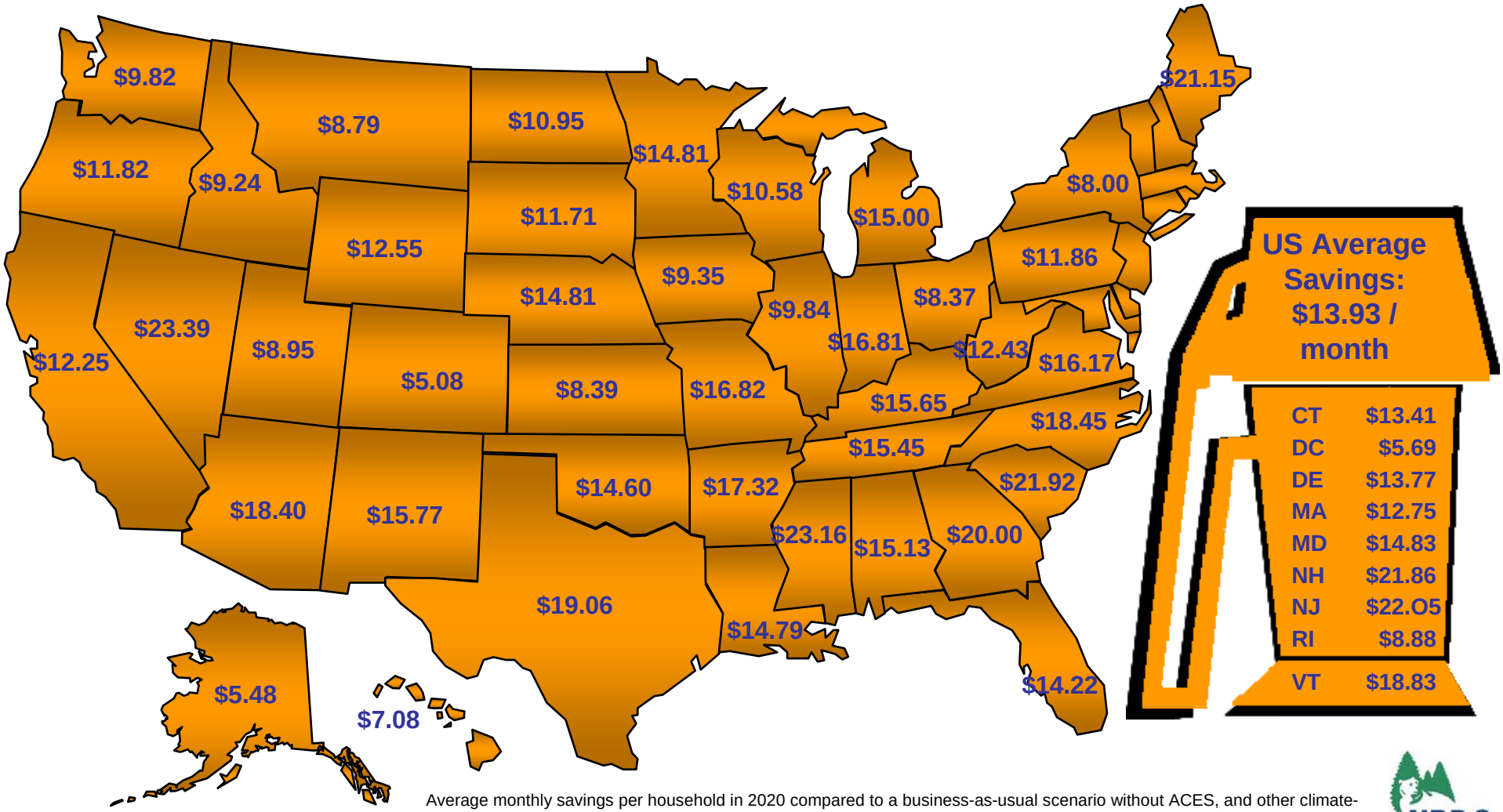
Climate-Protection Policies Cut Fuel Bills

ACES Bolsters Other Fuel Policies to Save Americans $17 Billion/yr by 2020

The American Clean Energy and Security (ACES) Act allocates funding to produce the next generation of clean, fuel-efficient vehicles in the United States, and when combined with clean vehicle performance standards adopted by the Obama administration, the American on-road fleet will become about 25% more fuel efficient over the next decade. As a result, by 2020, Americans will drive more efficient vehicles and have lower household transportation costs. Even in the face of rising gasoline prices, cleaner vehicles will save money by sipping instead of guzzling gasoline.



Average monthly savings per household in 2020 compared to a business-as-usual scenario without ACES, and other climate-protection legislation, including CAFE and GHG standards. The analysis takes into consideration fuel savings from more efficient vehicles, allowance costs, and the incremental purchase cost of more efficient vehicles. Methodology and sources on back.

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Methodology and Sources

Methodology and Assumptions

The bulk of the average American household's transportation costs come from owning and operating personal vehicles, such as cars, minivans, SUVs, and pickup trucks. We calculate the savings to households in 2020 by taking the difference in the cost of driving a fleet made up primarily of vehicles that get the same fuel economy as the average new vehicles sold today and the cost of purchasing and driving more efficient vehicles. The cost of driving is simply the product of fuel consumption and gasoline prices. For both the base and more efficient vehicle cases, we start with gasoline prices as projected by DOE's Energy Information Administration (EIA). When calculating the transportation cost of the more efficient fleet, however, we adjust the cost to include two counteracting effects: (1) fuel prices increase because of the carbon cap under ACES (about 5% in 2020), and (2) state gasoline expenditures decrease because a reduction in U.S. oil demand puts downward pressure on world oil prices, and therefore state gas prices. It should be noted that, even without the cost-reduction effect in (2), all states have net savings. A national vehicle fleet stock turnover model developed by Therese Langer at ACEEE projects on-road vehicle efficiency. When that efficiency is divided into mileage estimates, it provides national fuel consumption projections. For this analysis, the 2020 national consumption is then allocated to states in proportion to historic state-level consumption data from EIA. State-level fuel costs are calculated by multiplying a state's consumption by its gasoline prices.

Vehicle Efficiency

The Obama Administration recently enacted new vehicle standards of 27.3 mpg for model year (MY) 2011 and announced an extension of those standards to reach 35.5 mpg for MY 2016. The savings in our calculations reflect a comparison of these new standards with a fleet that remains at 2008 levels for cars and 2011 levels for light trucks (based on EPA data and regulations enacted before the Energy Independence and Security Act). The improved fleet increases linearly between 2011 and 2016 and then remains at the 2016 level.

Gasoline Prices

State gasoline prices for the base case are assumed to equal the regional prices for the region in which the state is located, as reported by EIA's Annual Energy Outlook 2009 (Updated Release, which reflects the American Recovery and Reinvestment Act). In the ACES+vehicle standards case, those base case gasoline prices were increased in proportion to the carbon content of fuel consumption using allowance prices (in $/MTCO2e) from the Congressional Budget Office (CBO). Also in the ACES+vehicle standards case, we accounted for the fact that changes in U.S. oil demand can affect world oil prices and therefore U.S. gasoline prices. Today, the U.S. consumes nearly a quarter of world daily production and a reduction in demand from driving more efficient vehicles will lower worldwide demand and therefore oil prices. We estimate that for each gallon saved, total state costs decrease by $0.27, which is the estimate from NHTSA's MY2011 CAFE rule.

Vehicle Costs

The technology to make more efficient vehicles increases the price of the vehicles. The Obama Administration estimates that MY2016 vehicles that average 35.5 mpg will cost approximately $1300 more than today's vehicles. NHTSA estimates that achieving the shorter run MY2011 standard will cost less, at $91 per vehicle. To get costs for MY2012-2016, we interpolate linearly between MY2011 and MY2016 costs. We also assume that the incremental cost is not paid for entirely upfront but is included in a 5-year loan with an 8 percent interest rate. We allocate the more efficient vehicle incremental costs to individual states according to an estimate of new vehicles sales in each state. We use the EIA AEO 2009 projection of national sales and assign each state a share of the sales according to a recent breakdown of vehicles per state provided by Ward's Automotive Group for 2006.

It is also worth noting that though a main driver of savings is the switch to more efficient vehicles, and low income households tend to drive older and less-efficient vehicles, there are provisions in the bill to ensure that low-income households are not negatively impacted. More specifically, ACES provides 15% of allowance value to low-income households in the form of a rebate to fully cover their increased costs (not only for transportation, but for home energy and all other direct and indirect costs). In fact, a recent CBO analysis shows that low-income households will actually benefit slightly under ACES.

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