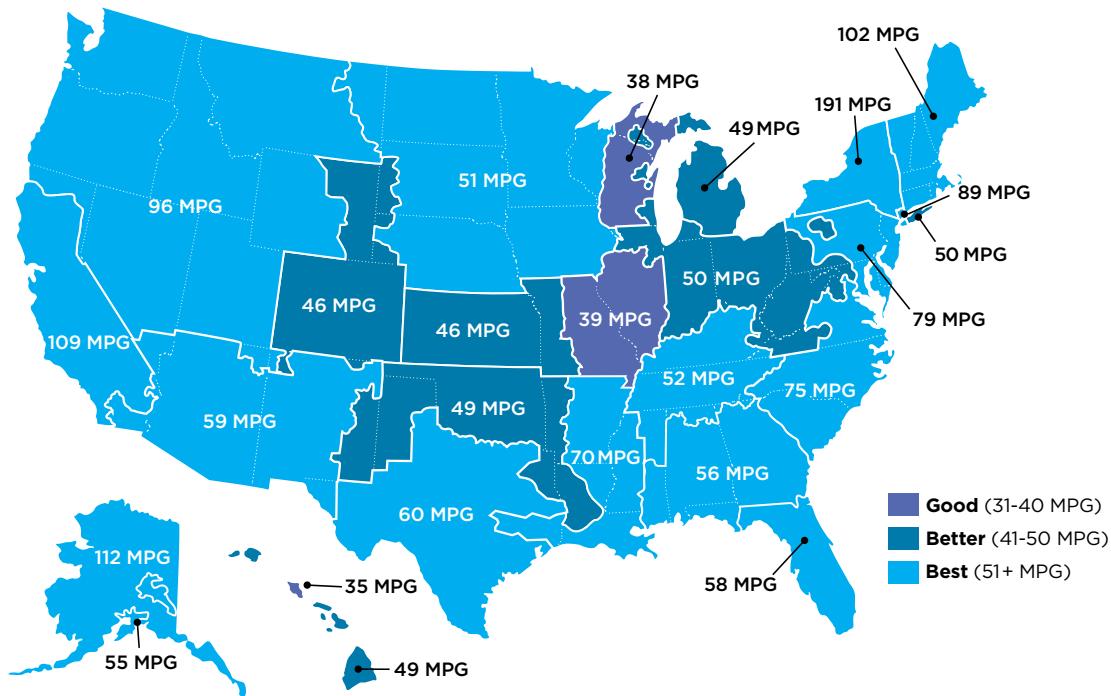


# How Much Can You Save with an Electric Vehicle? UCS Knows



EVs are not only cheaper to operate than gasoline-powered vehicles, but also much cleaner. This map illustrates the degree to which EVs reduce global warming emissions—equivalent to conventional vehicles getting 38 to 191 miles per gallon, depending on which regional electricity grid is charging the EV.

With the transportation sector now surpassing the power sector as the largest source of heat-trapping emissions in the United States, there's no question that finding cleaner means of transportation is one of the most important strategies we have to combat climate change. That's why transportation experts at the Union of Concerned Scientists stress the need to electrify the US vehicle fleet.

Climate benefits aside, you can also save a lot of money with an electric vehicle (EV). How much? UCS has crunched the numbers for 39 states so far.

Take Illinois, for example, where EV sales increased

89 percent from 2017 to 2018, reaching 22,803 sold by the end of last year. According to UCS analysis, some Chicago residents charging an EV at home in 2017 paid the equivalent of 70 cents per gallon of gasoline. What's more, UCS found that rural EV drivers in Illinois saved the most compared with gasoline vehicles. And, because EVs have fewer moving parts and don't need oil changes, EV owners around the country could save an average of \$2,100 in maintenance costs over the life of the vehicle.

## ENVIRONMENTAL BENEFITS: BIG AND GETTING BIGGER

Perhaps the most heartening aspect of UCS

research on this topic is that EVs are getting measurably cleaner all the time as renewable sources of energy make up a significantly larger part of our electricity mix. Back in 2012, when UCS first began tracking EV emissions in different parts of the country, we found that just 45 percent of people lived in areas where driving the average EV would produce less tailpipe global warming emissions than a highly efficient conventional vehicle getting 50 miles per gallon. By 2018, that number was up to 75 percent, with EVs in many areas now emitting significantly less

## FUELING COSTS IN ILLINOIS (ELECTRIC VS. GASOLINE)



than even the most efficient conventional vehicles available. That's a big change in less than a decade and the trend is almost certainly accelerating.

The benefits of a widespread shift to EVs couldn't be clearer. For example, replacing 1 million 25 MPG gasoline cars with today's average EV would avoid burning some 450 million gallons of gasoline and save 3.5 million tons of global warming emissions per year. To find out more about just how clean an EV would be where you live, type in your zip code at [www.ucsusa.org/clean-vehicles/electric-vehicles/ev-emissions-tool](http://www.ucsusa.org/clean-vehicles/electric-vehicles/ev-emissions-tool).

# Insurance Industry Takes Note of UCS *Underwater* Report



Rachel Cleetus, second from left, discusses the costs of climate change in an expert panel at the Envision Austin conference this spring.

As part of our continuing efforts to bring UCS analysis about the threat posed by climate-driven sea level rise to a broader audience, Climate and Energy Program

Policy Director Rachel Cleetus joined a panel this spring at the Envision Austin conference in Texas. The conference was hosted by AIR Worldwide, one of the

leading global catastrophe modeling and risk assessment companies, and attracted a wide array of risk management professionals including many from the insurance industry.

Cleetus's well-attended panel on climate change afforded an opportunity to share our research, policy recommendations, and strategic thinking with an audience that plays an important role in the public narrative about the costs of climate change and the need for climate resilience. Along with many other topics, Cleetus discussed findings from the 2018 UCS report *Underwater: Rising Seas, Chronic Floods, and the Implications for*

*US Coastal Real Estate*, which projected that, by the end of the century, some 2.5 million US coastal homes and commercial properties currently worth more than \$1 trillion could be at risk from chronic tidal flooding.

Cleetus called the attention being given to these findings a welcome development. "We're increasingly seeing representatives from the real estate, insurance, and financial sectors begin to acknowledge the risks to coastal communities from climate-driven sea level rise. The private sector can play a powerful role in calling for policies to reduce our carbon emissions and build climate resilience."

## Shell Audits Trade Associations' Climate Stances

This spring, while ExxonMobil blocked shareholders from voting on proposals that would have addressed climate change, and while fossil fuel companies in general continue to drag their feet on climate action, Royal Dutch Shell published an Industry Associations Climate Review that audited the climate stances of the trade associations to which it belongs. The move follows UCS calls in our *Climate Accountability Scorecard* for fossil fuel companies to cut ties with trade associations that distort or deny climate science. (For more, see [www.ucsusa.org/global-warming](http://www.ucsusa.org/global-warming).)

Notably, as a result of the company's review, Shell pledged to pull out of an

industry trade group called the American Fuel and Petrochemical Manufacturers, citing differences with the group's position on climate change. Kathy Mulvey, fossil fuel accountability campaign director at UCS, welcomed Shell's action but noted that the company should also sever ties with other associations including the American Petroleum Institute, the National Association of Manufacturers, the US Chamber of Commerce, and the Western States Petroleum Association, given their well-documented roles in spreading disinformation on climate science and efforts to block climate action.

Despite not going far enough, Mulvey says, Shell's

audit of its trade associations' climate positions shines an important light on the fossil fuel industry's extensive political lobbying and policy advocacy. Already, after activists turned up the pressure, BP reportedly committed to follow suit and review its own membership in lobbying groups. As Mulvey

puts it, "If other major fossil fuel companies such as Chevron, ConocoPhillips, and ExxonMobil took similar steps, these sources of disinformation would lose their funding and we would be in a much stronger position to enact the policies we urgently need to combat climate change."



# Are US Farms and Farmers Prepared for a Changing Climate?



*A dust storm blankets a farm in eastern Washington State. Drought and other extreme weather events—exacerbated by climate change—are already taking a toll on farms and farmworkers, and threaten the long-term prospects of US agriculture.*

The future stability of the US food supply and the livelihoods of many people in rural America are at risk, as climate change threatens farmers' ability to keep growing food and other crops. A new UCS webpage and an accompanying short video show how climate change and current agricultural policies and practices can combine in disastrous ways—and how much damage could occur if we don't take action to cut heat-trapping emissions and change the way we farm.

Extreme weather—in the form of heat waves, drought, and floods—is

already taking a toll on farmers, farmworkers, crops, and livestock, and is projected to intensify in the years ahead. In addition, changing growing seasons and higher winter temperatures can lead to unpredictable results for crops and encourage the migration of pests that can harm yields. Compounding matters is the fact that shortsighted public policies incentivize common agricultural practices (such as the overuse of chemical fertilizers, lack of biodiversity in planting, and frequent plowing) that intensify the risk of catastrophic outcomes in a warming world.

The new UCS webpage recommends immediate steps farmers and policy-makers can take to address these threats, including:

- Building healthier, “spongier” soils by planting cover crops and deep-rooted perennials that increase soil’s capacity to soak up heavy rainfall and hold water for dry periods
  - Redesigning farms as diverse ecosystems, incorporating trees and native perennials, reducing dependence on fertilizers and pesticides, and reintegrating crops and livestock
  - Developing new crop varieties, livestock breeds, and farm practices specifically designed to help farmers adapt to evolving climate realities
- By creating policies to support these science-based and field-tested solutions, and reducing emissions to limit climate-related damages, state and federal policy-makers can help protect farms and farmers, while building a more sustainable, just, and resilient agricultural system. Learn more at [www.ucsusa.org/climate-ag](http://www.ucsusa.org/climate-ag) and listen to the *Got Science?* podcast interview with Senior Scientist Marcia DeLonge at [www.ucsusa.org/ep60-delonge](http://www.ucsusa.org/ep60-delonge).

## Voices from Hiroshima Resonate in UCS Video

What was it like to experience the nuclear explosion in Hiroshima? What does nuclear activism look like today? And is the Japanese government helping or hurting global efforts to reduce the risk of nuclear weapons? A new UCS video titled “The Pain and Politics of Hiroshima”—filmed in the Japanese city during last year’s commemoration of

the 1945 bombing—explores these questions, weaving the lessons of the past into today’s efforts to prevent the spread and potential use of nuclear weapons. You can watch the short documentary, featuring UCS Senior Analyst Gregory Kulacki (who spoke at the opening ceremonies of the commemoration), at <http://youtu.be/XavZCl6SSjM>.



## UCS Finds Climate Allies in Congress

In June, UCS experts on climate change and scientific integrity were invited to talk with senators on the Senate Climate Change Task Force about the Trump administration’s attempts to suppress and distort climate science—and what can be done to stop it. We hope to continue this dialogue and build broad congressional support for strong, science-based climate policies.

Pictured above, from left to right, are Astrid Caldas, UCS senior climate scientist; Gretchen Goldman, research director in the Center for Science and Democracy at UCS; Senator Ed Markey; Lexi Shultz, vice president of public affairs at the American Geophysical Union and former legislative director in the UCS Climate and Energy Program; and Rush Holt, CEO of the American Association for the Advancement of Science and former member of Congress. Read more from Astrid and Gretchen on p. 14.



Gregory Kulacki, right, participates in the Paper Crane Peace March, an event held around the anniversary of the Hiroshima bombing.

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