

As you know, on June 26, 2009, I voted for the American Clean Energy and Security Act (ACES), H.R. 2998 (formerly H.R. 2454), which passed the House of Representatives by a vote of 219 to 212.

Let me be clear, I voted for this legislation because it takes a number of important steps that will (1) wean our country off of foreign oil; (2) create millions of new clean energy jobs, (3) save consumers hundreds of billions of dollars in energy costs, (4) restore this nation's global leadership role in efforts to reduce emissions and the effects of global warming for the health of our children and our economic productivity. For too long, this country has been without a comprehensive energy policy. While this bill is first and foremost about our Nation's economic security, it also addresses the moral imperative to reduce climate change for our grandchildren.

- Last year's spike in the cost of gasoline was another clear signal that the days of our reliance on fossil fuels must end. Economically and strategically, we need to take steps to **wean ourselves off of depending on foreign oil and fossil fuels**. During my 31 years in the Navy, I patrolled the strategic pipelines that supply oil to this Nation and I saw first hand the expense and risk involved. To support this Nation's energy independence, the bill will cut the use of oil and petroleum products by 1.4 million barrels a day by 2030, while improving energy efficiency by about 5 percent in 2020. The Energy Information Administration (EIA) has calculated that the House-passed bill reduces consumption of oil by 344 million barrels in the year 2030 alone. That is a reduction of more than 12 percent of predicted imports for the same year without the bill.) We must achieve an unprecedented transition to an economy built on alternative, clean, and renewable power. We also need to do more to expand the use of nuclear power, and this bill helps do that. The House-passed bill contains an amendment I submitted to require the Secretary of Energy to examine the use of Thorium to produce nuclear power with much less waste (less than 1 percent), while reducing Uranium waste, and avoiding weapons proliferation issues.
- This bill will create 1.7 million **new, clean energy jobs** by 2030. 71,500 of those jobs will be created in Pennsylvania. Jobs in clean energy grew more than two times the rate of traditional jobs between 1998 and 2007, and we must expand that rate. Earlier this year, I met with representatives of United States Climate Action Partnership (USCAP), whose members include a number of major companies. These companies include: Alcoa, GE, GM, Johnson & Johnson, Caterpillar, ConocoPhillips, Dow, DuPont, Exelon (owner of PECO), Ford Motor Co., Sunoco, and Pepsico. These companies understand the importance of comprehensive climate change legislation to their economic success and they shared their commitment to take the steps necessary to invest in technology and practices to reduce the emission of green house gasses. But they also indicated they have been waiting for the federal government to provide a clear framework, which ACES does, from which they could proceed. In a recent ad, the head of PECO's parent company, Exelon stated, "I'm the CEO of a utility company. Not who you'd expect to be for a cap on carbon pollution. But, a smart cap will overhaul our economy by shifting us toward clean, America-made energy."

- In Pennsylvania, clean energy companies, such as Conergy, Iberdola, and Gamesa have brought hundreds of new jobs to the Commonwealth. However, two are Spanish-owned firms and one is a German-owned firm. Most people do not know that Germany's second largest export is wind turbines.

Sadly, the U.S., which has been the source of most of the modern world's innovation, has not had a leadership role in the area of clean energy technology. It is time to lay the framework for far-reaching and sustainable solutions led by American companies, and this bill takes the next strong step in that direction.

- This bill will have costs, but four separate studies by the EPA, Congressional Budget Office (CBO), Energy Information Administration (EIA), and the Massachusetts Institute of Technology (MIT) have found that the initial **cost per household will be less than a postage stamp a day** or less than one-quarter of one percent of a household's annual after-tax income. (EIA estimates a cost of just \$83 per year per household – or a dime a day per person). In fact, taking into account technological advances, energy efficiencies, increased employment, and lessening of the impact of global warming resulting from this bill, households will save \$750 by 2020. In Pennsylvania alone, the Union of Concerned Scientists estimates that \$1.8 billion would be saved by 2020 through the implementation of the renewable energy standard. A September 2009 study by the Institute for Policy Integrity of the New York University School of Law, using conservative assumptions, found the benefits of H.R. 2454 could likely exceed the costs by a factor of nine-to-one, or more.
- This bill makes strong economic and strategic sense. It will **fight pollution and global warming** by reducing global warming emissions 83 percent below 2005 levels by 2050 and shifting our energy portfolio towards renewable, non-emitting sources of power. No fewer than 15 EPA administrators have made clear the need to address global warming. On May 19, the Massachusetts Institute of Technology (MIT) reported that using the “most comprehensive modeling yet carried out . . . shows that without rapid and massive action, the problem will be about as severe as previously estimated six years ago – and could be even worse than that.” MIT sees an increase of about 9.5 degrees Fahrenheit by the end of the century. Scientific consensus holds that the average global temperature increase must be held below 3.6 degrees to avoid the most catastrophic impacts of climate change.

The Union of Concerned Scientists this year issued a report on the impacts of climate change if carbon emissions continue unabated. It found that by the end of the century, we will see extreme weather events happening with much greater frequency. For example, heat wave events that normally have occurred once in 20 years will happen every other year; allergy seasons will be prolonged and potentially intensified; and 60,000 miles of coastal highways will be at greater risk as sea levels rise. It also noted that 1.8 degree temperature increase will result in 5 to 20 percent increase in energy demand.

The economics of this trend will hit the food supply particularly hard – especially farmers. A slight increase in temperature will likely decrease yields from corn, wheat, sorghum, bean, rice, cotton, and peanut butter. Grain, soybean, and canola crops have

relatively low optimal temperatures, so if warming proceeds, they are going to be more prone to reduced yields and failures. Many popular varieties of apples and berries require long winter chilling periods, between 400 and 1,800 cumulative hours below 45 degree F, each winter to produce abundant yields the following summer/fall. Heat stress will depress milk production. Climate change will increase drought threat; weeds and insect pests tend to flourish in hotter/ higher carbon environments; and a 2.7% increase in temperature would result in 1% reduction in livestock yields.

Another study projects that by 2050, heat-related deaths during a typical summer in Philadelphia could increase 90%, from 130 to 240; air-quality alert days in Pennsylvania could increase from 10 to 22 per year; and waterfowl may no longer need to fly south through Pennsylvania in the fall to find unfrozen lakes.

Importantly, for too long, the U.S. has been absent from involvement in the international community's efforts to address global warming. It is clear that other Nations must do their part, but the U.S. has no ability to influence these discussions if we are not actively engaged. This bill provides the framework for the U.S. to tackle global warming and allow our Nation's to enter into the global talks in Copenhagen from a position of leadership.

This bill confronts a problem that should have been addressed years ago. The longer we wait to act, the harder and more costly the solutions will be. Leaving this problem to our children and grandchildren is not an option. According to the Union of Concerned Scientists, if we start in 2012, the average yearly reduction of greenhouse gases need only be 2%. But if we wait just two more years, the average yearly reduction would need to be 4% to achieve the same goal and the problem gets exponentially worse the longer we wait.

There is much more we can do. My 31 years in the United States Navy and the experience I accrued during my military career have affirmed my belief that Americans know the meaning of sacrifice. When called upon to do great things, this country not only rises to meet the challenge; it prospers. I am optimistic that we can work together to achieve real and lasting energy and environmental security, and I look forward to the fruitful years that lie ahead.

Finally, I am enclosing an appendix with a summary of the bill and a section which addresses the specific question raised by the one-thousand plus constituents who have contacted me about this issue.

Thank you again for your letter. If I can be of any additional assistance, please do not hesitate to contact me. I look forward to our future correspondence.

APPENDIX

American Clean Energy and Security Act

Highlights:

The American Clean Energy and Security Act will:

- Require electric utilities to meet 20 percent of their electricity demand through renewable energy sources and energy efficiency by 2020 thus increasing domestic energy production, fostering new businesses and growing existing green industries. In June, I raised concerns with the Speaker of the House of Representatives because I believed the bill did not go far enough to encourage renewable and non-emitting power sources. However, I voted for the bill because it makes real progress by investing in the transformation and strengthening of our economy, restoring the country to a position of leadership as global climate change talks start this fall in Copenhagen, and takes strides toward mitigating the negative affects of climate change.
- 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) making American companies more globally competitive, reducing dependence on foreign energy and the amount American families have to spend fuel.
- Mandate new energy-saving standards for buildings and appliances, and promote energy efficiency in industry decreasing the amount households have to pay for utilities.
- Reduce carbon emissions through a cap on large, domestic emitters, a program to reduce tropical deforestation, and allowing emitters to compensate for their emissions through off-set project. Major U.S. sources of greenhouse gasses must reduce their emissions by 17 percent by 2020 and by more than 80 percent by 2050 compared to 2005 levels. These measures help restore America to a position of global leadership in addressing and reducing the impacts of climate change.
- Protect consumers from energy price increases. The Congressional Budget Office (CBO) and the U.S. Environmental Protection Agency (EPA) have estimated the cost per family at about the price of a postage stamp a day and energy bills for low-income families will actually decrease. Additionally, according to the CBO, the bill will not cost the federal government. It will actually be a net revenue generator for the federal budget.
- Require the Secretary of Energy to study how Thorium, a nuclear element, can be used to address our energy needs. I believe that nuclear energy needs to be part of our

mid-term energy policy to increase domestic energy production and reduce our emissions. In addition, I appreciate that we must overcome nuclear waste issues. Thorium has the potential to be used with, or as a substitute for, Uranium in nuclear reactors in a process that is more efficient and produce less than 1 percent of the waste of today's Uranium nuclear reactors, while emitting no greenhouse gases. Thorium reactors do not breed plutonium, and can be designed to "burn" plutonium into non-weapons grade material and, thus, decrease weapons proliferation. Additionally, Thorium nuclear reactors can help eliminate spent Uranium.

Detailed Summary:

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 percent in 2012 and gradually rises to 20 percent in 2020. At least three quarters (75%) of the requirement must be met by renewable energy, except that upon receiving a petition from a state's governor, the Federal Energy Regulatory Commission can reduce the renewable requirement to three fifths (60%). In 2020, 15 percent of the electricity load in each state must be met with renewable electricity and 5 percent with electricity savings. Upon petition by the governor, the renewable requirement can be reduced to 12 percent and the electricity savings can be increased to 8 percent.

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 percent of these allowances are allocated to investments in clean energy and energy efficiency. Using EPA estimates of allowance prices, ACES invests over \$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 percent of allowances being devoted to renewable energy and energy efficiency, 5 percent to carbon capture and sequestration, and 1.5 percent to research and development.

Supporting Private Investment in Clean Energy

The bill establishes a self-sustaining Clean Energy Deployment Administration 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 deployment of smart-grid technology and enhanced transmission planning.

Energy Efficiency Provisions Building Standards

ACES establishes new standards for building efficiency, requiring new buildings to be 30 percent more efficient in 2012 and 50 percent more efficient in 2016. States are offered allowances that they can sell to support adoption and enforcement of the new standards. The Department of Energy must enforce the standards in states that do not incorporate the building standards into their state building codes.

Appliance Standards- ACES mandates new efficiency standards for lighting products, commercial furnaces, and other appliances.

Vehicle Standards- The ACES Act requires the 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 creates a new energy efficiency program for small utilities with dedicated funding.

Global Warming Provisions

ACES contains three primary programs for reducing dangerous carbon emissions that cause global warming:

- oA cap on large domestic sources of emissions;
- oA program to reduce tropical deforestation; and
- oAn offset program.

In addition, ACES caps emissions of global warming pollutants that are substitutes for ozone-depleting chemicals, and it requires the EPA to set performance standards for some uncapped sources of emissions. Taken together, these programs will reduce carbon emissions by 28 percent to 33 percent below 2005 levels by 2020. By 2050, ACES will reduce carbon emissions by over 80 percent 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 percent below 2005 levels by 2020 and 83 percent 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 percent 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.

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 percent 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 giga-watts of electricity generation are 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 \$11 to \$15 in 2012 and increase to \$22 to \$28 by 2025. These allowance price estimates are consistent with estimates by the Congressional Budget Office. At these allowance prices, the total value of the allowances created under the legislation ranges from \$50 to \$70 billion in 2012 to \$90 to \$120 billion in 2025.

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

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

Under ACES, approximately 80 percent 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 percent of the allowances are auctioned.

Protection of Consumers

ACES establishes five programs to protect consumers from energy price increases. They cover: electricity price increases; natural gas price increases; heating oil price increases; protecting low- and moderate-income families; and providing tax dividends to consumers. In combination, these programs substantially reduce the impact of ACES on American consumers. EPA estimated that the global warming provisions in the ACES discussion draft would cost the average household \$98 to \$140 per year, less than a postage stamp per day. EPA has estimated that the changes to ACES made in Committee will further reduce the costs of the legislation.

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 percent 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. The legislation contains a new ratepayer fairness provision that protecting 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 percent of allowances from 2016 through 2025. One-third of these allowances must be used for energy efficiency programs. The remainder must be passed 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 percent 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 percent 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 percent 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.

In addition, oil refiners will receive 2 percent 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 percent of allowances through 2025. The legislation provides an additional 0.25 percent of allowances for small business refiners from 2014 through 2026.

Investments in Clean Energy and Energy Efficiency

States will receive 10 percent of allowances from 2012 through 2015; 7 percent in 2016 and 2017; 6 percent from 2018 through 2021; and 5 percent thereafter for investments in renewable energy, energy efficiency, and pollution reducing transportation projects. Two percent of allowances from 2014 through 2017 and 5 percent 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 percent 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 percent 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 percent from 2022 through 2026 and to 8 percent 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 percent 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 percent from 2026 through 2030 and to 2 percent thereafter. From 2012 through 2021, 2 percent of allowances will be allocated for international adaptation and clean technology transfer. The amount of allowances allocated for these purposes will increase to 4 percent 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 percent of allowances will be allocated for worker assistance and job training. This amount will increase to 1 percent thereafter.

Congressional Budget Office (CBO) Score

According to the CBO score of the legislation, ACES meets requirements of a pay-as-you-go government. 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 \$846 billion over ten years and increase direct spending by \$821 billion, resulting in a net \$24 billion reduction in the federal budget deficit.

Issues and Concerns

- **Claim: “It will cost too much”** (“Cap-and-Trade is just another name for Carbon Tax”).
 - Congressional Budget Office (**CBO**), the United States Environmental Protection Agency (**EPA**), and the Massachusetts Institute of Technology (**MIT**) have estimated the cost per family to about the cost of a postage stamp a day (middle class and low-income families will actually see a price reduction). Additionally, the CBO has estimated that the net revenue of the bill will generate \$25 billion for the federal budget.
- **CBO** in a June 6 report concluded the following impacts of ACES in the year 2020. (The report can be downloaded at http://energycommerce.house.gov/Press_111/20090620/cbowaxmanmarkey.pdf)
 - Average Net Cost per Household: "The net economy-wide cost of the greenhouse gasses (GHG) cap-and-trade program would be about \$22 billion-or about \$175 per household." This is equal to \$15 per month, or 48 cents a day. (pg. 15 of the report)
 - Impact on Low-Income Families: The 20% of American households with lowest income "would see an average net benefit of about \$40 in 2020," because most of

- the costs associated with the bill would be offset as a result of the distribution of the value of the emission allowances, for example 15% of the allowances have been designated for low-income households to provide energy rebates and tax credits for such households. (pg. 2 of the report)
- Percentage of Household Income: "Overall net costs would average 0.2 percent of households' after-tax income." (pg. 2 of the report)
- Independently, **EPA** estimated the overall impact on the average household, including the benefit of many of the energy efficiency provisions in the legislation, would be 22 to 30 cents per day (\$80 to \$111 per year).
 - A **MIT study** is also frequently errantly referenced. Opponents of the bill have quoted from this study a yearly cost per household of \$3,100.
 - The 2007 MIT study estimated that the cap-n-trade market for 2015 would be worth \$366 billion in revenue. Opponents to the bill took that figure as the amount that would be passed on to consumers, calculating the average cost per household at \$3,100.
 - However, MIT's Professor Reilly, claims that the number from his study, used by opponents of the bill, was based on a sheet with an error that he corrected.
 - Furthermore, the study was based on old cap and trade proposals and not the current bill and relied on outdated two year old data.
 - Most recently the professor claims the cost to the average family will only be \$85 in 2015 (or \$65 in today's dollars).
 - In two recent letters to House Republican Leader John Boehner, MIT's Reilly asked that the NRCC stop using the "misleading" figure, noting that MIT's estimates *are less than one thirtieth of what the NRCC is claiming.*
 - **American Council for an Energy-Efficient Economy**
 - The bill could save \$750 per household by 2020 and \$3,900 per household by 2030 creating 770,000 new jobs.
 - Greater energy efficiency and development of cheaper and more stable renewable energy sources means less need to build and maintain capacity and thus lower energy bills
 - **Union of Concerned Scientists** estimated in 2004 that Pennsylvania would save \$1.8 billion with a 20% renewable energy standard by 2020, because of new investment, more reliable and secure energy sources, increased employment, and positive health effects. (see http://ucsusa.wsm.ga3.org/assets/documents/clean_energy/Renewing_our_Economy_-_Pennsylvania.pdf)
 - Many of the same arguments expressed against ACES were raised when **acid rain** legislation was being debated. Those opposed argued that the law would be very difficult to comply with and costly ("death to the industry").

- The actual results, as reported by the Bush Administration's EPA Administrator Johnson, is that the law has brought \$120 billion in benefits at a cost of only \$3 billion.
- These benefits improved environmental and health conditions in the United States. In particular, scientists have projected that emissions reductions increase the visual range in the eastern United States by 30 percent and reduce the deterioration of buildings and monuments. In addition, scientists predict that the Acid Rain Program virtually eliminates acidity in the lakes and streams of the Adirondacks caused by sulfur dioxide emissions and help bodies of water and forests throughout the United States recover from the effects of acid rain.
- The bill contains a number of explicit **consumer protections**:
 - The bill requires that allowances be used for consumer benefit.
 - “(A) RATEPAYER BENEFIT.—Emission allowances distributed to an electricity local distribution company under this subsection shall be used exclusively for the benefit of retail ratepayers of such electricity local distribution company and may not be used to support electricity sales or deliveries to entities or persons other than such ratepayers.”
 - State regulatory authorities—responsible for setting retail electricity rates—will ensure that the allowances allocated to electricity local distribution companies benefit consumers.
 - “(A) REQUIREMENT.—No electricity local distribution company shall be eligible to receive emission allowances under this subsection or subsection (e) unless the State regulatory authority with authority over such company's retail rates, or the entity with authority to regulate or set retail electricity rates of an electricity local distribution company not regulated by a State regulatory authority, has—(i) after public notice and an opportunity for comment, promulgated a regulation or completed a rate proceeding (or the equivalent, in the case of a ratemaking entity other than a State regulatory authority) that provides for the full implementation of the requirements of paragraph (5) of this subsection and the requirements of subsection (e); and (ii) made available to the Administrator and the public a report describing, in adequate detail, the manner in which the requirements of paragraph (5) and the requirements of subsection (e) will be implemented.”
 - The EPA is given audit and enforcement authority to ensure that emission allowances are used exclusively for the benefit of consumers.
 - “(8) AUDITS.—Each year, the Administrator shall audit a representative sample of electricity local distribution companies to ensure that emission allowances distributed under this subsection have been used exclusively for the benefit of retail ratepayers... (9) ENFORCEMENT.—A violation of any requirement of this subsection or of subsection (e) shall be a violation of this Act.”
 - All electricity consumers—residential, commercial and industrial—would benefit from the distribution of allowances to electricity local distribution companies.

- “(B) RATEPAYER CLASSES.—In using emission allowances distributed under this subsection for the benefit of ratepayers, an electricity local distribution company shall ensure that ratepayer benefits are distributed—(i) among ratepayer classes ratably based on electricity deliveries to each class; and (ii) equitably among individual ratepayers within each ratepayer class, including entities that receive emission allowances pursuant to part F.”
- The bill directs electricity local distribution companies to rebate the value to consumers in a way that will continue to encourage energy efficiency and energy conservation efforts.
- “(C) LIMITATION.—In general, an electricity local distribution company shall not use the value of emission allowances distributed under this subsection to provide to any ratepayer a rebate that is based solely on the quantity of electricity delivered to such ratepayer. To the extent an electricity local distribution company uses the value of emission allowances distributed under this subsection to provide rebates, it shall, to the maximum extent practicable, provide such rebates with regard to the fixed portion of ratepayers’ bills or as a fixed credit or rebate on electricity bills.”

Claim that “Cap-n-Trade will impact farmers.”

- Brookings Institute recently found the bill’s impact on farmers to be “minimal.”
- USDA’s analysis conservatively shows a mere 1% cost in income in the early years, but net benefits, of which could be significant, over the long-term.
- Farmers and rural landowners will benefit from \$800 million in income through offset programs that allow for emitters to fund projects that result in the reduction of emissions. (2004 Union of Concerned Scientists estimates based on 20% renewable energy standard by 2020 would)
- Farmers are particularly vulnerable to the effects of climate change, and will thus particularly benefit from efforts to reduce those effects.
- Additionally, several key measures were added to the bill to address concerns of farmers. The Bill:
 - Grants the authority to the Agriculture Department to define and administer greenhouse gas emissions for agricultural and forestry practices;
 - Exempts agriculture and forestry entities, such as farms, from the bill's emissions cap;
 - Requires the Agriculture Department to establish a carbon incentives program designed to reduce supplemental greenhouse gas emissions on private agricultural and forest land;
 - Defines biomass to include most types of organic waste products, including most types of plants and wood production by-products; and
 - Exempts existing biodiesel plants from EPA renewable fuels assessments.

Claim that it will “lead to a reduction in GDP, elimination of jobs, and cause jobs to move overseas.”

- For too long the United States has developed and paid for renewable energy technologies that are adopted and expanded upon by other countries to their benefit, while application lags in the United States.
 - The largest wind power supplier and the largest solar power companies are located in my District. They are German and Spanish owned respectively. German's second highest export is wind turbines
- The bill provides free allowances to assist transition for trade-vulnerable industries (such as iron, steel, and cement) while funding research into technology that will allow for more efficient practices. It also encourages power utilities to help these companies utilize on-site power generation, such as utilizing industrial heat waste, which can in turn bring about savings for the company.
- As argued by the companies that make up USCAP, passage of this bill allows for companies to have a clear direction and frame work to invest. This new investment will in turn generate more jobs and result in more efficient and less costly operations making companies more competitive.
- The legislation requires the President to evaluate the impact of the legislation on domestic industries and trade, set policies to prevent carbon leakage, and imposes requirements for imports made overseas of acquiring credits (negatively known as carbon tariffs).
 - The final House language expands the number of countries that could be subject to the tariff. And it makes it more likely a tariff would be imposed. The President could decide to issue a tariff waiver if the administration thought it was in the national interest, but for the waiver to take effect, Congress would have to pass a joint resolution affirming it within 90 days.
 - The President would have the option to set the tariff at zero, if the allowances to certain industries are deemed sufficient.
 - There is concerns that these remedies may be opposed by the World Trade Organization, unless part of some sort of global agreement, such as that being discussed this fall in Copenhagen.
- An **article by George Will, published in the Washington Post** where Mr. Will quotes a study that found that each new green job in **Spain** resulted in 2.2 jobs lost. The study was conducted by Gabriel Calzada, an economics professor at Universidad Rey Juan Carlos and supported by an oil-industry-funded think tank. This report has been rejected by the Spanish government.
 - Teresa Ribera Rodríguez, Spain's secretary of state for climate change, wrote a letter to House Energy and Commerce Committee Chairman Henry Waxman on May 20 where she stated that Calzada's analysis used a "low reliable and non rigorous methodology" and that the data he used are "totally out of keeping with the current reality of the sector." She wrote: "In Spain, according to the last data of the Ministry of Industry, Tourism and Trade the [renewable energy] sector employs 73,900 direct workers, while another report by ISTAS-CCOO (labor union institute of work, environment and health) estimates 89,000 direct jobs plus 99,681 indirect jobs, against the 52,200 direct and indirect jobs [sited in] Calzada's figures (unknown source). According to data of the Ministry of Industry, Tourism and Trade and of the wind power business association, the

- wind power employed 37,730 people instead of the 15,000 jobs considered in the Calzada's paper.”
- Spain's Union Institute of Work, Environment and Health (ISTAS) concluded that the study had a "lack of scientific rigor" and a lack "of transparency that exists in the data provided is alarming." ISTAS further wrote of Calzada's study: “From a scientific-technical point of view we find that there is no explicit or true methodology used. This point seems especially relevant considering that this is a sector that has been recently created and that it is of strategic importance to the economy.” ISTSA further noted that Calzada’s paper lacked transparency and that “all the data has been obtained from secondary sources, without considering whether they are of a comparable nature or not.” It points out that there was no “bibliographical reference is specified for much of the data, nor is there any explanation as to the methods used to calculate it. It does not appear to be a new, original work but rather an attempt to adapt data from other studies and make it fit, studies that, in general, have no relationship with what is Spain's day-to-day reality.”
 - Union of Concerned Scientists in 2004 estimated that 20% renewable energy standard by 2020 would create 5,840 new jobs in Pennsylvania, \$1.3 billion in new capitol investment, \$800 million in income to farmers and rural landowners, \$90 million in new local tax revenues.

Disparate impacts on lower and middle class and certain geographical areas

- CBO estimates show that through the allocation system set up in the bill, lower class households are likely to see overall cost savings from the bill.
- To help address the issue of disparate geographical affect, the bill provides free allocations to distribution companies and calculates that allocation by taking into account emissions and total generation. Thus those regions that depend on higher emitting power sources will receive a higher share of free allocations. Additionally, the Energy Efficiency and Renewable Energy Standard was changed to give states with less renewable energy potential the ability to meet part of the requirement through additional efficiencies as opposed to renewable power generation.

Claim: “Why not the rest of the world? / The United States will be disadvantaged when compared to China, India, Russia, etc.”

- The United States is responsible for about 20% of global greenhouse gas emissions.
- This legislation demonstrates the United States’ commitment to addressing global greenhouse gas reductions as we enter into climate change negotiations this fall in Copenhagen, Demark.
 - 190 countries will be taking part in the U.N.-sponsored negotiations. Seventeen of these countries account for about 85% of global emissions.

China is committed to rapidly developing clean-energy technologies and competing for market share, which some have likened to Russia’s launching of Sputnik. China has taken, or is taking, the following steps:

- Imposing “tougher fuel economy standards than those unveiled recently by the Obama administration and is implementing a five-year plan designed to increase

energy efficiency of its overall economy by 20 percent.” (CQ Weekly June 15, 2009, page 1370).

- Targeting 10% of its energy consumption by 2010 from renewable fuels and 15% by 2020. To do that, they are:
 - Establishing major programs to improve technology in solar and wind power. China has become the world’s leading producer of solar panels. As of 2008, have tax breaks and other forms of government support for wind power. Generating capacity of wind power is to increase from 1.26 million kW in 2005 to 10 million kW in the year 2010.
 - Expanding upon the greatest concentration of hydropower in the world. Generating capacity is to increase from 117 million kW in 2005 to 190 million kW in 2010 and provide 6.8% of the country’s anticipated energy consumption.
 - Aggressively expanding nuclear power capabilities, with a target of building nine new generators in the next two years and at least thirty over the coming decade. Nuclear power is slated to provide 5% of China’s total installed power-generating capacity by 2020.
 - Investing over 600 billion RMB (\$88 billion) on ultra-high voltage transmission projects by 2020. The installed capacity of China’s clean energy will be increased to 579 billion kW when the smart grid is completed by 2020.
 - Investing last year through its own version of an economic stimulus \$50 billion for direct energy efficiency and environmental improvements and \$70 billion for new electricity grid infrastructure.
 - Announcing this spring a second economic stimulus of equivalent to 3.2 per cent of GDP to add further efficiencies to their economy by promoting industrial upgrading through technological advancement and innovation.

India launched its own “National Action Plan on Climate Change” which Shyam Saran, the Prime Minister’s Special Envoy for Climate Change reflects recognition that India’s economic growth will hit a dead-end if it does not embrace sustainable growth.

Finally, this bill will lead to technological breakthroughs that the United States will then be able to export to the rest of the world not only to the economic benefit of the United States, but also to the benefit of further global reductions in greenhouse gas emissions.

Claim: “This bill will lead to an increase in fuel costs.”

- The legislation is designed to result in a net zero increase in fuel costs because of increased efficiency (total cost on fuel lower, because will not need to buy as much) and through allocations (2% go to refiners). Estimates (provide by the Energy and Commerce Committee) show only a minimal 1 to 2 cent increase in the cost of gas.
- According to the Union of Concerned Scientists, considering both the ACES legislation and the fuel economy standards recently announced by the President, Pennsylvanians will save over \$600 million at the gas pump in 2020. This is a net annual savings, which accounts for a slight increase (based on the EPA projections) and the cost of the fuel-saving technology.

- EPA's modeling of the bill projects a range of gas price increases due to the cost of the allowances. While this is all based on the future price of carbon allowances, the models show an increase of between 25-30 cents per gallon in 2020 under the bill. Therefore, given that slight increase (EIA projects gas prices to be \$3.50 in 2020), consumers will still realize savings at the pump due to the improvement in fuel economy.

Claim: “Cap and Trade has not worked anywhere in the world” according to the GAO

- Government Accountability Office (GAO) report (GAO-09-151) covers the first phase of a multiple stage implementation of the European Union’s Emissions Trading Scheme points to areas of success and potential lessons learned. No where does it say that the program is “not working.” The full report is available on-line at <http://www.gao.gov/new.items/d09151.pdf>.

The study notes:

- Created a functioning market, all though other effects “are less certain.”
- Offers lessons that may prove useful in informing congressional decision making. Many of these lessons were incorporated into ACES such as making sure there is sufficient baseline data and having a long enough implementation period to affect technology investment.
- Leakage (jobs moving away) “does not appear to have occurred.”

Claim: “The bill does not cover nuclear”

- The bill does include nuclear power. Although electricity generated by nuclear power does not count directly toward the renewable energy standard (RES), it does have a preferred status (along with hydropower and with carbon sequestration), such that a power company does not have to count power generated by nuclear power toward its base energy generation amount. (Example, a power distributor that gets 18% of its power from renewable sources, 10% from nuclear power, and 72% from carbon emitting sources, would be found, for the purpose of the RES to be meeting 20% of its power by renewable energy ($18\% / (100\% - 10\% \text{ generated by nuclear power}) = 20\%$.)
- “clean energy” definition includes nuclear so that the Clean Energy Deployment Administration and reforms to the loan guarantee program (Sect. 181, et. al) can help in nuclear power financing.
- The bill contains an amendment I had included requiring the Secretary of Energy to examine the use of Thorium to help meet the Nation’s energy needs. Thorium has potential to create an alternative method to Uranium and Plutonium to generate nuclear power with less waste, no weapons proliferation issues, and ample supply in friendly democratic countries.

Claim: “Even if enacted, this bill will have a negligible affect on climate change.”

- It is true that the reductions called for in the bill for the United States alone will not have the impact on the increase in average global temperature to the degree scientists agree is needed to reduce the serious impacts of climate change. But when joined by

other nations, this does set the level of reductions that the United States will need to take to reduce the catastrophic effects of global warming. And by agreeing to these levels, the United States is in the position of leadership entering into the talks in Copenhagen to set global reductions.

- Duke University's Nicholas Institution for Environmental Policy Solutions has reported that, with other nations responding in kind, a Waxman-like program should keep CO2 content near or below 450 ppm, where it needs to be to only have a 2 degrees Celsius (3.6 degrees Fahrenheit) increase. Such an increase is seen as the maximum that can be allowed before catastrophic effects of climate change are felt.

American Recovery and Reinvestment Act of 2009

I was a strong supporter of and voted for the American Recovery and Reinvestment Act of 2009 (ARRA). It contained numerous provisions to steer our economy into a more green direction, which will ultimately lead to a reduction of green house gases and tackle global warming. Some of the measures in the law include:

Treasury Department energy grants in lieu of tax credits. Before the passage of ARRA, taxpayers are allowed to claim a production tax credit for electricity produced by certain renewable energy facilities and an investment tax credit for certain renewable energy property. These tax credits help attract private capital to invest in renewable energy projects. Current economic conditions have severely undermined the effectiveness of these tax credits. As a result, ARRA allows taxpayers to receive a grant from the Treasury Department in lieu of tax credits. This grant will operate like the current-law investment tax credit. The Treasury Department will issue a grant in an amount equal to thirty percent (30%) of the cost of the renewable energy facility within sixty days of the facility being placed in service or, if later, within sixty days of receiving an application for such grant.

Long-term extension and modification of renewable energy production tax credit. ARRA extends the placed-in-service date for wind facilities for three years (through December 31, 2012). The law also extends the placed-in-service date for three years (through December 31, 2013) for certain other qualifying facilities: closed-loop biomass; open-loop biomass; geothermal; small irrigation; hydropower; landfill gas; waste-to-energy; and marine renewable facilities.

Temporary election to claim the investment tax credit in lieu of the production tax credit. Previously, facilities that produce electricity from solar facilities were eligible to take a thirty percent (30%) investment tax credit in the year that the facility is placed in service. Facilities that produce electricity from wind, closed-loop biomass, open-loop biomass, geothermal, small irrigation, hydropower, landfill gas, waste-to-energy, and marine renewable facilities are eligible for a production tax credit. The production tax credit is payable over a ten-year period. Because of current market conditions, it is

difficult for many renewable projects to find financing due to the uncertain future tax positions of potential investors in these projects. ARRA allows facilities to elect to claim the investment tax credit in lieu of the production tax credit.

Removal of dollar limitations on certain energy credits. Prior to ARRA, businesses were allowed to claim a thirty percent (30%) tax credit for qualified small wind energy property (capped at \$4,000). Individuals were allowed to claim a thirty percent (30%) tax credit for qualified solar water heating property (capped at \$2,000), qualified small wind energy property (capped at \$500 per kilowatt of capacity, up to \$4,000), and qualified geothermal heat pumps (capped at \$2,000). ARRA repeals the individual dollar caps. As a result, each of these properties are eligible for an uncapped thirty percent (30%) credit.

Clean renewable energy bonds (“CREBs”). ARRA authorizes an additional \$1.6 billion of new clean renewable energy bonds to finance facilities that generate electricity from the following resources: wind; closed-loop biomass; open-loop biomass; geothermal; small irrigation; hydropower; landfill gas; marine renewable; and trash combustion facilities. This \$1.6 billion authorization will be subdivided into thirds: 1/3 will be available for qualifying projects of State/local/tribal governments; 1/3 for qualifying projects of public power providers; and 1/3 for qualifying projects of electric cooperatives.

Qualified energy conservation bonds. ARRA authorizes an addition \$2.4 billion of qualified energy conservation bonds to finance State, municipal and tribal government programs and initiatives designed to reduce greenhouse gas emissions. The bill would also clarify that qualified energy conservation bonds may be issued to make loans and grants for capital expenditures to implement green community programs. The law also clarifies that qualified energy conservation bonds may be used for programs in which utilities provide ratepayers with energy-efficient property and recoup the costs of that property over an extended period of time.

Tax credits for energy-efficient improvements to existing homes. ARRA would extend the tax credits for improvements to energy-efficient existing homes through 2010. Prior to ARRA, individuals were allowed a tax credit equal to ten percent (10%) of the amount paid or incurred by the taxpayer for qualified energy efficiency improvements installed during the taxable year. This tax credit was capped at \$50 for any advanced main air circulating fan, \$150 for any qualified natural gas, propane, oil furnace or hot water boiler, and \$300 for any item of energy-efficient building property. For 2009 and 2010, ARRA increases the amount of the tax credit to thirty percent (30%) of the amount paid or incurred by the taxpayer for qualified energy efficiency improvements during the taxable year. The law also eliminates the property-by-property dollar caps on this tax credit and provides an aggregate \$1,500 cap on all property qualifying for the credit. ARRA updates the energy-efficiency standards of the property qualifying for the credit.

Tax credits for alternative refueling property. The alternative refueling property credit provides a tax credit to businesses (e.g., gas stations) that install alternative fuel pumps, such as fuel pumps that dispense E85 fuel, electricity, hydrogen, and natural gas. For 2009 and 2010, ARRA would increase the 30% alternative refueling property credit for

businesses (capped at \$30,000) to 50% (capped at \$50,000). Hydrogen refueling pumps remain at a 30% credit percentage; however, the cap for hydrogen refueling pumps increased to \$200,000. In addition, the law increases the 30% alternative refueling property credit for individuals (capped at \$1,000) to 50% (capped at \$2,000).

Plug-in electric drive vehicle credit. ARRA modifies and increases a tax credit passed into law at the end of last Congress for each qualified plug-in electric drive vehicle placed in service during the taxable year. The base amount of the credit is \$2,500. If the qualified vehicle draws propulsion from a battery with at least 5 kilowatt hours of capacity, the credit is increased by \$417, plus another \$417 for each kilowatt hour of battery capacity in excess of 5 kilowatt hours up to 16 kilowatt hours. Taxpayers may claim the full amount of the allowable credit up to the end of the first calendar quarter in which the manufacturer records its 200,000th sale of a plug-in electric drive vehicle. The credit is reduced in following calendar quarters. The credit is allowed against the alternative minimum tax (AMT). The law also restores and updates the electric vehicle credit for plug-in electric vehicles that would not otherwise qualify for the larger plug-in electric drive vehicle credit and provides a tax credit for plug-in electric drive conversion kits.

Energy Efficiency Block Grants. The law appropriates \$3.2 billion for the Energy Department's Energy Efficiency Block Grant Program. The program, which was authorized by the 2007 Energy Independence and Security Act ([PL 110-140](#)), provides grants to state, local, and tribal governments to fund public facility renovation projects that would install more energy efficient building technologies and materials, and energy efficient technology demonstration projects

Addition of permanent sequestration requirement to CO2 capture tax credit. Last year, Congress provided a \$10 credit per ton for the first 75 million metric tons of carbon dioxide captured and transported from an industrial source for use in enhanced oil recovery, and \$20 credit per ton for carbon dioxide captured and transported from an industrial source for permanent storage in a geologic formation. Facilities were required to capture at least 500,000 metric tons of carbon dioxide per year to qualify. ARRA requires that any taxpayer claiming the \$10 credit per ton for carbon dioxide captured and transported for use in enhanced oil recovery must also ensure that such carbon dioxide is permanently stored in a geologic formation.

Parity for transit benefits. Prior to ARRA, the law provided a tax-free fringe benefit employers can provide to employees for transit and parking. Those benefits were set at different dollar amounts. ARRA equalizes the tax-free benefit employers can provide for transit and parking. The proposal sets both the parking and transit benefits at \$230 a month for 2009, indexes them equally for 2010, and clarifies that certain transit benefits apply to federal employees.

Modernizing Public Infrastructure. ARRA provides billions to modernize federal and other public infrastructure with investments that lead to long-term energy cost savings, including about \$4.2 billion to make improvements in DOD facilities, including housing

for our troops and about \$4.5 billion to make federal office buildings more energy-efficient in order to achieve long-term savings for taxpayers.

\$53.6 billion for the **State Fiscal Stabilization Fund**, including \$8.8 billion to states for high priority needs such as public safety and other critical services, which may include education and for modernization, renovation and repairs of public school facilities and institutions of higher education facilities.

Electrical Grid Projects. ARRA includes \$11 billion for electrical grid projects. Of that total, \$4.5 billion is for implementing "smart grid" technologies, which would sense, collect, and monitor data from a grid, provide real-time, two-way communication to help monitor or manage the grid, and provide real-time analysis and event prediction based on data that would be used to improve the reliability, quality, and performance of the electricity grid.

Renewable Electric Power Loan Guarantees. This program provides loan guarantees to private entities to fund alternative energy research. The funds would be used for biofuel projects that use technologies that are deemed commercially viable and produce transportation fuels that will reduce greenhouse gas emissions.

Some of the other green provisions in ARRA:

- \$5 million for home **weatherization grants to low and middle-income families**
- \$300 million for funding for **Energy Star program** offering tax credits to consumers purchasing new, efficient appliances.
- \$2 billion for **advanced batteries manufacturing grants**.
- \$6.3 billion for **energy efficiency grants to states and local governments**.
- \$400 million for **transport electrification grants**.
- \$300 million for funding for **states and local governments to buy efficient alternative fuel buses and trucks**.
- \$2.5 billion for **research and development of renewable and efficient energy technology** (biomass, geothermal, base program activities into additional renewable technologies).
- \$4 billion for loan guarantees for standard renewables
- \$2 billion for transmission loan guarantees
- \$800 million for **research into low-emission coal plants**
- \$1.52 billion for **grants for industrial carbon capture and energy efficiency improvement projects**
- \$50 million for **grants for identifying sites to store carbon dioxide emissions**
- \$20 million for **grants for training and research on safe storage of carbon emission**
- \$250 million is included for **energy retrofitting and green investments** in HUD-assisted housing projects.