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A Federal Leviathan: The American Clean Energy and Security Act of 2009

Carbon Caps and Sweeping Federal Mandates for Energy

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Introduction

On June 26, 2009, the U.S. House of Representatives passed HR 2454, the 1,480 page American Clean Energy and Security Act (ACES), by the slim margin of seven votes. The U.S. Senate plans to consider this bill as early as October. As the nation's leading energy producer, Texas would be more severely impacted by this bill's aggressive carbon caps and new federal energy mandates than any other state.

Policymakers in Texas and across the country need to review the full scope of this bill. The length and complexity of ACES, however, almost preclude a grasp of its full contents and the radical change it augurs. This paper attempts to provide meaningful access to ACES in its entirety. What follows is an overview of the full bill, focusing on the central and more provocative provisions in all five Titles. The cap and trade program, under Title III, will be considered first.[1]

Initially known as the Waxman-Markey bill after authors Henry Waxman (D-CA) and Edward Markey (D-MA), it is typically labeled as the "cap and trade" bill. ACES, however, is so much more. The cap and trade provisions comprise only 400 of the bill's almost 1,500 pages. ACES, viewed in its entirety, contains a dizzying array of federal dictates and programs to transform and control U.S. energy production and use. The bill imposes more than 1,000 new federal dictates through 21 federal agencies. The senior attorney for the Sierra Club recently commented that ACES "is the most complex piece of legislation in the history of our country, which may make it the most complex piece of legislation in human history … it imposes on EPA alone approximately 600 [new] mandates."[2]

The colossal price tag of this massive bill is also rarely noted. CBO's estimated federal cost in direct spending at $822 billion, another nearly trillion dollar burden on American taxpayers. CBO's revenue estimate for ACES, however, is $846 billion.[3] The bill is deficit neutral. The revenues to the federal treasury are from the indirect carbon tax imposed on energy users—all economic sectors and consumers.

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In short, ACES sanctions 85 percent of the U.S. energy supply from fossil fuels and pours money and mandates at renewable energy and energy efficiency. Nuclear energy is barely mentioned. In so doing, the legislation wagers U.S. economic vigor on as yet untested, unproven, more expensive energy sources with inherent limitations.

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ACES: Five Titles, 500 Sections, and 1,000 Federal Mandates

I. **Clean Energy:** Renewable Electricity Standards, Carbon Capture and Sequestration Technology, Emission Limits for Coal-fired Power Plants, Electric Vehicles, Oil as a "Clear and Present Danger," Open Fuel Standard-Alcohol Fuels (Ethanol), State Energy and Environment Development Accounts (SEEDS), Smart Grid and Transmission, Nuclear Energy (mentioned only), and the Clean Energy Deployment Administration.

II. **Energy Efficiency:** Federal Building Codes, Consumer Product Standards, Green Resources for Energy Efficient Neighborhoods, Green Mortgage Financing, Green Banking Centers, Federal Transportation Plans for GHG Reduction, and Energy Efficiency.

III. **Global Warming Pollution Reduction:** The Cap and Trade Program: GHG Caps, Covered Entities, Registry, CO2 Equivalence of GHG, Emission Allowances, Trading, Strategic Reserve, Allocation of Allowances, Federal Auction, Consumer Refunds, GHG Limited Exemption from CAA Standards, Carbon Financial Market Oversight, and International Deforestation Reduction Program.

IV. **Transitioning to a Clean Energy Economy:** Green Job Training, Carbon Rebates for Trade-Exposed Industries, Worker Adjustment (Unemployment) Assistance, Energy Refunds for Low-Income Households, International Treaty, and Climate Adaptation Programs.

V. **Agricultural and Forestry Offsets:** Program rules for select farming, ranching, and silvicultural practices eligible for payment of allowances/offsets.

Cap and Trade

Title III. Reducing Global Warming Pollution: Sections 700-795, Sections 333-360

Referred to as the Safe Climate Act, Title III establishes the mandatory limits on greenhouse gases (ghg) imposed through a regulatory system popularly called "cap and trade." The caps on ghg drive the entire bill. Title III would amend the Clean Air Act, becoming Title VII of that law. The congressional findings initiating this title declare man-made global warming a current fact and future catastrophe unless man-made ghg emissions in the U.S. are dramatically reduced. These findings reiterate, without qualification, the most extreme claims of global warming activists.

Seven ghgs are capped: carbon dioxide (CO2), methane, nitrous oxide, sulfur hexafluoride, hydroflourocarbon, per-flourocarbon, and nitrogen tri-flouride. EPA may add to this list by rule. In emitted volumes, CO2 dwarfs other ghg. The ghg caps are measured in equivalence of one ton of carbon dioxide. Methane, for example, has more heat-trapping properties than CO2. Thus, the bill sets one ton of methane at a CO2 equivalence of 25 tons of CO2 (Section 712). Caps are set as a percentage of reduction below ghg emission levels in 2005. The caps begin in 2012 at 3 percent below CO2 levels in 2005 and gradually tighten to reach an 83 percent reduction in 2050.

ACES Carbon Caps

Mandatory limits measured as reduction of greenhouse gas levels in 2005

Year	% Reduction
2012	3% reduction
2020	17% reduction
2030	42% reduction
2050	83% reduction

EPA would enforce the caps by establishing a maximum number of emission allowances for each calendar year. Each allowance conveys federal authorization to emit one ton of CO2 equivalent ghg. In 2012, the maximum number of allowances is 4,627 billion. In 2050, this number shrinks to

1,035 billion, a volume of CO2 representing the final cap at 83 percent below 2005 levels. The final goal in 2050 approximates the CO2 levels in 1907 at the early stages of industrialization in this country.

Covered Entities and Allowances: Sections 711-728

All sectors of the economy are covered by these caps: industrial, commercial, transportation, and residential. "Covered entities" are those subject to direct regulation. "Any electricity source" and any stationary source annually emitting more than 25,000 tons of CO2 equivalent lead the long list of covered entities. EPA will somehow calculate, the methodology for which remains to be determined, an allowable emission level for each covered entity. To comply with the carbon caps, each covered entity must hold enough "allowances" to meet their prescribed emission level. An allowance is defined as limited authorization to emit one ton of CO2 equivalent ghg emissions.

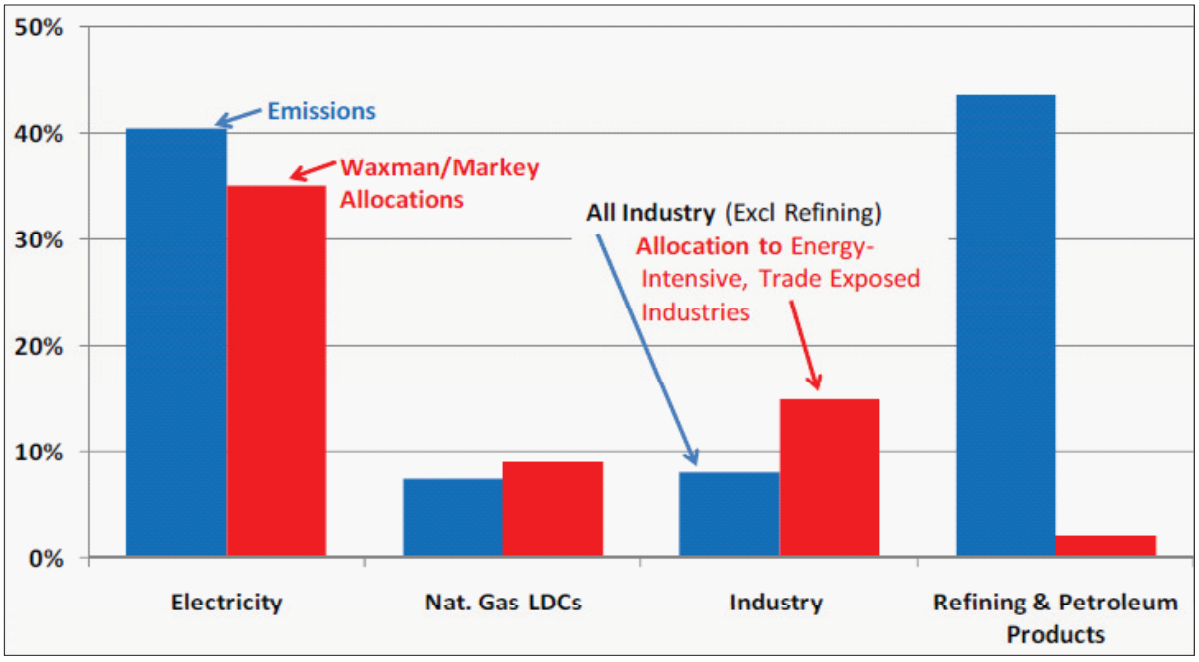
Offsets: Sections 731-743

Compliance also can be demonstrated by offset credits. Offsets are certified volumes of ghg reductions from EPA approved activities. A wide variety of domestic and international activities are eligible for EPA issuance of offset credits. An "international deforestation reduction program" provides broad scope for international offsets (Part E, Sections 751-756). Offsets initially may be used to comply for a maximum of two billion tons of emissions per year. This volume would be divided *pro rata* among covered entities.

Many analysts note that the generous availability of international offsets and an initial grant of 85 percent of annual emission allowances eliminate incentive for genuine ghg reduction. Supporters of the bill claim that easing compliance in the early years will allow time to develop the low carbon technologies and energy sources. Whether offsets ease the initial technical challenge of compliance, they must be purchased and so increase costs.

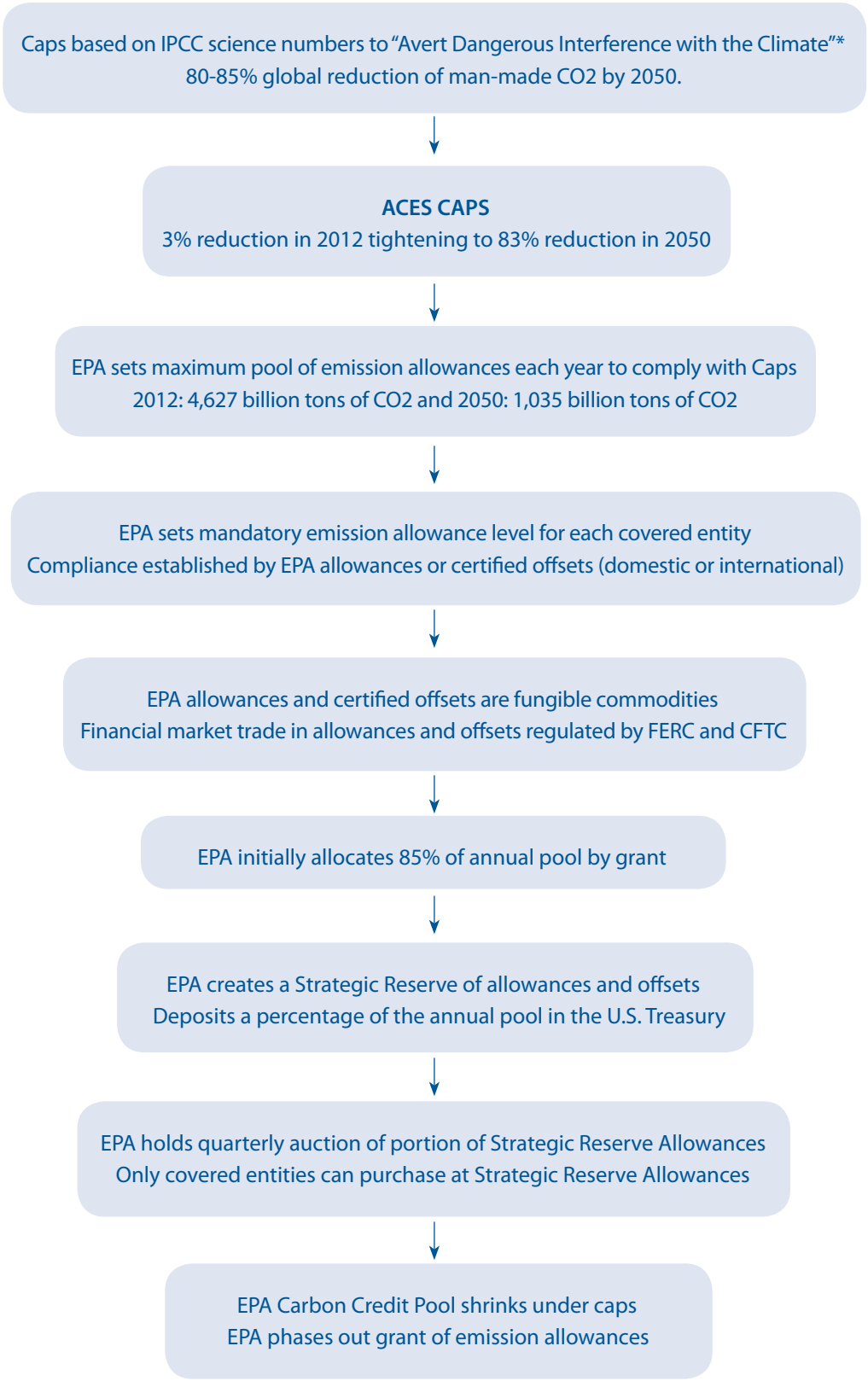
A question remains, however, whether popular offset activities such as reforestation, in fact, permanently reduce, avoid, or sequester ghg. Once approved by EPA, however, the offset has trading value on Wall Street. Given the level of scientific uncertainty, numerous provisions recognize the challenge of verifying offsets and preventing fraud, particularly with international projects. Various bodies of "offset integrity" advisors, verifiers, and accreditors are tasked with determining accurate levels of ghg reduction. Previous programs in the European Union and the United Nations Framework Convention

2016 CO2 Emissions from Energy vs. Waxman-Markey Allowance Allocations (as % of EIA Reference Case CO2 Emissions)



Note: Allocations by grant are phased out between 2020 and 2025.
Source: American Petroleum Institute.

The ACES Cap & Trade System: How It Works



Source: The United Nations' Intergovernmental Panel on Climate Change 4th Assessment Report.

on Climate Change have revealed the hollowness, if not corruption, in many offset projects.

Trading: Section 724

The bill states that holders of allowances and offset credits "may, without restriction, sell, exchange, or transfer" these compliance instruments. Although "without restriction" does not include regulation by EPA, Commodities Futures Trading Commission (CFTC), Federal Energy Reliability Commission (FERC), and the U.S. Treasury, to name a few of the overseers. Purchase and trading of allowances and offsets are not restricted to owners of covered entities. Allowances can be "held" by anyone, but owned by no one. "An allowance … does not constitute a property right, nor does any offset credit" (Section 721, p. 724). Nothing limits the "authority of the U.S." to terminate or limit allowances or offsets.

Carbon Market Assurance: Subtitles D and E, Sections 341-360

These sections lay out the regulatory framework for financial markets in carbon allowances. Passage of ACES would create, overnight, the nation's largest commodity market, predicted to exceed a volume of $2 trillion within five years. Wall Street is eager for this new commodity. The Commodities Future Trading Commission (CFTC) and the Federal Energy Reliability Commission (FERC) would have regulatory oversight over carbon trading. Legal tender in these private markets includes emission allowances, offset credits, and Federal Renewable Electricity credits.

CFTC would promulgate rules to prohibit market manipulation, prevent excess speculation, and "limit unreasonable fluctuation in the price of allowances." Subtitle E sets out a framework for a carbon derivative market. The final section requires a Presidential Review two years after passage of the bill. The President must assess whether regulation of the carbon market sufficiently protects the country's economy from systemic risk.

Allocation of Allowances: Sections 781-795

Initial distribution of allowances is the most complex and baffling portion in the bill. Precisely how EPA allocates the initial carbon allowances will drive the economic impact of this regulatory regime in the first 10 years of carbon caps. Bill authors claim that 85 percent of the initial allowances under the cap will be distributed under grants rather than auction. In other words, they will be free! The percentage granted attaches to the annual number of allowances set by EPA (Section 721). This means that when the first cap is in effect (2012), 3,933 of the annual 4,627 allowances would be given and not sold by auction.

ACES Initial Allowance Allocation by Grants

Grants phase out from 2026-2030 unless otherwise indicated. Some allocations steadily increase but most decrease. Note what is called an initial allocation of 85% of EPA annually fixed maximum of allowances adds up to 103%. This discrepancy is partially explained by date of initial allocation.

ELECTRICITY SECTOR: 35%, phase out 2026-2030
Local electric distribution companies (LDCs): 30%
Merchant Coal Generators & Long-term Purchase Power Agreements: 5%
Local Natural Gas Distribution Companies: 9%,

OIL REFINERS: 2%
AUTO COMPANIES for Electric Vehicles: 3%

STATES
For Consumers of Home Heating Oil and Propane: 1.5%
For Renewable Energy and Energy Efficiency: 10%

ENERGY REFUNDS for Low and Moderate Income Households: 15%, does not phase out
WORKER ADJUSTMENT ASSISTANCE: 0.5%, 2012-2021

GOVERNMENT PROGRAMS AND SUBSIDY
Carbon Capture and Sequestration: 2%, 2014-2017
Clean Energy Innovation Centers: 1%
Domestic Adaptation: 2%, 2012-21, goes up

FOREIGN AID
Preventing Tropical Deforestation: 5%, 2012-2025, goes up to 10% in later years
Clean Technology Transfer: 2%, 2012-2021

In theory, EPA's grant of initial allowances to cover baseline emissions will reduce cost of compliance. The economic benefit, however, dissipates around 2020-25 when EPA retires allowances. The economic impacts "skyrocket" after 2025. The increasing stringency of the caps shrinks the national pool of allowances. Note that essentially the government's permission to continue business as usual activities (carbon emission allowances) creates the largest commodity market the world has ever known. EPA's legal permission now is legal tender.

According to the bill language, the electricity sector is granted 35 percent of the allowances to protect consumers from

EPA, an environmental regulator, would now become a carbon banker with economic clout to rival the Federal Reserve.

price increases. Most of the electric sector allowances go to "local distribution companies," not generating utilities. Merchant coal generators will receive 5 percent. The refining sector receives only 2 percent of the allowances. The trade exposed industries receive 15 percent of the free allocation, here called "rebates."

Allowances are granted for at least 15 different entities or government purposes. More than 30 percent are allocated as funds to support government programs and subsidies. The only permanent allocation is the Energy Refund for low-income households. Each grant stipulated in the bill varies by year and expiration date. The allowances not distributed or spent (15% initially) are deposited in a federal "Strategic Reserve," a portion of which will be auctioned annually by EPA. Yet, when the bill's allocations are tallied, the sum exceeds 100 percent in some years.

President Obama's budget called for 100 percent auction of all initial allowances, estimated to generate billions in new federal climate revenues. In contrast, ACES would grant 85 percent of the pool to a long list of "covered entities" and government programs. ACES, as filed, did not address the disposition of allowances. Many observers of this bill's evolution from committee to House floor claim that the allowances were not allocated according to a formula but to gain necessary votes. The result is disparate impact among regions, states, and industries. California's electric sector evidently has more allowances than it needs and can sell them. Texas, evidently, falls far short. Senator Barbara Boxer's attitude is revealing. "There's so much revenue that comes in from a cap and trade system that you can really go to a person in a congressional district and get enough votes there by saying 'What do you need? What do you want?' You can really help them."[4]

The CBO concludes that ACES would increase federal spending by $821 billion but would generate federal revenues by $846 billion.[5] Evidently, the federal revenue would be derived from the federal auctions of allowances and offsets. ACES adds yet another trillion dollar increase to government spending, but is deficit neutral! This astounding feat attests to the massive new energy tax that carbon caps indirectly, but unavoidably, impose across the economy and all income levels.

Strategic Reserve and Auction: Section 726

EPA, an environmental regulator, would now become a carbon banker with economic clout to rival the Federal Reserve. The Strategic Reserve is the federal pool of emission allowances to be created and overseen by EPA. Proceeds from auction of allowances would be put in the Strategic Reserve Fund of the U.S. Treasury.

The bill directs EPA to place in reserve a small number of annual allowances created each year. The bill stipulates that from 2012-19, 1 percent of the emission allowances established for that year goes into the reserve. This amounts to around 2.5 billion allowances in the Strategic Reserve. EPA is required to offer a portion of these allowances in quarterly auctions. Proceeds from the auction will be used to purchase offsets to replenish the reserve. EPA is also authorized to auction more allowances when the carbon price rises "too high," a federal price control for the carbon market.

"The minimum strategic reserve price shall be $28 for the initial auction in 2012." The minimum price in successive years will increase according to a formula. Only "covered entities" under the bill can make purchases at these auctions. Purchasers are limited to no more than 20 percent of the covered entities' "combined and attributable" ghg emissions in the most recent year.

Clean Air Act Exemption: Section 831

These provisions distinguish regulation under the cap and trade program from regulation under the traditional Clean Air Act (CAA) National Ambient Air Quality Standards (NAAQS). The bill exempts CO2 and other ghg from EPA regulation as criteria pollutants or hazardous pollutants. This exemption includes air quality permits under EPA New Source Review (NSR) regulations. Apparently, the exemption only applies to "covered entities" under the bill's carbon-capping provisions. This raises the question of whether stationary sources emitting less than 25,000 tons of CO2 equivalent could be subject to EPA's permitting requirements under the CAA.

EPA has recently determined that CO2 is a pollutant under jurisdiction of the Clean Air Act. Without any new law, EPA now could impose onerous permitting requirements on thousands of entities—such as large homes and churches—never before regulated. The exemption in ACES, however, is not broad enough to address the original concern. The bill also gives EPA discretionary authority to lower ghg caps, to put new ghg under the caps, and to cap smaller sources of ghg than defined in the bill as covered entities.

Title I. Clean Energy, Federal Renewable Electricity Standards (RES): 20 percent by 2020

ACES establishes a federal renewable energy standard of 20 percent electricity from renewable sources by 2020. The standard applies to retail electric suppliers. Compliance is established by a certain percentage of load from select renewable sources, "total annual electricity savings," or certified renewable credits. Governors may meet up to 20 percent of the state requirement through energy savings, certified in an elaborate process.

This new federal RES requires 6 percent renewable electricity in 2012, gradually increasing to 20 percent in 2020. The acceptable renewable energy sources are wind, solar, geothermal, renewable biomass, and "qualified" hydropower. The limitation on "qualified" hydropower to facilities built or expanded after 1988 and which do not alter "water surface elevations" practically eliminates hydro-electric as a "qualified" renewable source. The environmental establishment has long frowned on dams because they alter the natural flow of rivers and streams.

This is a highly aggressive, likely unrealistic, federal renewable standard. According to the federal Energy Information Administration (EIA) figures, renewable sources accounted for 9 percent of net electric generation in 2008.[6] The lion's share of total renewable generation, however, is from hydropower and biomass generation. Wind, the most well-developed and popular renewable source of power, accounted for only 1.3 percent of net U.S. electric generation.[7] Solar power provided only 0.02 percent of net generation.[8] To meet the bill's first renewable mandate of 6 percent in 2012 demands a five-fold increase in wind generation within two years.

When assessing the potential of renewable electric power, the critical difference between installed capacity and actual generation (capacity factor or value) typically is ignored. Although the U.S. now leads the world in installed wind capacity, the inherent intermittency of wind means only a small percentage of the capacity actually leads to generated and transmitted electricity. More than any other state and most nations, Texas has installed almost 8,000 megawatts of wind capacity. The Electric Reliability Council of Texas (ERCOT) calculated wind generated power in 2008 at only 8.7 percent of capacity.[9] EIA's national estimate for wind generation is far more optimistic at 30-35 percent of installed capacity. Getting the numbers correct is critical to electric reliability, stability of the electric grid, and accurate accounting of true costs.

A. Carbon Capture and Sequestration: Subtitle B, Sections 111-116

Carbon Control Technology

In contrast to conventional pollutants regulated under federal law, there are no commercially available control technologies for reducing large volumes of CO2 from combustion of fossil fuels. Carbon Capture and Sequestration (CCS) technologies would capture and inject underground CO2 emitted from power plants burning fossil fuels. Although the private sector already has invested billions to develop CCS, it remains an extremely expensive, emerging technology not yet proven, much less utilized, on a commercial scale. Current methods for CCS can utilize 30-40 percent of the electricity generated at a coal-fired power plant.

Coal is the most plentiful, cost-efficient electric power source, but has a relatively high carbon content. On the average, natural gas-fired power plants emit 50 percent less CO2 than coal-fired plants. The stringent carbon caps and new permit limits in ACES would almost preclude coal generation without CCS. Although in a limited manner, ACES keeps the door open for coal through studies, demonstration projects, and a Carbon Storage Research Corporation to provide partial funding for development of CCS.

New Standards for Coal Fired Power Plants: Section 116

ACES also sets performance standards (permitting requirements) for new coal-fired power plants. Plants permitted after January 1, 2009 would have to achieve an emission limit of 50 percent reduction of CO2, a limit impossible with current technology. The bill sets an uncertain compliance date

dependent on sufficient commercial utilization of CCS technology. Note that, as an emission limit rather than a carbon cap, these new requirements preclude carbon credits or offsets to meet the limit. *De facto* prohibition on new coal-fired power plants will increase the use of natural gas for electric generation. Rapidly increased reliance on natural gas should dramatically increase the price of electricity.

B. Clean Transportation: Electric Vehicles & Ethanol

Vehicle Electrification: Sections 121-125

Five sections of ACES lay out a bold, prescriptive federal program to pour money into electric vehicles, plug-in hybrids, and re-charging infrastructure. The bill authorizes grants and loan guarantees to cities, states, or private companies for large-scale demonstration projects with electric cars. Additional financing is directed to automakers.

The Open Fuel Standard—Up with Ethanol and Down with Oil: Sections 127-130

Under the rubric of an "open fuel standard," these sections promote alcohol fuels (ethanol and methanol) "to end oil's monopoly in the transportation sector." Congressional findings in this section declare that oil is a "clear and present danger" to the security of the U.S. because of reliance on oil imports from unfriendly nations. Not mentioned is that most U.S. oil imports come from Canada and Mexico, with which the U.S. has long enjoyed friendly relations and vigorous trade. The bill does not repeal the current import tariff on ethanol from Brazil, a major conflict with the goal of increasing imports of alcohol fuels from friendly nations. In fact, the bill's carbon caps likely will increase imports of refined products, increasing U.S. energy "dependence."

From the unlikely conclusion that alcohol fuels can replace oil, the bill declares "there is an urgent national security interest to develop alcohol fuels technology, production, and distribution systems as soon as possible" (Section 127). The "open fuel standard" is never defined but used as grounds for requiring automakers to make a minimum percentage of "fuel-choice enabling vehicles," capable of using large amounts of alcohol fuels.

Light-duty vehicles now capable of using up to 85 percent ethanol (Flexible Fuel Vehicles) represent a minute percentage of the U.S.' roughly 240 million vehicle fleet. A later section of the bill authorizes $3.5 billion for creation of a "Development Corporation for Renewable Borrowing Authority," to finance pipeline infrastructure to transport ethanol. Natural gas-fired vehicles receive no favor, but merely a study on their emissions (Section 130A). A low carbon fuel standard in earlier versions of this bill was removed before passage.

Absent from the bill is recognition of the need for greater domestic production of oil and natural gas. Although Congress ended the 30-year congressional moratorium on offshore development last summer, the current administration still resists leases in areas previously under the ban. Also ignored are the inherent limitations of ethanol to meet a significant portion of transportation fuel demand.

The current 36 billion gallon federal Renewable Fuel Standard (in 2022) would consume more than 100 percent of the U.S. corn crop, not only vital to U.S. food products and livestock feed but also as a global food commodity. With mandates, billions in subsidies, and import restrictions, the overgrown ethanol industry still is not profitable. Ethanol's relatively inferior fuel efficiency (2/3 of gasoline) and life-cycle ghg emissions conflict with President Obama's energy policy. Yet, federal support for ethanol continues to increase. ACES takes on the most expensive and risky pieces of this support in nationwide pipeline distribution and vehicles.

State Energy and Environment Development Accounts (SEEDS): Subtitle D, Sections 131-133

SEEDS are accounts within state energy offices for deposit of the emission allowances granted by EPA to each state. States may sell, grant, or loan the allowances or the proceeds thereon for federally approved energy efficiency and renewable energy projects. SEEDS are the state equivalents of the EPA's carbon credit bank, i.e., a state Strategic Reserve, but with complex federal strings.

Smart Grid and Electricity Transmission: Subtitle E, Sections 141-153

A Smart Grid is an electricity distribution system which can send information in two directions from the utility to a customer's meter and back to the utility. The goal is to increase grid efficiency, promote energy savings, and reduce peak demands. States and utilities would be required to specify peak demand reduction goals. The Federal Energy Reliability Commission would assert more federal control over the nation's electric grid and provide new transmission lines dedicated to electricity generated from renewable sources.

Nuclear and Advanced Technologies: Sections 181-191
Other than minor amendments to existing loan guarantee authority, neither this section nor the rest of the bill mentions nuclear energy. As the one source of emission free, technologically mature power generation, nuclear energy offers the only realistic, near-term prospect of reducing significant volume of CO2 emission without halting economic growth. Yet, the environmental establishment still resists nuclear power generation because of concerns about reactor safety and nuclear waste disposal.

Central Energy Planning, The Clean Energy Deployment Administration: Section 186-191
This new federal agency looks benign but could wield major authority as an umbrella over the 21 agencies empowered by this bill. As outlined, this new federal entity looks like headquarters for federal control of the energy sector. This Clean Energy Deployment Administration would plan, mandate, fund, and oversee development and operation of advanced clean energy technologies.

Title II. Energy Efficiency: Sections 201-299I

Through 600 pages, ACES enlarges federal authority over energy efficiency under nine subtitles filled with new dictates, huge subsidies, and myriad programs. Among the many new mandates are enforceable federal building codes for commercial buildings, residences, and manufactured homes. The new national building codes require 30 percent energy saving by 2012 and 50 percent saving by 2016. The states must enforce these federal building codes.

The bill sets new federal standards for lighting and appliances on a highly detailed level. When federal authorities agree on how to measure carbon footprints from hair dryers, the Federal Trade Commission will be in charge of carbon output labels for consumer products. The Federal Energy Reliability Council (FERC), states, or federal district courts could impose criminal sanctions on persons selling products not meeting federal energy standards. Energy savings standards would apply to a wide range of products (e.g., vehicles) and institutions including utilities, industries, hospitals, and schools.

Efficiency standards for specific products (e.g., artwork light fixtures, candelabra base incandescent luminaries, portable electric spas, and water dispensers) would increase consumer costs. Carbon-output labels and taxpayer-funded bonuses to retailers for sale of "best-in-class products," are among the uses for the hefty federal expenditures authorized.

Mobil Source Greenhouse Gas Standards and Transportation Efficiency: Sections 222-224
The bill directs the President to harmonize the disparate fuel-efficiency and emission standards for light-duty vehicles. EPA, U.S. Department of Transportation, California, and several states have different standards, creating a compliance nightmare for U.S. auto companies. The bill also directs EPA to set emission standards for engines in locomotives, marine vessels and off-road construction and manufacturing equipment.

EPA and the U.S. Department of Transportation (DOT) are required to develop national transportation plans with ghg reduction goals commensurate with the carbon caps. The bill requires states and Metropolitan Planning Organizations (MPOs) to develop plans consistent with the federal plan. Among minimum requirements are "efforts to increase walking, bicycling, and other forms of non-motorized transportation" (p. 517). One of EPA's favorite non-regulatory programs, "Smart-Way Transport," is given expanded authority to reduce ghg emissions from mobile sources. The Smart-Way program is focused on routes, schedules, and idling technologies for highway trucking.

Green Resources for Energy Efficient Neighborhoods: Subtitle H, Sections 281-299I
At least 15 sections establish mandates and/or incentives for "energy and location efficient" mortgages under Housing and Urban Development (HUD) programs, Fannie Mae and Fannie Mac, and the Federal Housing Administration (FHA). Community organizations would be funded to implement Retrofit for Energy and Environment Performance Programs in public housing projects.

Another section requires federal banking agencies to establish "Green Banking Centers in all insured depository institutions to assist consumers in financing energy saving improvements" (Section 299E). If the federal subsidy is inadequate, the bill also promotes leasing under "Secondary Markets for Residential Renewable Lease Instruments" (Section 299H). Apparently, energy efficiency requirements extend to private banks and mortgage companies. Homeowners would be required to complete energy efficiency retrofits before sale of their home.

Title IV. Transitioning to a Clean Energy Economy, Easing the Cost: Sections 401-495

Proponents champion the green jobs and clean energy industries this bill would generate as a boon to the U.S. economy. Title IV, however, is an admission of anticipated job loss, decreased manufacturing competitiveness and increased energy costs for consumers. Through carbon allowance "rebates" to trade-exposed industries, carbon tariffs and generous unemployment benefits, this title recognizes the unavoidably adverse economic impact that such a sweeping transformation of the U.S. energy system would entail.

Under the aggressive carbon caps, many U.S. industries could not compete with foreign products manufactured in countries without binding carbon limits. And increased import of goods manufactured elsewhere without carbon limits would increase global carbon emissions. To address this "carbon leakage," the bill provides for "carbon emission allowance rebates" to industries which meet specified levels of "trade intensity" or "energy intensity." Petroleum refining, oddly, is excluded from those eligible. If the rebates don't prevent enough carbon leakage, the bill directs the President to establish a "border adjustment program," to impose the equivalent of carbon tariffs.

President Obama frequently champions the millions of green jobs created by this bill's comprehensive overhaul of the energy sector. In several relatively brief sections, this bill provides funding for curriculum development, green job clearinghouses, and demonstration projects. Funding is focused at "emerging careers" in clean energy, renewable energy, energy efficiency, and climate change adaptation. No doubt, this bill will create new jobs: government jobs and subsidized jobs. Both government jobs and jobs existing in heavily subsidized industries are net costs to the economy. In contrast to productive jobs in the private sector which create value through profits, jobs funded by taxpayers burden the private economy.

Under a "Climate Change Workers Adjustment Assistance Program" (Sections 425-427), the bill provides generous unemployment benefits for workers whose job loss is certified as a result of this bill. Benefits include 70 percent of previous weekly wage for a maximum of three years, 80 percent of previous health insurance premiums, payment for job retraining, job search, and relocation. States would implement this program.

The Energy Refund (Sections 431-433) acknowledges the increased consumer prices for electricity, fuel, and basic goods. The monthly refund is for low-income households up to 150 percent of the poverty level. Eligible households would receive payments equivalent to their loss of purchasing power caused by this bill, an amount set annually by the Department of Energy. Title III creates another Climate Change Consumer Refund (Section 789) for all taxpayers. From 2026-2050, EPA will deposit any allowances not distributed to a special account in the U.S. Treasury. Tax refunds will be provided on a per capita basis.

By 2026, extra allowances are not likely to be found. Note that EPA has the authority to increase or decrease the number of allowances in the Strategic Reserve. Legally, EPA could elect in some years to spread the money around by putting more allowances (money) in the Energy Refund accounts at Treasury rather than for auction to industry.

Subtitle E: Climate Adaptation

The bill funds a long list of federal and state agencies to plan for global warming and to mitigate adverse effects. The National Oceanic and Atmospheric Agency (NOAA) will create a National Climate Service. Of note, the National Weather Service's mission is to predict the weather. Now a National Climate Service will try to control the climate.

Title V. Agricultural and Forestry Related Offsets: Sections 501-511

Forests and grasslands can store or sequester carbon otherwise released into the atmosphere. Among global warming alarmists, preserving forests, reforestation, and simple tree planting have long been favored methods to reduce atmospheric ghg and to create fungible carbon credits. Forestry-related carbon credits likely are the most frequently traded credits in the private carbon exchanges in the U.S. and Europe. Conventional farming practices for tilling, planting and harvesting release carbon stored in the soil and growing plants. Altered cropping practices may reduce the volume of carbon released.

This Title, at the insistence of the Chairman of the House Agricultural Committee, creates a program for quantifying

the amounts of ghg reduced, avoided, or sequestered from certain agricultural and forestry practices. The volumes avoided, equivalent to one ton of CO2, would be awarded as offsets. The bill sets up a program under EPA and USDA to certify "practice types" eligible for offsets. Altered tillage, winter cover cropping, reduced nitrogen fertilizer, and modification of livestock feed to reduce methane emissions are among the practice types for farming. Conservation of grassland, reforestation, wetland management, and simple tree planting are among those the practices for ranching and silviculture.

Although scientists agree that farming, ranching, and silviculture affect CO2 and other ghg emissions, methodologies for quantifying the emission at issue are notoriously ambiguous. In agricultural activities, CO2's natural role in growing plants and man-made CO2 emissions are so intertwined to be inextricable. Different types of trees, at different stages of their life and in response to different climates, involve variable amounts of carbon storage. For this reason, the bill sets layers of certification, verification, and "reversal" detection to protect the environmental integrity of the offsets. In a nutshell, the agricultural offsets are payments to landowners made in the form of fungible carbon credits. Ensuring accuracy and equity is a challenge.

The final section of the bill includes a last minute reprieve for ethanol from EPA's official determination on the ghg emissions attributable to ethanol and other renewable fuels. Peer-reviewed scientific studies published in the last few years concluded that ethanol—from tilling the soil to combustion in an engine—accounted for significantly more ghg emissions than petroleum based fuels. These sections delayed the now pending EPA findings for five years after enactment of this bill. ✯

Endnotes

[1] United States Senate, *American Clean Energy and Security Act*, 111th Congress, 1st Session, HR 2454,GPO (2009) http://frwebgate.access.gpo.gov/cgibin/getdoc.cgi?dbname=111_cong_bills&docid=f:h2454pcs.txt.pdf.

[2] Kathlyn Clore, "Judges Lay Out Challenges of Climate Change Legislation" *Monterey Herald* (24 July 2009).

[3] United States, Congressional Budget Office, "Table 2, Estimated Budgetary Impact of HR 2454" (July 2009; 21 Aug. 2009) http://www.cbo.gov/ftpdocs/102xx/doc10262/hr2454.pdf.

[4] Phil Kerpen, "The Biggest Corporate Welfare Program in History," *FOXNews.Com* (July 2009); FOX News Network, LLC. (10 July 2009) http://www.foxnews.com/opinion/2009/07/10/biggest-corporate-welfare-program-history/.

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[7] *Monthly Energy Review*, Table 7.2a. Energy Information Administration, Department of Energy (21 Aug. 2009) http://www.eia.doe.gov/emeu/mer/pdf/pages/sec7_5.pdf.

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About the Author

Kathleen Hartnett White joined the Texas Public Policy Foundation as Director of the Center for Natural Resources in January 2008. The center was renamed the Armstrong Center for Energy & the Environment in May 2009.

Prior to joining the Foundation, White served a six-year term as Chairman and Commissioner of the Texas Commission on Environmental Quality (TCEQ). With regulatory jurisdiction over air quality, water quality, water rights and utilities, and storage and disposal of waste. TCEQ's staff of 3,000, annual budget of over $600 million, and 16 regional offices make it the second largest environmental regulatory agency in the world after the U.S. Environmental Protection Agency.

Prior to Governor Rick Perry's appointment of White to the TCEQ in 2001, she served as then-Governor George Bush's appointee to the Texas Water Development Board, where she sat until appointed to TCEQ. She also served on the Texas Economic Development Commission and the Environmental Flows Study Commission.

A writer and consultant on environmental laws, free market natural resource policy, private property rights, and ranching history, White received her bachelor *cum laude* and master degrees from Stanford University where for three years she held the Elizabeth Wheeler Lyman Scholarship for an Outstanding Woman in the Humanities. She was also awarded a Danforth National Fellowship for doctoral work at Princeton University in Comparative Religion and there won the Jonathan Edwards Award for Academic Excellence. She also studied law under a Lineberry Foundation Fellowship at Tech University.

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