal-burning power plants and industries, natural-gas processing plants and importers, petroleum-based and coal-based fuel producers and importers, and facilities that produce or import greenhouse gases such as sulfur hexafluoride or perfluorocarbons. Specifically, the CSA requires the following "covered facilities" to surrender allowances:

- Facilities using more than 5,000 tons of coal per year.
- Facilities producing natural gas in Alaska, and entities importing natural gas.
- Facilities producing or processing, or entities importing, petroleum-based or coal-based liquid or gaseous fuel, the combustion of which will emit GHGs, assuming no capture and sequestration of that gas
- Facilities producing for sale or distribution, and entities importing, more than 10,000 tons of CO<sub>2</sub> equivalent per year of Group I GHGs (includes carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, or perfluorocarbons), assuming no capture and destruction or sequestration of that gas.
- Facilities emitting more than 10,000 CO<sub>2</sub>e of hydrofluorocarbons as a byproduct of the production of hydrochlorofluorocarbons.

Notably, the definition of covered facilities includes requirements for surrendering allowances upon processors and importers. This upstream coverage differs from the European Union Emission Trading Scheme (EU ETS) that uses a source-based approach, requiring facilities to surrender allowances to cover their actual emissions.

### Auctioning and Allocation of Allowances

The CSA creates the Climate Change Credit Corporation that is tasked with auctioning allowances. EPA is directed to allocate a percentage of each year's Emission Allowance Account to the Climate Change Credit Corporation for annual auctioning. Initially 21.5% of

---

<sup>2</sup> Several industry and environmental groups are lobbying for the inclusion of international reduction credits such as those under the CDM. In a recent EPA analysis of implementation scenarios the availability of domestic offsets and international reduction credits had the largest impact on the projected price of carbon allowances. In the EPA analysis eligibility of international reduction credits reduced allowance prices by as much as 71%.



## CLIMATE FOCUS

total allowances will be auctioned in 2012. The amount of auctioned allowances gradually increases until it plateaus at 69.5% in 2031. EPA is also directed for the period prior to 2012 to take a small percentage of allowances allocated for years 2012 through 2014 and allocate the allowances to the Climate Change Credit Corporation for early auctioning. The revenue generated from auctioning allowances is placed into funds directed at climate change related purposes ranging from support for new technology to worker training and international assistance.

The CSA also directs EPA to allocate percentages of each year's Emission Allowance Account to several different entities. The allocations reward actions on the part of entities or states or provide financial assistance to covered facilities. These include allocations for:

- *Early Action.* Allocation awards to facilities that have taken early action to reduce GHG emissions.
- *States.* Annual allocations to states (1% of the year's allowances is allocated to states in which 90% of new buildings comply with energy efficiency building codes; 1% is allocated to states to operate, expand and increase the efficiency of mass transit systems; 2% is allocated to states that have adopted "decoupling" rate-making methodology for electric and natural gas utilities<sup>3</sup>; 2% is allocated to states that have imposed GHG emission limits more stringent than the federal limits; 4.5% is allocated to all states based on each state's level of Low Income Housing Energy Assistance Program expenditures, population and the quantity of CO<sub>2</sub> embedded in the fossil fuels that are mined or produced in the state; and 0.5% is allocated to a Program for Tribal Communities). A state may retire the allowances allocated to it or use the revenue from the sale of the allowances to carry out specific purposes such as improvements in energy efficiency, clean technology development and deployment and measures to mitigate the effects of climate change.
- *Load-Serving Entities and Natural Gas Distributors.* The CSA allocates 9% of each year's allowances to electric load-serving entities and 2% of each year's allowances to retail natural gas distributors. The value of the allowances is required to be used to mitigate economic impacts on low and middle-income energy consumers and to promote energy efficiency among these consumers.
- *Carbon Capture and Geologic Sequestration.* EPA is directed to establish a Bonus Allowance Account with 4% of the allowances for the years 2012 through 2030. The allowances in the Bonus Allowance Account will be used to reward firms that successfully inject CO<sub>2</sub> into geological formations. The number of bonus allowances that a firm receives for injecting one metric ton of CO<sub>2</sub> underground begins at 4.5 in 2012 and gradually decreases in subsequent years.
- *Domestic Farmers and Foresters.* Annually 5% of the year's allowances are to be used to reward domestic farmers and foresters that adopt practices that increase the storage of CO<sub>2</sub> in plants and soils.

---

<sup>3</sup> Decoupling policies enable energy utilities to recover just as much money for investments in demand reduction measures as they recover for investments in satisfying demand.



## CLIMATE FOCUS

- *International Forest Protection.* Annually 2.5% of a year's allowances are to be used for reducing the rate of tropical deforestation in other nations. The CSA sets out the structure of a distribution and verification program to be administered and overseen by EPA, the State Department, the Department of Interior, and Department of Agriculture.
- *Transition assistance.* In 2012, fossil fuel-fired electric power generating facilities receive 19% of the year's allowances, rural electric cooperatives receive an additional 1%, energy intensive manufacturing facilities receive 10%, importers and producers of petroleum-based fuel receive 2%, and hydrofluorocarbon producers receive 2%. The percentages of annual allowances for transition assistance declines to zero by 2031.
- *Reducing Methane Emissions from Landfills and Coal Mines.* A program for achieving permanent reductions in emissions of methane from landfills and coal mines will be initiated with 1% of each year's allowances.

Beyond providing incentives and assistance by allocating allowances to the numerous entities and states set out above, another goal of the large and diverse allocation of allowances is to provide a large number of participants in the allowance market. The intended goal of a large number of participants in the market is to create a more fluid market.

### **Trading System Components (Trading, Banking, Borrowing and Reduction Credits)**

The CSA specifically states that anyone can buy, sell, hold, or retire emission allowances. Allowances may be held and banked indefinitely. A covered facility can satisfy up to 15% of a given year's compliance obligation with allowances borrowed from future years. There is a 10% annual interest rate on such allowance loans and a five-year limit on the term of any such loan.

A covered facility using coal is allowed to discount from the allowances it is required to surrender the number of metric tons of CO<sub>2</sub> that it geologically sequesters. Other types of covered facilities are not allowed to utilize this type of discounting. Instead, they receive an emission allowance back from EPA for each metric ton of CO<sub>2</sub> geologically sequestered.

### **Offsets and International Allowances**

#### ***Domestic Offsets***

A covered facility may satisfy up to 15% of its annual compliance obligation with offset allowances generated within the United States. Eligible offset project types for the generation of domestic offset allowances are:

- *Agricultural and Rangeland Sequestration Projects.* These include altered tillage; winter cover cropping, continuous cropping, and other methods for returning biomass to soil in lieu of planting and plowing; conversion of cropland to rangeland or grassland; reduction of nitrogen fertilizer use; reduction in the frequency and duration of rice paddy flooding; and reduction in carbon emissions from organic soils.
- *Land Use Change and Forestry Projects.* These include afforestation or reforestation of areas not forested as of October 18, 2007; and forest management increasing forest stand volume.



## CLIMATE FOCUS

- *Manure Management and Disposal Projects.* These include waste aeration and methane capture and combustion projects.
- *Additional “Terrestrial” Offset Projects.* The CSA provides for additional offset projects to be carried out that capture fugitive emissions for which a covered facility is not required to surrender allowances; methane capture and combustion at nonagricultural facilities; and other actions resulting in the reduction or avoidance of greenhouse gases.

EPA is tasked with certifying, monitoring, and enforcing the requirements established for offsets under the CSA. Included in the consideration of project eligibility and offset generation are permanence, leakage, additionality and baseline estimations for which EPA is required to develop tools and standardized methods for determining.

Pre-existing offset projects and banked offset allowances may be allowed to be transitioned into eligible projects and offset allowances if the pre-existing project and banked offset allowances are registered under or meet the standards of the Climate Registry, the California Action Registry, the GHG Registry, the Chicago Climate Exchange, the GHG Clean Projects Registry, or any other federal, state or private reporting program or registry the EPA determines to meet the applicable requirements of the CSA’s subtitle on offsets.

### ***International Allowances***

In addition to domestic offset allowances a covered facility may satisfy up to 15% of its annual compliance obligation with international allowances. An “international allowance” is an emission allowance purchased from a foreign GHG emissions trading market that EPA has certified as being comparable in integrity to the U.S. market and exists as a result of a national emissions cap that EPA finds to be comparable in stringency to that of the US. This makes allowances such as those from the EU ETS or other trading schemes in nations with mandatory greenhouse gas caps eligible. However, the requirement of a nexus to a national cap precludes the eligibility of international reduction credits created under the Clean Development Mechanism of the Kyoto Protocol since such credits are generated in developing nations that do not have national caps.

### **Carbon Market Efficiency Board**

The CSA establishes the Carbon Market Efficiency Board. The Board is responsible for monitoring the emissions trading market and periodically reporting to the President and Congress. The Board is also given the authority in the first two years of the cap-and-trade program to increase the amount of allowances covered facilities may borrow or surrender as offset allowances if the price of allowances is higher than anticipated. In subsequent years, if necessary to avoid significant harm to the economy, the Board has authority to alter requirements for borrowed and offset allowances and increase the emission cap by as much 5% (provided that subsequent years’ caps are tightened).

### **Imports from Nations Without Comparable Requirements**

The CSA directs the Executive Branch to intensify efforts to engage other nations and promote greenhouse gas emission reductions. If it is determined a major emitting nation has not taken comparable action to that of the US within eight years of the CSA being enacted the President is authorized to require that importers of greenhouse-gas-intensive manufactured products from that nation submit emissions credits of a value equivalent to that of the credits



# CLIMATE FOCUS

that the US system effectively requires of domestic manufacturers. These international trade measures of the CSA follow closely those appearing in the Bingaman-Specter climate change bill<sup>4</sup>.

## Geologic Sequestration

Title VIII of the CSA sets out rulemakings, geological surveys, technical reviews, and panels of legal experts for developing the needed US infrastructure for transporting CO<sub>2</sub> from power plants, through pipelines, to injection wells, and then underground. Included with this are corresponding amendments to the Safe Drinking Water Act and a call for evaluation of federal assumption of liability for closed geologic storage sites.

## Uncertainty Ahead

It is anticipated that the full Senate will debate the CSA sometime in the coming months. Many of the amendments that were offered before the EPW but not adopted will likely reappear during full Senate consideration. Additionally Senators Lieberman, Warner and Boxer's offices are working on a substitute version of the bill that contains, as of yet, undisclosed amendments. Once the Senate debate begins, it is likely that proponents will need to gather 60 votes in favor of the bill in order to defeat an opponent lead filibuster. Accordingly at this point, it is impossible to predict how the bill will be amended and whether it will be enacted by the Senate.

For more information contact Climate Focus North America at:

Robert O'Sullivan  
[r.osullivan@climatefocus.com](mailto:r.osullivan@climatefocus.com)  
+1 (202) 384 0464

Claybourne Fox Clarke  
[c.clarke@climatefocus.com](mailto:c.clarke@climatefocus.com)  
+1 (202) 460 7494

Web-site [www.climatefocus.com](http://www.climatefocus.com)

---

<sup>4</sup> Senate Bill S.1766.