



July 2009

THE AMERICAN CLEAN ENERGY AND SECURITY ACT (H.R. 2454)

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act, by a vote of 219 to 212. The legislation will create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. The following is a brief summary of H.R. 2454.

Key provisions in the bill:

- Require electric utilities to meet 20% of their electricity demand through renewable energy sources and energy efficiency by 2020.
- Invest in new clean energy technologies and energy efficiency, including energy efficiency and renewable energy (\$90 billion in new investments by 2025), carbon capture and sequestration (\$60 billion), electric and other advanced technology vehicles (\$20 billion), and basic scientific research and development (\$20 billion).
- Establish new energy-saving standards for new buildings and appliances,.
- Reduce carbon emissions from major U.S. sources by 17% by 2020 and over 80% by 2050 compared to 2005 levels. Complementary measures in the legislation, such as investments in preventing tropical deforestation, will achieve significant additional reductions in carbon emissions.
- Protect consumers from energy price increases. According to estimates from the Environmental Protection Agency, the reductions in carbon pollution required by the legislation will cost American families less than a postage stamp per day. The Congressional Budget Office (CBO) calculates that the legislation will cost the average household less than 50 cents per day.

Because of its balanced approach, the American Clean Energy and Security Act has received broad support from industry and environmentalists. Passage of the bill in the House was supported by electric utilities, oil companies, car companies, chemical companies, major manufacturers, environmental organizations, efficiency advocates, agricultural interests, labor organizations, and representatives of the faith community, among many others. According to CBO, the legislation meets PAYGO requirements.

Clean Energy Provisions

Renewable Electricity Standard. The American Clean Energy and Security Act (ACES) requires retail electric suppliers to meet a growing percentage of their load with electricity generated from renewable resources and electricity savings. The combined renewable electricity and electricity savings requirement begins at 6% in 2012 and gradually rises to 20% in 2020. At least three quarters (75%) of the requirement must be met by renewable energy, except that upon receiving a petition from the governor, the Federal Energy Regulatory Commission can reduce the renewable requirement to three fifths (60%). In 2020,

15% of the electricity load in each state must be met with renewable electricity and 5% with electricity savings. Upon petition by the governor, the renewable requirement can be reduced to 12% and the electricity savings can be increased to 8%.

In addition, the legislation requires the federal government to meet 20% of its energy needs with renewable energy by 2020.

Investments in Clean Energy. ACES requires major sources of carbon emissions to obtain a pollution permit called an “allowance” for each ton of carbon dioxide or its equivalent that they emit. Through 2025, 13% of these allowances are allocated to investments in clean energy and energy efficiency. Using EPA estimates of allowance prices, ACES invests roughly \$190 billion through 2025 in clean energy and energy efficiency programs, including: \$90 billion in state programs to promote renewable energy and energy efficiency; \$60 billion in carbon capture and sequestration technologies; \$20 billion in electric and other advanced technology vehicles; and \$20 billion in basic research and development into clean energy and energy efficiency. The investments in carbon capture and sequestration include \$10 billion generated through a small “wires charge” on electricity generated through fossil fuels.

Investments in clean energy continue after 2025, with 5% of allowances being devoted to renewable energy and energy efficiency, 5% to carbon capture and sequestration, and 1.5% to research and development.

Supporting Private Investment in Clean Energy. ACES establishes a new Clean Energy Deployment Administration with \$7.5 billion in funding to support private investments in clean energy technologies, including nuclear power. Other provisions promote private investment in clean energy by reforming the existing Title 17 loan guarantee program.

Modernizing the Electricity Grid. ACES includes provisions to promote the deployment of smart grid technology and transmission planning and siting. The transmission provisions include federal backstop siting authority in the Western interconnection for transmission lines needed to meet demand for renewable energy.

Energy Efficiency Provisions

Building Standards. ACES establishes targets for new standards for building efficiency, requiring new buildings to be 30% more efficient in 2012 and 50% more efficient in 2016. States receive allowances that they can sell to support adoption and enforcement of state energy efficiency codes that meet the new standards. The Department of Energy must provide a federal backstop if a state declines to adopt or enforce compliant codes. ACES also establishes programs to help building owners retrofit existing buildings, replace antiquated mobile homes with energy-efficient models, and improve energy efficiency in multi-family assisted housing projects.

Appliance Standards. ACES adopts new efficiency standards for lighting products, commercial furnaces, and other appliances. The legislation also modifies the Energy Department’s appliance standard-setting process to make it more effective.

Vehicle Standards. The bill requires EPA to promulgate carbon emission standards for heavy-duty vehicles and off-road vehicles, such as construction equipment, trains, and large ships. ACES also integrates consideration of climate change into the existing transportation planning process to further reduce transportation-related energy consumption.

Other Efficiency Measures. ACES contains measures to increase the efficiency of water use and promote energy savings by the federal government and other public institutions. The legislation also creates a new energy efficiency program for small utilities with dedicated funding. Additionally, ACES authorizes a high efficiency gas turbine research program.

Global Warming Provisions

ACES contains three primary programs for reducing dangerous carbon emissions that cause global warming: (1) a cap on large domestic sources of emissions; (2) a program to reduce tropical deforestation; and (3) an offset program. In addition, ACES caps emissions of global warming pollutants that are substitutes for ozone-depleting chemicals, and it requires EPA to set performance standards for some uncapped sources of emissions. Taken together, these programs will reduce carbon emissions by 28% to 33% below 2005 levels by 2020. By 2050, ACES will reduce carbon emissions by 80% below 2005 levels through these programs.

Capping Carbon Emissions from Large Sources. Starting in 2012, ACES establishes annual tonnage limits on emissions of carbon and other global warming pollutants from large U.S. sources like electric utilities and oil refiners. Under these limits, carbon pollution from large sources must be reduced by 17% below 2005 levels by 2020 and 83% below 2005 levels by 2050. To achieve these limits, ACES establishes a system of tradable permits called “emission allowances” modeled after the successful Clean Air Act program to prevent acid rain. This market-based approach provides economic incentives for industry to reduce carbon emissions at the lowest cost to the economy.

Preventing Tropical Deforestation. ACES directs EPA and the State Department to use 5% of the allowances to secure agreements from developing nations to prevent tropical deforestation. This program will reduce carbon emissions by an additional 10 percentage points below 2005 levels by 2020.

Emission Offsets. ACES allows capped sources to increase their carbon emissions if they can obtain offsetting emission reductions from uncapped sources at a lower cost. The legislation allows capped sources to use offsets to acquire up to 2 billion tons of emission credits annually. Half of these credits must come from domestic sources, except that if insufficient domestic offsets are available, up to 1.5 billion tons of emission credits can be obtained from international offset projects. Starting in 2017, ACES requires capped sources to turn in five tons of international offsets to receive four tons of emission credits. This mechanism will reduce carbon emissions by up to an additional five percentage points below 2005 levels by 2020.

ACES contains multiple provisions to ensure the integrity of offsets, including review by an independent scientific panel. Offsets may not be obtained from sources in a foreign nation until the United States has entered into an agreement with the originating nation establishing the terms of the offset program.

Agricultural Offsets. ACES directs the Secretary of Agriculture to establish a program governing the generation of offset credits from domestic agricultural and forestry sources. The Secretary must promulgate methodologies for assessing the amount of offset credits, including activity baselines, additionality requirements, quantification methods, and leakage. The legislation also directs the Secretary to establish requirements to account for and address reversals, and it allows for the issuance of term offset credits.

Cost-Containment Measures. ACES contains numerous cost-containment measures recommended by an industry-environmental coalition called the U.S. Climate Action Partnership (USCAP). These include unlimited banking, a two-year compliance period (which allows borrowing one year in advance), and a strategic reserve of allowances that are available for auction if allowance prices exceed 160% of their three-year average. The proceeds of any sales from the reserve will be used to acquire additional international offsets, which will replenish the reserve at a low cost and result in additional reductions in carbon emissions. In addition, ACES establishes a minimum floor price for auctioned allowances of \$10 (in 2009 dollars) to provide stability and investment certainty.

Carbon Capture and Sequestration. ACES uses a combination of regulatory requirements and financial incentives to ensure that new coal-fired power plants will operate with carbon capture and sequestration (CCS) technology. All new coal plants permitted after 2020 must use CCS when they commence operations. Coal plants permitted between 2015 and 2020 lose eligibility for federal financial assistance if they do not use CCS when they commence operations; if they do not use CCS when they commence operations, they must retrofit CCS by no later than 2025 without federal financial assistance. Coal plants permitted between 2009 and 2015 lose eligibility for federal financial assistance if they do not retrofit CCS within five years after commencing operations; if they do not retrofit CCS by this date, they must retrofit CCS by no later than 2025 without federal financial assistance. The 2025 retrofit deadline is accelerated if four gigawatts of electricity generation is deployed with CCS before 2025; it may also be extended by EPA by up to 18 months on a case-by-case basis.

Allowance Provisions

ACES requires that major U.S. sources of emissions obtain an allowance for each ton of carbon or its equivalent emitted into the atmosphere. EPA estimates that in 2005 dollars, these allowances will cost \$13 in 2015 and increase to \$26 to \$27 by 2030. These allowance price estimates are consistent with estimates by CBO. CBO projects that allowance prices in 2005 dollars will be \$16 in 2015 and increase to \$36 by 2030. At these allowance prices, the total value of the allowances created under the legislation ranges from roughly \$70 to \$80 billion in 2015 to \$90 to \$120 billion in 2030.

For the period from 2012 through 2025, 55% of the allowances will be used to protect consumers from energy price increases; 19% will be used to assist trade-vulnerable and other industries make the transition to a clean energy economy; 13% will be used to support investments in clean energy and energy efficiency; and 10% will be used for domestic adaptation, worker assistance and training, prevention of deforestation, and international adaptation. The remainder (3% of allowances) will be used to help ensure that ACES is budget neutral.

From the period from 2026 through 2050, up to 58% of the allowances will be used to protect consumers; 19% will be used for domestic adaptation, worker assistance and training, prevention of deforestation, and international adaptation; 12% will be used to support investments in clean energy and energy efficiency; 7% will be used to ensure budget neutrality; and at least 4% will be used to assist trade-vulnerable and other industries.

Under ACES, approximately 80% of allowances are distributed without charge during the early years of the program to ease the transition to a clean energy economy. This transition period starts to phase out after 2025. By 2031, about 70% of the allowances are auctioned.

Protection of Consumers. ACES establishes five programs to protect consumers from energy price increases: one for electricity price increases; one for natural gas price increases; one for heating oil price increases; one to protect low- and moderate-income families; and one to provide tax dividends to consumers. In combination, these programs substantially reduce the impact of ACES on American consumers. EPA has estimated that ACES would cost the average household \$80 to \$111 per year, less than a postage stamp per day. According to EPA, families would actually spend less on utility bills in 2020 than they would in the absence of legislation because of the energy efficiency provisions in ACES.

CBO has reached a similar estimate, calculating that that the global warming provisions in legislation will cost the average household just \$175 in 2020. The EPA and CBO estimates do not take into account any of the benefits of preventing global warming, and the CBO estimate does not take into account the considerable savings to households from the bill's energy efficiency provisions.

Protection from Electricity Price Increases. Electricity price increases will be regional in nature, with the greatest increases occurring in the coal-dependent regions of the country. To mitigate these price increases, the regulated utilities that distribute electricity to consumers will receive 32% of allowances through 2025 under a formula that distributes half of the allowances based on emissions and half based on electricity generation. These utilities are directed to use these allowances exclusively to keep rates low and, to the extent they use rebates, to do so to the maximum extent practicable by reducing the fixed-rate portion of consumer electricity bills. ACES contains a ratepayer fairness provision that ensures against windfalls by providing that no local distribution company should receive more allowances than necessary to cover its direct and indirect costs.

Protection from Natural Gas Price Increases. To mitigate increases in natural gas prices, the regulated utilities that distribute natural gas to consumers will receive 9% of allowances from 2016 through 2025. One-third of these allowances must be used for energy efficiency programs. The remainder must be passed through to consumers through lower prices under provisions similar to those that apply to the regulated electric utilities.

Protection from Heating Oil Price Increases. To mitigate increases in home heating oil prices, states will receive 1.6% of allowances through 2025 under a formula based on home heating oil use. These allowances must be used for rebates to consumers and investments in energy efficiency.

Protection of Low- and Moderate Income Families. The electricity, natural gas, and heating oil provisions mitigate the costs of ACES on all consumers. In addition, ACES directs that 15% of the allowances be auctioned and the proceeds distributed back to consumers through a combination of refundable tax credits and electronic benefit payments. The Center for Budget and Policy Priorities estimates that these provisions will fully protect the bottom quintile of families and part of the next quintile from any direct or indirect energy price increases.

Consumer Climate Dividend. Under ACES, many of the allowance provisions phase out starting in 2026. As these allowance allocations are phased out, ACES directs that the remaining allowances be auctioned and the proceeds distributed to consumers through tax credits.

Protection of Trade-Vulnerable and Other Industries. Pursuant to the Inslee-Doyle program, energy-intensive, trade-exposed industries that make products like iron, steel, cement, and paper will receive allowances to cover their increased costs. The number of allowances set aside for this program will equal 15% of the allowances in 2014 and then decrease based on the percent reductions in the carbon emissions cap. These allowances will phase out after 2025 unless the President decides the program is still needed.

The legislation also provides that if the United States does not join a multilateral agreement, a border adjustment for energy-intensive trade-exposed sectors will be available to the President in 2020. The President must receive a joint resolution of Congress in order to waive use of the border adjustment for these sectors.

In addition, oil refiners will receive 2% of allowances starting in 2014 and ending in 2026, and merchant coal producers and electricity producers obligated to supply electricity under long-term contracts will receive 5% of allowances through 2025. The legislation provides an additional 0.25% of allowances for small business refiners from 2014 through 2026.

Investments in Clean Energy and Energy Efficiency. States will receive 10% of allowances from 2012 through 2015; 7% of allowances in 2016 and 2017; 6% of allowances from 2018 through 2021; and 5% of allowances thereafter for investments in renewable energy, energy efficiency, and pollution reducing transportation projects. Two percent of allowances from 2014 through 2017 and 5% thereafter will be available to electric utilities to cover the costs of installing and operating carbon capture and sequestration technologies (from 2014 through 2017, a small portion of these allowances will be used to offset the costs to the Treasury of the Carbon Storage Research Corporation, which will invest an additional \$10 billion in carbon capture and sequestration technologies). Three percent of allowances from 2012 through 2017 and 1% of allowances from 2018 through 2025 will be available for investments in electric vehicles and other advanced automobile technology and deployment. One-and-a-half percent of allowances in each year will be allocated to support research and development in advanced clean energy and energy efficiency technologies.

Domestic Adaptation. From 2012 through 2021, 2% of allowances will be allocated to prepare the United States to adapt to the impacts of climate change. The amount of allowances allocated for domestic adaptation will increase to 4% from 2022 through 2026 and to 8% thereafter. Half of these allowances will be used for wildlife and natural resource protection and half for other domestic adaptation purposes, including public health.

Preventing Tropical Deforestation and International Adaptation. From 2012 through 2025, 5% of allowances will be allocated to prevent tropical deforestation and build capacity to generate international deforestation offsets. The allowances allocated to this program will be reduced to 3% from 2026 through 2030 and to 2% thereafter. From 2012 through 2021, 2% of allowances will be allocated for international adaptation and clean technology transfer. The amount of allowances allocated for these purposes will increase to 4% from 2022 through 2026 and to 8% thereafter. Half of these allowances will be used for adaptation and half for clean technology transfer.

Worker Assistance and Job Training. From 2012 through 2021, 0.5% of allowances will be allocated for worker assistance and job training. This amount will increase to 1% thereafter. ACES also provides that 0.75% of allowances for vintage years 2012 and 2013 shall be deposited in a new Energy Efficiency and Renewable Energy Worker Training Fund to ensure adequate funding under the Green Job Acts.

Supplemental Agriculture and Renewable Energy Incentives. From 2012 through 2016, 0.28% of allowances will be allocated to the Secretary of Agriculture to support agricultural activities that sequester carbon but may not be eligible for offset credits and to support investments in renewable energy infrastructure.

Recognition of Early Action. One percent of allowances in 2012 will be allocated to projects that produced early emission reductions between January 1, 2001, and January 1, 2009.

CBO Score

According to the CBO score of the legislation, ACES meets PAYGO requirements. For scoring purposes, CBO considers the creation of allowances as an increase in revenues and the free distribution of allowances as an offsetting outlay. Using this methodology, CBO estimates that the legislation will raise federal revenues by \$873 billion over ten years and increase direct spending by \$864 billion, resulting in a net \$9 billion reduction in the federal budget deficit.