



Putting science - and people - at the heart of climate policy

Science is showing us the path to net zero – but we can't tackle the climate crisis in isolation from the other challenges facing people and communities

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The Union of Concerned Scientists is a 53-year-old organisation that puts science into action on the three biggest existential threats facing people and the planet: climate change, democracy and nuclear security.

We were founded by two scientists, and science remains at the centre of our work. But we put that into action with a real focus on equity and justice, and with policy and accountability efforts that truly serve the public good.

For example, we recently conducted a scientific research study on how to get to net zero. We found that the United States can absolutely cut carbon emissions in half by 2030, and get to net zero by 2050, primarily by doing three things: shifting to renewable energy, increasing energy efficiency, and increasing the electrification of vehicles, buildings and industry.

According to our modelling, the costs of doing this are relatively modest, and would mostly be offset by public health benefits, avoided climate impacts and savings of not burning polluting fossil fuels. The cost of inaction would certainly be much higher.

The electricity sector is the linchpin of this. We need to get vast amounts of renewable energy, primarily wind and solar, onto the grid as soon as possible. We also need to meet the calls of communities that want to produce their own clean power. And we need a lot of battery storage to provide power during periods of low wind or low sun.

We need more transmission lines to get clean power to businesses, homes and cities. That way, when you plug in an electric vehicle, or purchase a high-efficiency heat pump to heat or cool your home, they will run on clean, low-carbon electricity.

Equally, energy efficiency improvements – in terms of appliances and lighting, as well as insulating and weatherizing homes – are going to greatly reduce direct emissions from fossil fuel use in buildings. This will also give us greater energy independence and put more money back into our pockets via lower energy bills.

So we have the pathways to Net Zero. And we have the science-based analysis to prove they can work.

A people-centered approach

However, it's important that we don't think about science in isolation.

The key is to understand that fossil fuels are not just a climate problem; they're also a public health and racial equity problem. There are dozens, if not hundreds of examples of low-income and black, brown and indigenous communities, who have been dealing with fossil fuel pollution for generations – where the extraction, transportation and burning of coal, natural gas and oil have led to incredibly detrimental environmental and public health impacts. Many of these same communities are now bearing a disproportionate burden of the increased climate impacts we're experiencing from heatwaves, storms, floods, and droughts.

So rather than trying to solve climate change in a silo, we have to look at it within a set of intersecting challenges that communities are facing – including the energy crisis, the economic crisis, and the crisis of environmental injustice – and find solutions that address all these challenges together.

Unless we 'multi-solve' (to borrow Dr. Elizabeth Sawin's phrase), there is no way that we will achieve the scale or

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The electricity sector is the linchpin of
the transition to Net Zero (Photo by
Andrey Metelev on Unsplash)

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speed or scope of the transformation that we need.

As the latest IPCC report points out, these multifaceted solutions do exist. So we absolutely can and must seize the opportunity to drive transformational policies and investments that not only deliver science-based carbon reductions, but also take a 'people-centred' approach – ensuring that economic, environmental and public health benefits accrue equitably to all communities. We must not default to burdening the same communities that have borne the brunt of environmental injustice and community degradation in the past.

Putting this into practice

What does this look like in practice? In the Gulf Coast, we've been working with different partners like the Deep South Center for Environmental Justice

and Taproot Earth, to ensure that communities on the frontline are heard and help form the agenda for our scientific research. So our work is based not only on rigorous, independent, empirical science, but also the essential needs and priorities of communities – from the coal-mining communities in West Virginia, to the polluted communities in the Gulf Coast, the southwest, the Midwest and elsewhere.

More broadly, the biggest opportunity we have in the U.S. right now is to make sure that the Inflation Reduction Act (IRA), which was passed by the US Congress in August, is implemented in as robust and fair way as possible.

This Act can potentially get over \$369bn worth of funds and tax incentives into communities via people-centred solutions. So, for instance, the IRA provides funds to community non-profit organisations to bring down heat-trapping

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UCS is working with community organisations like Taproot Earth

emissions and reduce pollution, to address toxic contamination in communities, to monitor local pollution levels, and to invest in climate resiliency. It also provides a lot of money for low- and middle-income households to become more energy-efficient and convert to heat pumps.

Beyond the IRA, the federal government must act to reduce the disproportionate harm that fossil fuels inflict on marginalised communities, by strengthening air and water pollution standards and broadening regulations to incorporate cumulative combined pollution burdens. We're currently doing advocacy with the Environmental Protection Agency to that end.

A huge leap forward

The Union of Concerned Scientists is a wholly independent, nonpartisan organisation that works with allies right across the public sector.

However, it's clear that the current administration is head and shoulders ahead of the previous regime in terms of its support for science.

UCS has released a scorecard dating back to the Obama administration that looks at how well the federal government is adhering to the principles of scientific integrity. Assessing ten different principles across nineteen federal agencies and sub-agencies, we saw significant improvements under the current administration. Scientific integrity – which had been gutted – has been restored across many of these dimensions. There is still some work to do, but it definitely feels as though we're on a better track.

And we have other reasons to be optimistic. We have the technology we

need (there are some issues that we need to sort out, but there are pathways to address them). The economics are also in our favor; if you look at, say, the uptake of solar energy in the United States, it has skyrocketed – and prices have dropped accordingly.

As always, we ground our optimism in science. The American psychologist Charles Schneider showed that hope isn't just a fuzzy emotion. It's actually a cognitive process: when you unpack it, it means having a clear sense of what your goal is and what you need to achieve; having a clear blueprint for how to get there; then actually believing that you can recruit allies and have your own agency to deliver that.

At the Union of Concerned Scientists, we have all three of those things. And we're working very closely with a host of allies and partners to make it all happen – because no single organisation alone, no matter how great, is going to be able to move the needle on everything we need to do in order to create the liveable future that our children and grandchildren deserve.

Johanna Chao Kreilick is president of the Union of Concerned Scientists, a leading science-based advocacy organization that combines technical analysis and advocacy to create and implement innovative, practical solutions for a healthy, safe, and sustainable future.

Johanna has three decades of experience with social movements, science policy, and working to combat climate change. Before leading UCS, she served on the executive team of the Open Society Foundations, a \$27 billion global rights and justice philanthropy, where she founded the \$43 million Climate Action Initiative. Johanna is also a trained mediator and facilitator, and serves on numerous nonprofit boards.



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