Overview of Greenhouse Gas Emissions Offset Policies and Provisions in U.S. Cap-and-Trade Programs and Proposals

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EPRI Greenhouse Gas Emissions Offset Policy Dialogue

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I. Background / Overview

This paper has been prepared for a workshop that will be held by the Electric Power Research Institute ("EPRI") on June 25-26, 2008 in Washington DC on the subject of Greenhouse Gas ("GHG") emissions offsets. Its purpose is to provide workshop participants with a common understanding of provisions incorporated in existing offset systems and being considered as part of GHG "cap-and-trade" systems under development. It is the first workshop of three that will be held on this topic during 2008, and is part of a larger project that EPRI has initiated and is sponsoring on this important topic.

A summary of EPRI's project and its objectives follows. The **EPRI GHG Emissions Offset Policy Dialogue** focuses on the design of greenhouse gas (GHG) emissions offset systems that may be incorporated into evolving climate change policies. The project will use a "lessons-learned" approach to identify and describe design elements incorporated in offset systems that impact their ability to achieve environmental and economic objectives. Its goals include:

(1) ***Informing key constituencies*** – including the policy-making, environmental, industrial, financial and research communities – about experience to date with offset policies;

(2) ***Providing a forum*** in which participants representing a wide variety of perspectives can discuss important elements of possible future offset policies;

(3) ***Building a common understanding*** of the design elements that impact whether an offset system will achieve environmental integrity while simultaneously facilitating investment in activities that create large-scale GHG emissions reductions; and,

(4) ***Discussing potential mechanisms*** that may help to reduce various risks that have made it difficult to mobilize capital to develop offset projects under existing programs.

A discussion of these key offset design elements will be included in a final report to be published by EPRI in December 2008.

II. Introduction

Greenhouse gas emissions offsets are emission reductions created by projects and activities at emission sources, and in economic sectors, not covered by a GHG emissions trading program's fixed cap. These sources and activities may be located either within or outside the geographic jurisdiction of the trading program. The amount of reductions attributable to a specific offset project or activity typically represents the difference between "business-as-usual" (BAU) emissions and actual or calculated emissions following implementation of the offset project.

GHG emissions offset markets enable emission sources required to reduce their emissions by legislation or regulation to access and substitute lower cost emissions reductions from a broad array of sources, sectors and geographies not covered by the program. As such, offsets can effectively add to the supply of emissions reductions available in the market, thereby potentially reducing allowance prices.

Existing experience with offset programs and a wide body of research suggest that access to offsets can reduce regulated firms' costs to comply with GHG emissions targets. In addition, offsets can help society achieve emissions reduction targets more cost-effectively than otherwise would be the case. In addition, a well-crafted offsets program can stimulate development and deployment of low and non-emitting technologies.

Offsets can be created from domestic or international projects and activities. In the international context, regulatory approvals for the creation of GHG offsets are currently carried out under the United Nations' *Clean Development Mechanism* ("CDM") and the *Joint Implementation* ("JI") provisions of the Kyoto Protocol. With limited exceptions, offsets created by CDM and JI projects are valid for compliance with emissions targets in Europe, Japan, and Canada. They may also be valid for use under evolving Australian and New Zealand trading programs. Offsets created by CDM projects are called *Certified Emission Reductions* ("CERs") and those created by JI projects are called *Emission Reduction Units* ("ERUs").

III. Elements of GHG Emissions Offsets Programs

In the U.S., state and regional GHG trading programs and proposals provide authority for offsets to be created at the state level. In particular, the Regional Greenhouse Gas Initiative ("RGGI") – comprised of ten Northeastern and Mid-Atlantic States[1] – allows for offsets to be used for compliance up to a quantitative limit. In addition, the Western Climate Initiative ("WCI"), which is currently comprised of seven Western states and three Canadian Provinces, is currently in the process of developing its offset program. At the federal level, a minimum of 12 pieces of legislation which would establish a national GHG cap-and-trade program have been introduced in the 110th Congress. The majority of these legislative proposals include offset provisions.

[1] The RGGI states include: Connecticut, Delaware, Massachusetts, Maine, Maryland, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. Pennsylvania participates as an "observer."

There are many types of provisions that are common to most or all offset programs and proposals. A brief list of key provisions is provided below:

Regulatory Authority. All programs propose to provide authority to one or more federal agencies to regulate the offset system. Some of the proposed bills direct the Administrator of the Environmental Protection Agency (EPA) or the Secretary of the Department of Agriculture (USDA) to establish standards and rules to govern creation and use of offsets. Others propose to delegate this authority to the President.

Eligible Activities. Offset provisions incorporated into GHG mitigation programs and proposals typically identify categories of activities that are eligible to create offsets and the rules that must be followed to do so. These eligible activities vary between proposals.

Some proposals have included methane capture and destruction, while others authorize offsets to be created from geological and agricultural sequestration activities, among others. The initial list of eligible categories sometimes is referred to as a "positive list." It is often specified that the Administrator would consider including other types of activities in the positive list on a case-by-case basis and then add them to the list as appropriate.

For example, the list of activities specified by the RGGI program as potentially eligible offset categories is an example of the use of such a positive list. This list provides project developers with some confidence that the specified project activities will be eligible to create offsets. However, positive lists may be able to provide even greater specificity, and further reduce investor risks by including one or more of the following elements:

1) Eligible baseline, monitoring, and verification methodologies for the list of eligible offset categories;

2) Provisions specifying that pre-defined categories of well-understood, well-tested offset activities qualify for streamlined consideration in the regulatory review and approval process (e.g., the Bingaman-Specter bill adopts this approach; see section IV under *Eligible Activities*); and/or

3) Provisions calling for a standards-based approach to be used to set project baselines and provide the basis for crediting (a WCI working group made a similar preliminary recommendation; see section IV under *Eligible Activities*). This approach stands in contrast to the traditional project-by-project approach to project approvals, which has been the method employed to date in the Clean Development Mechanism.

Quantitative Limitations on Offsets Use. Offset systems often establish qualitative and quantitative limitations on offsets that regulated entities can use for compliance with GHG emissions targets. In some cases, program rules impose quantitative limits on the use of offsets for compliance. Typically, these limits have been expressed in terms of a percentage of the total annual allocation – or equivalently – a percentage of each year's compliance obligation.

Policy-makers often include such limits out of concern that firms subject to an emissions target will buy offsets to achieve compliance and not take internal actions to reduce their emissions. Recent analysis suggests that such provisions increase compliance costs for firms regulated under a GHG cap-and-trade program by reducing the range of cost-effective emission reductions that can be used for compliance. EPA analysis of the Lieberman-Warner cap-and-trade proposal concluded that quantitative limits on offset use have a larger impact on allowance prices than assumptions regarding the availability of key technologies such as carbon capture and storage and nuclear power.[2]

Qualitative Limitations on Offset Use. Offset programs also may impose qualitative limits on the activities that can create offsets. For example, qualitative limits may exclude offsets created in certain geographic regions from being used for compliance. An example of such a limit is a prohibition on the use of international offsets.

Other such limits have been discussed to deal with concerns regarding the "permanence" of certain types of activities and difficulties in measuring the volume of offsets potentially created by other types. For example, the European Union's CO_2 Emissions Trading Scheme (EU-ETS) prohibits the use of offsets created by forest carbon sequestration projects, nuclear power and "large" hydropower production.

IV. Offset Elements Incorporated in Federal and Regional Initiatives

To provide background information for the discussions that will be held at this EPRI workshop and throughout this project on existing and proposed offset policies in the U.S., this paper provides an overview of the offset provisions contained in the following federal and regional GHG cap-and-trade proposals and programs:

1. S. 1766 – the "Low Carbon Economy Act of 2007" introduced by Senators Bingaman (D-NM) and Specter (R-PA); and,
2. S. 2191 – "America's Climate Security Act of 2007" introduced by Senators Warner (R-VA) and Lieberman (I-CT), and which recently was debated on the Senate floor.
3. RGGI; and
4. WCI (specifically, draft recommendations recently published for public comment).

S. 1766 – Low Carbon Economy Act of 2007 (Bingaman-Specter)

General Overview of Legislation

S. 1766 was introduced on July 11, 2007, and was referred to the Senate Environment and Public Works Committee in August but was never brought to a full committee vote.

[2] See "EPA Analysis of the Lieberman-Warner Climate Security Act of 2008, S. 2191 in 110th Congress," March 14, 2008, United States Environmental Protection Agency.

The following discussion provides a general description of the legislative framework of the bill and a more specific discussion of its offsets provisions.

Coverage. The legislation provides coverage for approximately 86% of all U.S. GHG emissions from both upstream sources (petroleum, natural gas, and non-CO_2 GHGs) and downstream sources (facilities that use over 5,000 tons of coal per year, including electric power generation plants).

Targets. Beginning in 2012, the emissions cap is set at approximately 8% above 2005 levels (6,652 million metric tons (MMt)), declining 1% per year until reaching 2005 levels (6,188 MMt) by 2020, and 23% below 2005 levels (4,819 MMt) by 2030 and beyond.[3]

Cost Containment. The bill's approach to cost containment is to impose a price ceiling referred to as a technology accelerator payment (TAP), or "safety valve." When the annual average price of carbon surpasses $12 per ton CO_2 ($12/tCO_2), covered entities would be allowed to pay a fee into a Climate Change Trust and Energy Technology Fund, which is structured to finance various advanced energy and low-carbon technologies.

Auction / Allocation. The legislation initially allocates 76% of allowances (53% goes to covered sectors, and the remaining 23% is used for program cost compensation and incentives). It establishes an auction schedule under which 24% of allowances are auctioned in 2012, increasing to 32% by 2020 and 53% by 2030.

Offset Provisions

Regulatory Authority. S. 1766 directs the President to establish an offset program.

Eligible Activities. Domestic offset credits may be generated from the following activities:

1. Streamlined procedures (for activities with broadly accepted standards and methodologies for quantifying and verifying reductions);
   - Landfill methane use;
   - Animal waste or municipal wastewater methane use;
   - Reduction of SF_6 emissions from electric transmissions and distribution transformers;
   - Coal mine methane use; and
   - Other categories specified by the President.

   It is worth noting that the four activity types cited above are similar to those included in RGGI's eligible activity list. This similarity suggests the emergence of some level of consensus on which types of offset activities are well-understood and have broadly accepted standards and methodologies.

[3] The President is provided authority to reduce the cap to 60% below 2005 levels contingent upon international participation, namely by China and India.

2. Activities taking GHG precursors out of commerce in the U.S. (e.g., using natural gas as an input in chemical manufacturing instead of combusting it, exporting fuels instead of combusting them in the U.S., and exporting industrial gases with high global warming potential (GWP) instead of allowing them to be emitted in the U.S.)[4]

3. Geological sequestration (if the President determines that emissions would be stored for "an extended period of time.")

4. Projects offsetting other GHG emissions (including projects that reduce non-covered GHGs or sequester a GHG, provided that the projects are in compliance with monitoring and reporting provisions and effectively maintain the environmental integrity of the program.)

5. Discounted unclassified projects (other project types, such as agricultural/biological sequestration and other land-use activities, which may be subject to risk-based discounting).

Quantitative Limits on Offset Use. Covered entities could satisfy an unlimited amount of each year's compliance obligation with domestic offsets created by approved projects. Up to 5% of annual allowance allocations would be set aside for agricultural sequestration. The President is authorized to allow up to 10% of a covered entity's annual compliance obligation to be met with international offset credits, contingent upon foreign program approval (see *Qualitative Limits of Offset Use* below).

Qualitative Limits on Offset Use. The President is authorized to allow offsets to be created by GHG mitigation activities outside of the U.S. as long as the same rules and regulations that apply to domestic offsets are met. The President also may allow for the use of foreign offset credits from programs that are comparable to the U.S. program in terms of environmental integrity (e.g., CERs from CDM projects).

S. 2191 / S. 3036 – America's Climate Security Act of 2007 (Lieberman-Warner)

General Overview of Legislation

The Climate Security Act (S. 2191) initially was introduced on October 18, 2007. It was amended and reported out of the Senate Environment and Public Works (EPW) Committee on December 5, 2007 by a vote of 11 to 8. In May 2008, Chairwoman of the EPW Committee, Senator Barbara Boxer (D-CA), submitted a manager's amendment which revised a number of provisions in the bill. The manager's amendment that was considered on the Senate floor (S. 3036) and its offsets provisions are summarized below.

[4] Destruction of hydrofluorocarbons (HFCs) also would be allowed contingent upon approval by the President.

Coverage. The final version of S. 3036 provides coverage for approximately 87% of all U.S. GHG emissions from both upstream sources (petroleum, natural gas, and non-CO_2 GHGs) and downstream sources (coal facilities that use over 5,000 tons of coal per year, including electric power plants).[5]

Targets. Beginning in 2012, the emissions cap is set at approximately 7% above 2005 levels (5,575 MMt). The cap decreases to 21% below 2005 levels (4,924 MMt) by 2020, 38% below 2005 levels (3,860 MMt) by 2030, and 72% below 2005 levels (1,732 MMt) in 2050 and beyond.

Cost Containment. The bill's approach to cost-containment is to create a Carbon Market Efficiency Board and implement annual "Cost-Containment Auctions." The Board is permitted to authorize several cost containment measures if it determines that average annual allowance prices exceed a price limit predetermined by the Board.[6] Cost-Containment Auctions would be held each year between 2012 and 2027. Emissions allowances purchased in the Cost-Containment Auctions would be taken from future compliance periods from 2030-2050. The initial price range for these auctions is between \$22-\$30/tCO_2.

Auction / Allocation. The bill initially would allocate 75.5% of allowances (43% goes to covered sectors and the remaining 32.5% is used for program cost compensation and incentives). The auctioning percentage increases from 24.5% in 2012 to 35% in 2022 and eventually to 58.75% in 2032 and beyond. These "regular" auctions, which are separate and distinct from the Cost-Containment Auctions, incorporate a price floor of \$10/tCO_2 starting in 2012 increasing annually at a rate of 5% above inflation.

Offset Provisions

Regulatory Authority. The bill directs the Administrator of EPA, in conjunction with the Secretary of Agriculture, to promulgate a number of standardized methods concerning offset eligibility, certification, monitoring, and enforcement regulations for domestic offsets.

Eligible Activities. S. 3036 indicates that EPA will consider making the following project activities eligible to create offsets:

[5] S. 3036 covers facilities that produce or import more than 10.000 CO_2e of GHGs and specifically singles out emissions of HFCs. Title X of the bill establishes a separate, additional allowance account and submission requirement for only HFC producers and importers.

[6] These cost containment measures include the following: i) increasing the limit on "borrowing" GHG allowances allocated in future years and using them for compliance in the current year; ii) expanding the period over which a firm may "repay" any allowances borrowed from future years' allocations; iii) increasing the limit on the use of international allowances for compliance (e.g. EU Allowances from the EU Emissions Trading Scheme); and iv) increasing the limit on the use of domestic offsets for compliance.

1. Agricultural and rangeland sequestration and management, including:

    - Tillage practices;
    - Winter cover/continuous cropping to increase biomass for soil;
    - Cropland to grassland conversion;
    - Reduction of nitrogen fertilizer or increase in efficiency;
    - Reductions from frequency/duration of flooding rice paddies; and
    - Reductions from organic soils.

2. Land-use and forestry, including:
    - Afforestation or reforestation of acreage not forested as of Oct. 18, 2007; and
    - Increasing forest stand volume.

3. Manure management and disposal, including:
    - Waste aeration; and
    - Methane capture and combustion.

4. Terrestrial practices identified by EPA Administrator, including:
    - Capture and reduction of fugitive emissions from uncovered sources;
    - Methane capture and combustion from nonagricultural facilities; and
    - Other approved actions.

5. EPA may issue a list of technologies and associated performance benchmarks that can be considered *additional* in specific applications (valid for maximum of 5 years).

Importantly, the bill also would allow for consideration of other types of offset activities that are not linked to agricultural, forestry, or other land use-related projects, although no specific activities or methodologies are included.

***Quantitative Limits on Offset Use*.** The bill allows up to 15% of each annual emissions cap to be met using eligible domestic offsets. If the full 15% capacity is not used, the shortfall can be made up using international forestry credits or international allowances from a program with comparable stringency to the U.S. program. In addition to the 15% domestic offset limit, another 15% of each annual emissions cap can be met using international offset credits, 5% of which can be project-based credits and 10% can be international forestry credits. If these limits are not fully satisfied, international allowances from a comparable program can be used to meet the shortfall.

Qualitative Limits on Offset Use. EPA must determine whether international project-based offsets meet requirements comparable to the U.S. program, and assure that offset credits do not come from projects that compete directly with a U.S. facility. With regard to international forestry credits, EPA, in conjunction with the Secretary of State, must establish a list of countries from which such credits may be generated.

Other Provisions. The EPA Administrator may allow for the transfer of banked offset credits that meet the standards of the following programs:

- Climate Registry;
- California Climate Action Registry;
- GHG Registry;
- Chicago Climate Exchange (CCX);
- GHG Clean Projects Registry;
- RGGI;[7] and
- Other Federal, state or private reporting programs or registries approved by EPA.[8]

Regional Greenhouse Gas Initiative (RGGI)

Overview of Program

On December 20, 2005, the governors of seven Northeastern and Mid-Atlantic states signed a memorandum of understanding (MoU) creating the Regional Greenhouse Gas Initiative, which establishes a multi-state CO_2 emissions cap and trade program for electric power plants.[9] Three additional states have joined RGGI and nearly all participating states have passed, or are in the process of passing, legislation and regulations to govern the program.[10]

Coverage. The program covers emissions from power plants in RGGI states with a generating capacity greater than 25 megawatts (MW) and operating from January 1, 2005 onwards.

Targets. The CO_2 emissions cap for the 2009-2014 period is set at 188 million short tons, which is approximately 4% above these sources' annual average emissions in 2000-2004. Starting in 2015, the cap declines 2.5% per year to achieve a 10% reduction below the initial cap by 2019.

Cost Containment. RGGI establishes price triggers that are activated by "stage-one" and "stage-two" trigger events. A stage-one trigger event occurs if the twelve-month rolling average CO_2 allowance price is equal to or greater than \$7/tCO_2 (in 2005 dollars). If this happens, regulated entities are permitted to expand their use of offsets (see the subsection *Quantitative Limits on Offset Use* in *Offset Provisions* below).

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[7] S. 3036 provides that offsets registered under RGGI would be transferrable into the federal program "at an appropriate discount." No further details were included.

[8] This would likely include offsets registered in other emerging regional emissions markets such as the Western Climate Initiative (WCI).

[9] The governors of Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont. Massachusetts established RGGI in 2005, Rhode Island and Maryland joined RGGI in 2007. The District of Columbia, Pennsylvania, the Eastern Canadian Provinces and New Brunswick participate as observers.

[10] Rhode Island, Massachusetts and Maryland joined RGGI in 2007. Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont have passed or are in the process of passing legislation implementing the RGGI as of the date of this writing.

A stage-two trigger event occurs if the twelve-month rolling average CO_2 allowance price is equal to or greater than \$10/tCO_2 (in 2005 dollars). If this happens: (i) the compliance period will be expanded from three years to four; (ii) regulated entities will be permitted to further expand their use of offsets (see discussion below on *Quantitative Limits*); and (iii) regulated entities would be permitted to submit international offset credits from programs approved by the UN Framework Convention on Climate Change, including the CDM and JI programs (i.e., CERs and ERUs).

Auction / Allocation. All RGGI states are required to auction at least 25% of their annual allowances, although a number of states already have committed to auction 100% of their annual emission allowances. The first allowance auction is scheduled to take place September 10, 2008.

Offset Provisions

***Regulatory Authority*.** RGGI designates each state's respective regulatory agency (likely each state's environmental agency) to be responsible for evaluating offset monitoring and verification methodologies, and for awarding offset allowances to offset project sponsors.

***Eligible Activities*.** RGGI identifies the following five categories of potentially eligible offset activities:

1. Landfill methane capture and destruction;
2. Reduction in emissions of sulfur hexafluoride (SF_6);
3. Sequestration of carbon through afforestation;
4. End-use efficiency projects resulting in the reduction of CO_2 emissions from natural gas, propane and heating oil; and
5. Methane reduction from farming operations.

***Quantitative Limits*.** Initially, offset allowances can be used to meet up to 3.3% of a covered source's reported CO_2 emissions in a compliance period. However, the use of offsets increases to 5% if the rolling average price of emission allowances reaches \$7/tCO_2, and increases to 10% if the rolling average price reaches \$10/tCO_2. In addition, if the \$10/tCO_2 rolling average price threshold is reached, European Union Allowances (EUAs) from the EU ETS and CERs and ERUs under the Kyoto Protocol also can be used for compliance.

***Qualitative Limits*.** Eligible RGGI "offset allowances" can be generated from CO_2e emission reduction projects initiated after December 20, 2005 anywhere in the U.S., provided that a formal Memorandum of Understanding has been signed with the proper state authority in the state which the offset project is located.

Western Climate Initiative (WCI)

Overview of Program

The WCI was launched on February 26, 2007 by the governors of Arizona, California, New Mexico, Oregon and Washington. Since its inception, Utah, Montana and the Canadian provinces of British Columbia, Manitoba, and Quebec also have signed onto the agreement.[11] The WCI program currently is under development. A number of options have been identified and recommendations made regarding the structure of the program and an offsets system.

Coverage. The WCI's Scope Working Subcommittee and the Electricity Working Subcommittee both have recommended regulating emissions from industrial and commercial sources, transportation fuels, residential and commercial fuel combustion, electricity generators and "first jurisdictional deliverers" of electricity.

Targets. WCI's emission target is 15 percent below 2005 levels by 2020. This regional goal was calculated by aggregating each WCI participant's differentiated GHG reduction target into a regional target. To achieve this target, WCI signatories agreed to design a regional market-based, multi-sector mechanism by no later than August 26, 2008. To expedite this process, the WCI formed five Working Subcommittees to facilitate the development of key design elements of the program.[12]

Cost Containment. The WCI has received comments on a number of cost containment options it developed that will be given further consideration as the WCI develops the draft design document. These options include: (i) developing an independent Market Oversight Committee to guard against market manipulation; (ii) establishing a price "safety valve;" (iii) incorporating a price ceiling for a defined period; and/or (iv) allowing only GHG emitters to participate in auctions.

Auction / Allocation. WCI's Allocation Working Subcommittee has recommended that allowance budgets be established for each WCI Partner and that they be allocated individually by each Partner rather than issued by a centralized regional organization. The Subcommittee also recommends that each Partner auction a minimum of between 25%-75% of its allowance budget through a coordinated regional auction process.

Offset Provisions

Regulatory Authority. WCI's Offset Working Subcommittee proposed that WCI consider establishing a regional organization to coordinate review and adoption of offset protocols, coordinate review and issuance of offsets, and provide criteria for accrediting validation and verification service providers. It acknowledged that each jurisdiction may

[11] According to the WCI website (http://www.westernclimateinitiative.org/), Alaska, Chihuahua, Coahuila, Colorado, Kansas, Nevada, Nuevo Leon, Ontario, Quebec, Saskatchewan, Sonora, Tamaulipas and Wyoming participate as observers.

[12] The five Working Subcommittees include Allocations, Draft Reporting, Electricity, Offsets, and Scope.

need to retain regulatory authority to develop and approve of offset protocols, project approval, and offset issuance and enforcement.

Eligible Activities. It was recommended that WCI develop an initial set of eligible project types (e.g., a "positive list") and approved offset protocols prior to the program's launch. The Subcommittee also recommended allowing qualifying offset projects to be developed throughout the U.S., Canada, and Mexico in addition to allowing regulated entities to use tradable units (allowances and offsets) from other government-regulated GHG trading programs (e.g., RGGI, EU ETS). It also recommended that WCI use offset protocols that are "standardized to the extent possible."

Quantitative Limits on Offset Use. It was recommended that the amount of offsets a covered entity could use to meet its annual compliance obligation should be limited, but no limit has been proposed to date.

Qualitative Limits on Offset Use. The Subcommittee also proposed that WCI consider developing a method to give priority in some way to offset projects developed within the WCI jurisdiction.

Offset Provisions in US Federal Legislation and Regional Programs

	S. 1766 Low Carbon Economy Act of 2007	S. 3036 America's Climate Security Act of 2007	RGGI Regional Greenhouse Gas Initiative	WCI Western Climate Initiative
Regulatory Authority	President	EPA Administrator / USDA Secretary	Each participating state's environmental agency	Considering a regional authority or individual state agencies
Eligible Activities	1. Landfill methane use	1. Methane capture and combustion from terrestrial activities at non-agricultural facilities	1. Landfill methane capture and combustion	1. Offset Subcommittee recommended establishing a "positive list" of eligible project types
	2. Animal waste / wastewater methane use	2. Manure management and disposal -- waste aeration and methane capture and combustion	2. Methane reduction from farming	2. Recommended allowing projects from US, Canada, Mexico
	3. Reductions in SF6 emissions	3. Agricultural / rangeland sequestration and management	3. Reductions in SF6 emissions	3. Recommended that WCI consider allowing allowances / offsets from other government-regulated programs (e.g. RGGI, EU ETS)
	4.Coal mine methane use	4. Land-use and forestry	4. Sequestration through afforestation	
	5. Removal of GHG precursors	5. Reductions from other non-covered sources	5. End-use efficiency projects that reduce CO2 emissions from natural gas, propane and heating oil	
	6. Geological sequestration	6. Other activities identified by EPA		
	7. Reductions from other non-covered sources			
	8. Other activities approved by President and subject to discounting			

	S. 1766 Low Carbon Economy Act of 2007	S. 3036 America's Climate Security Act of 2007	RGGI Regional Greenhouse Gas Initiative	WCI Western Climate Initiative
Quantitative Limits	Domestic offsets: Unlimited; in addition, 5% of total allowance allocation is set aside for agricultural sequestration International offsets: President can authorize use of up to 10% of annual compliance obligation	Domestic offsets: Limited to 15% of annual emissions cap; international forestry credits / international allowances can be used to make up any shortfall International offsets: Limited to 15% of annual emissions cap (5% project-based international offsets, 10% international forestry credits); international allowances can be used to make up any shortfall	Domestic offsets: Limited to 3.3% of compliance obligation Stage-one trigger event ($7/tCO2): Limit increases to 5% Stage-two trigger event ($10/tCO2): Limit increases to 10%, and international allowances / credits also may be used for compliance within the 10% limit (i.e. EUAs, CERs, ERUs)	Recommendation made to limit the amount of offsets a covered entity can use, but no specifics were given on the percentage or origin of offsets allowed
Qualitative Limits	To qualify, international offsets must come from countries with rules / regulations comparable to those in U.S.	International project-based offsets must meet requirements comparable to those in US program, and cannot come from projects at facilities that directly compete with US facilities. International forestry credits must come from countries approved by EPA / Secretary of State	RGGI domestic offset allowances can be generated from projects initiated after December 20, 2005 anywhere in US so long as MoU signed with state where project is located	Considering option of developing a method that gives priority to offset projects located in WCI jurisdictions