

25x'25 Overview of the American Clean Energy Security Act of 2009

In June, the House passed climate legislation for the first time in history. The final bill was over 1,400 pages and was endorsed by a diverse cross-section of industry, agricultural and environmental interests. The bill (H.R. 2454) is titled the *American Clean Energy Security Act of 2009* (ACES), but is also commonly referred to as “Waxman-Markey” for its co-sponsors. Although the bill is primarily known for its global warming cap-and-trade program, it also goes beyond that section and creates incentives for renewable energy production, expansion of electricity infrastructure, new clean vehicles, and job training for a 21st century clean energy economy. ACES establishes new policy in the following areas.

Clean Energy

The bill creates an incentive for renewable energy development in the U.S. by establishing a national “renewable portfolio standard” (RPS) for the U.S. to produce 20% of its electricity from renewables by 2020. Up to one-fourth of that standard can be met by efficiency gains, and states have the opportunity to increase that share to 8% over all. Some states may choose to meet the target with 20% renewable energy while others may choose to split the goal 12% renewable and 8% efficiency. Although the original goal was to produce 25% of electricity from renewable sources by 2025, it was lessened to accommodate states that lacked confidence in their renewable energy resource base.

A renewable portfolio standard is sometimes called a renewable electricity standard, or RES.

The federal renewable electricity standard will not preempt states that already have more ambitious targets, and will create a set of tradable “renewable electricity credits.” In general, one MWh of renewable energy produced will earn one credit; however, the bill creates a new incentive for small distributed generation, like small wind and rooftop solar, by allowing these projects to earn three credits for every MWh produced (equal to about 2.5 cents per kilowatt hour). The bill also creates incentives and programs for clean energy transmission siting and planning and for the deployment of smart grid technologies.

Qualifying energy resources include:

Landfill gas, waste water treatment gas, coal mine methane used to generate electricity at or near the mouth of a mine, qualified waste-to-energy,¹ qualified hydropower,² renewable biomass, wind, solar, geothermal, biogas, biofuels, marine and hydrokinetic.

The bill adopts the Farm Bill definition of renewable biomass, which allows resources from non-federal lands to include residues and byproducts from wood, pulp, and paper facilities and expands the types of biomass eligible from federal lands to include dead, severely damaged, and badly infested trees. This greatly increases the ability of working lands to contribute to U.S. renewable energy goals.

¹ Combustion, pyrolyzation or gasification of biological municipal solid waste, construction, demolition, and disaster debris.

² Electricity generated from efficiency improvements and capacity increases at facilities put in place since 1988.

Energy Efficiency

Electricity

Energy efficiency is one of the cheapest and fastest ways to reduce greenhouse gas emissions. Although the bill does not create a separate energy efficiency target like the one passed for renewable energy, there are many additional measures that provide incentives for reducing energy use. Buildings in the U.S consume about 70% of electricity generation. The bill sets up a process to increase building energy

efficiency codes by 30% in 2010 and 50% in 2016. It also establishes a funding mechanism to finance up to 50% of the cost of building retrofits and also strengthens lighting and appliance standards. The bill allows small communities to join with neighboring communities to create joint programs that are large enough to become eligible for the existing federal Energy Efficiency and Conservation Block Grant program, a program that makes funding available for electricity and transportation efficiency programs.

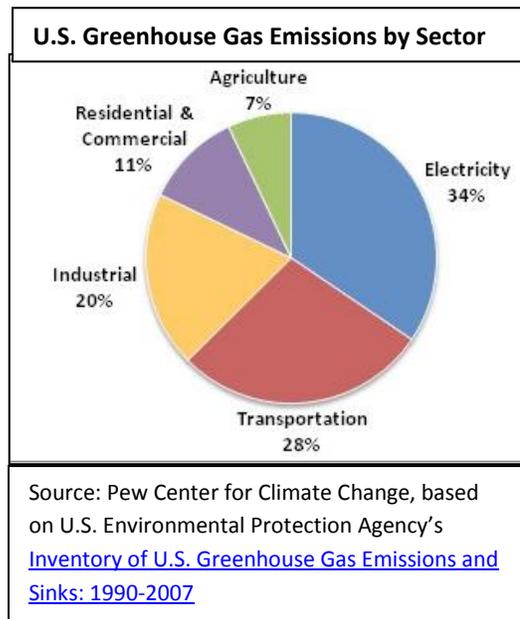
Transportation

The energy efficiency title also directs the Department of Energy, the Environmental Protection Agency and California to harmonize, as much as possible, fuel economy and emissions standards for cars. States must also establish goals to reduce GHG emissions from the transportation sector in areas with large populations (200,000 people or more). This could result in more public transportation and/or fuel switching (to lower carbon fuels like biofuels) for vehicle fleets. The bill also creates regulatory, investment and manufacturing opportunities for electric vehicles and allows renewable fuels pipelines to qualify for loan guarantees.

Reducing Global Warming Pollution

The most debated part of the bill is the “cap-and-trade” program. The legislation sets a limit, or “cap,” on how many greenhouse gas emissions (GHGs) can be released in the mid-term (2020) and long-term (2050). The first cap-and-trade system was developed in the 1990s by the United States to create a market-based system to reduce acid rain pollution. The program was very successful and reduced pollution quickly and cheaply—the actual cost of the program was only 25% of projected costs.¹ Based on this success, the House bill establishes a cap to reduce greenhouse gas emissions 17% below 2005 levels by 2020 and 83% below 2005 levels by 2050.

Under the House passed bill, agriculture and forestry operations are explicitly exempted from being regulated as capped entities. Capped entities such as electric utilities, oil refiners, and energy intensive industries such as cement and aluminum producers, have to use permits, or allowances, to cover their emissions. Emissions beyond the given allowances have to be reduced onsite or entities can purchase “offsets” to cover them. Offsets are reductions generated by uncapped sectors, such as agriculture and forestry. If an entity reduces emissions beyond their allowances, they can sell—or trade—their excess allowances in the carbon market, hence the term “cap-and-trade.” Over 85% of the allowances will be distributed for free by the government to capped sectors. The remaining



Because the goal of cap-and-trade legislation is to reduce total global warming pollution, offset reductions have to be **additional** in order to be meaningful. Additionality means that the reductions made in an offsets project are above and beyond what would have occurred otherwise. In other words, they are reductions that would not have occurred without the offsets project.

¹ Cap and Trade: Acid Rain Results. Environmental Protection Agency, Clean Air Markets Program. Available at: <http://www.epa.gov/airmarkt/cap-trade/docs/ctresults.pdf>

allowances will be auctioned, and the revenues will be used to compensate households for higher energy costs and to advance activities that will lead to further GHG reductions. The Commodity Futures Trading Commission will regulate the carbon market.

Agriculture and Forestry's Role

Agriculture and forestry's main opportunity for contributing to climate solutions is through the production of offsets for the carbon market. Although the original draft of H.R. 2454 did not exclude agriculture and forestry-based offsets, the version that passed clarified the role these sectors can play.

As passed, H.R. 2454 puts USDA in charge of agriculture and forestry offsets and establishes a new USDA Greenhouse Gas Emission Reduction and Sequestration Advisory Committee to oversee the program. USDA will be responsible for developing methodologies to establish baseline emissions (how many emissions would occur without the project), quantify reductions, verify reductions, mitigate potential leakage (emission increases outside the project boundary), certify reductions, and register reductions so that they are not double counted. The program will also provide technical assistance for offset developers. The bill includes an initial list of allowable offset projects, with the potential to add others (see table at right). The cap-and-trade program will also reward early actors by allowing farmers and ranchers who previously implemented carbon sequestration practices and participated in a voluntary offset market to take part and be compensated as long as their offsets have not been used.

Offsets are measured in units of 1 metric ton of CO₂ equivalent (MTCO₂e) and can be generated through projects that reduce, avoid or sequester greenhouse gases. Offsets, including term credits, are interchangeable with emissions allowances. H.R. 2454 allows 2 billion tons of offsets to be used to meet the cap. (In 2007, the U.S. emitted about 7.3 billion tons of GHGs, so offsets could displace about 30% of U.S. emissions.) Half of the offsets can be sourced through domestic projects, half through international suppliers. Offsets help reduce the cost of a cap-and-trade program, promote reductions in uncapped sectors, and incentivize other countries to reduce their own global warming pollution. The U.S. will only allow international offsets from countries that meet certain criteria.

H.R. 2454 Eligible Offset Projects

- Agricultural, grassland, and rangeland sequestration and management practices, including:
 - altered tillage practices
 - winter cover cropping, continuous cropping, and other means to increase biomass returned to soil in lieu of planting followed by fallowing
- Reduced nitrogen fertilizer use or increase in nitrogen use efficiency
- Reduced frequency and duration of flooding of rice paddies
- Reduced carbon emissions from organic soils
- Reduced greenhouse gas emissions from manure and effluent
- Changes in animal management practices, including dietary modifications
- Land use change and forestry activities, including:
 - afforestation or reforestation
 - forest management that increases carbon stores
 - management of peatland or wetland
 - conservation of grassland and forested land
 - improved forest management, including accounting for carbon stored in wood products
 - reduced deforestation or avoided forest conversion
 - urban tree-planting and maintenance
 - agroforestry
 - adaptation of plant traits or new technologies that increase sequestration by forests
- Manure management and disposal, including:
 - waste aeration
 - biogas capture and combustion
 - application to fields as a substitute for commercial fertilizer

In addition to participating in offset markets, farmers, ranchers and forest landowners may also have the opportunity to participate in government programs, funded through allowances, designed to reduce emissions, mitigate costs and improve energy efficiency. Based on the projected value of these allowances, the revenue made available to support these types of programs is estimated in the neighborhood of \$1 billion.

Indirect Land Use Change

The Energy Independence and Security Act of 2007 increased the Renewable Fuels Standard (RFS) to 36 billion gallons, but also stipulated that life cycle greenhouse gas emissions had to be calculated for biofuels. Congress also stipulated that significant emissions from “indirect” land use change—for example, emissions from land cleared in another country to make up for corn diverted to biofuels production in the U.S.—must be included. Due to a lack of consensus in the academic and scientific communities on how to calculate and assign responsibility for indirect emissions, H.R. 2454 prohibits for five years the inclusion of indirect land use change emissions from these calculations and directs the National Academy of Sciences to study models and methodologies for further analysis.

Transitioning To A Clean Energy Economy

H.R. 2454 supports green job worker training by providing grants to universities and colleges to develop programs that prepare students for careers in renewable energy, energy efficiency, and other forms of global warming mitigation. It also provides funds to assist displaced workers with skill assessment, job counseling, and training.

This section also establishes a climate change adaptation program to assist the U.S. in dealing with climate change impacts. It provides funds to state projects designed to respond to extreme weather events (e.g., flooding or hurricanes), changes in water availability, heat waves, sea level rise, ecosystem disruption and air pollution. It also requires that the Secretary of Health and Human Services prepare a strategic plan to respond to public health disruptions. Additionally, it creates programs and funds to address natural resource impacts.

What's Next

With the narrow adoption in the House, climate legislation is undergoing similarly contentious debate in the Senate, where complex issues remain to be resolved. However, efforts will be made to retain and build on provisions in the House measure that provide opportunities for agriculture and forestry. 25x'25's Carbon Work Group is exploring ways to further strengthen the offset provisions to maximize opportunities for the agricultural and forestry sectors to deliver greenhouse gas reduction services that will have real value in the marketplace. The Senate bill is scheduled to be unveiled in early September by the chair of the Environment and Public Works Committee, Sen. Barbara Boxer. She and other congressional advocates, as well as the Obama administration, hope to have legislation adopted before December when the United States goes into a formal round of international negotiations in Copenhagen aimed at curbing global climate change. While U.S. climate change law would strengthen the U.S. position at the talks in Copenhagen, complicating the advancement of legislation and the U.S. approach to the negotiations are concerns among some U.S. lawmakers over the ongoing resistance from "developing" economies such as India and China to accepting reductions in carbon emissions.