Test Your Favorite Climate Solution

John Gage

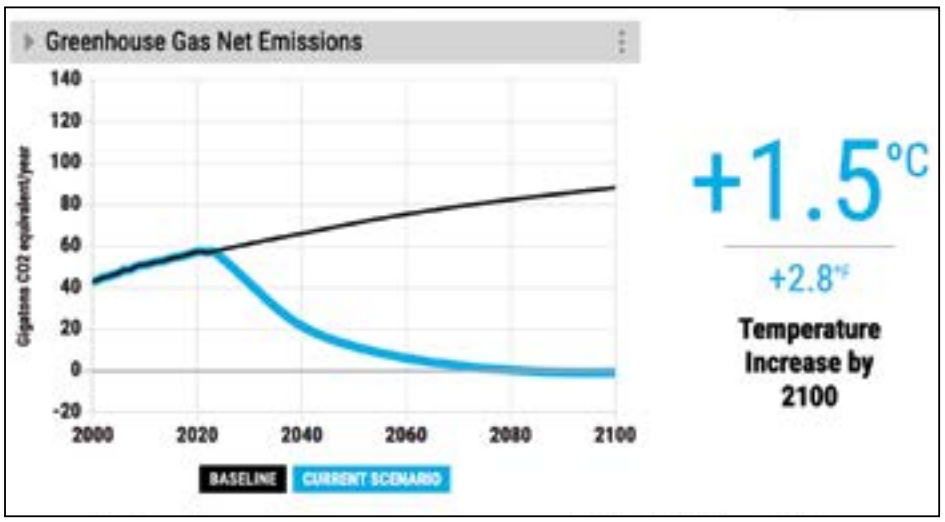
Many of us reduce our carbon footprints as best we can because of concerns about climate pollution. We can increase the energy efficiency of our homes, electrify our transportation, heating, and cooking, and transition to clean energy sources. These provide a variety of co-benefits and often save money. But holding global warming below 1.5˚C cannot be accomplished through individual efforts alone. Policy changes are required to accelerate investment, innovation, and choices to achieve national and international climate goals.

The U.S. recently made significant climate policy progress, but not enough. We must demand more from our elected leaders. But how can we (and they) know which additional policies offer the best chance for success?

En-ROADS can provide insight! En-ROADS is a free web-based tool created by Climate Interactive and MIT that lets anyone compare the effectiveness, cost, and impacts of dozens of climate policies and explore how they interact. It was created to inform people what experts know about climate policies.

Are you ready to put your favorite climate solutions through a rigorous test? You will see the effects on energy sources, energy usage, cost of energy, future greenhouse gas emissions, global temperature, sea level rise, and human health. To get started, type en-roads.climateinteractive.org into your computer or laptop browser.

En-ROADS displays the impacts of the global policy mix you specify. The initial views across the top show the resulting future sources of energy, emissions, and temperature increase by 2100. The model uses configurable assumptions with



From En-ROADS: a sample policy mix of complementary policies to achieve a 1.5˚C warming limit.

initial values from the IPCC. Across the lower half, policy controls are grouped by energy supply, energy use, land use, industry, and carbon removal. The initial policy settings reflect the global policy mix in place today, and the dangerous amount of warming that will result.

Are you curious how growing lots more trees compare with subsidizing electric vehicles on climate? Try moving one policy slider at a time to see the impact of each on temperature by 2100. Observe how each policy affects the energy source mix, energy usage, and net emissions. Dive into the details by clicking the three vertical dots to the right of any policy name. Explore other impacts of your policy selection by switching views. You can display the effects on the cost of energy, sea level rise, species loss, human health, and more. Your En-ROADS experience will produce surprising insights and new reasons for hope and concern.

You will also realize that there is no silver bullet. Try some policy combinations. Watch out for a cumulative impact that is less than the sum of the individual policies. We need to minimize redundancies to get the most bang for our policy buck. Each policy has costs, takes time and political will to implement, and may involve a struggle against special interests that will oppose it. Selecting only complementary policies will maximize results at the least cost and effort.

Finally, design a policy combination to hold the temperature to 1.5°C at the least possible net cost. Consider the viability of your solution. Some policies are easier to do than others. This exercise will likely direct you to favor the most powerful stand-alone policy – the policy experts say must be included in the solutions mix to achieve our ambitious climate goal: carbon pricing.

En-ROADS does not let you directly model the financial benefits to families of a cash-back carbon fee on fossil fuel production, the most well-supported climate policy by economists (clcouncil.org/economists-statement). But you can compare the revenue raised with the total increased energy cost. En-ROADS demonstrates the most effective climate policy – a carbon tax paid by fossil fuel producers – is so economically efficient that it raises more money than needed to fully compensate people for the trickle-down total higher costs they pay for energy. This explains why most people get back more than they pay in higher costs from cash-back carbon pricing (carboncashback.org/benefits). A carbon tax will be accepted by the public if the revenue raised is rebated to households.

There is a recorded En-ROADS Ambassador-led workshop at www.bit.ly/ccl-marc-en-roads-2022. You can register for a live En-ROADS climate policy simulation workshop on April 24 at 7:00 pm or find a recording after the event at newhampshirenetwork.org/events. And En-ROADS ambassador training is free to anyone who wants to learn how to give demonstrations and lead interactive workshops.

En-ROADS offers realistic climate hope. It underscores the urgency and provides a policy roadmap to achieve important climate goals. The other piece of the puzzle is you. An informed and engaged public can create the political will for the policy changes necessary to hold warming below 1.5°C. Learn how you can help do that at www.citizensclimatelobby.org.

John Gage is the volunteer NH State Coordinator for Citizens' Climate Lobby. ♻

What's in a Name? Carbon-Free is Just a Rebrand of Status Quo

Jonathan Dowds

We can prosper and save the earth at the same time. (singularityhub.com)

Cigarettes did not get any safer or less addictive when Philip Morris "rebranded" as Altria. Facebook did note get any less polarizing when it changed its name to Meta. Nuclear power is not any more appealing to Vermonters just because it is rebranded as carbon-free. A proposal in the Department of Public Service's 2022 Comprehensive Energy Plan to establish a "carbon-free" standard amounts to a rebranding to promote an ongoing role for aging nuclear power plants at the expense of the deployment of new renewable generating capacity.

To fight climate change, we need action, not rebranding that supports the status quo. We need to get to a place where every new car sold is electric and where every aging furnace is replaced with a heat pump. And we need to power it all by increasing our renewable electricity generation not by increasing our reliance on nuclear plants.

Instead of a branding change to switch to a carbon-free standard, we need to update our current Renewable Energy Standard to require our utilities to provide 100% renewable energy. Under a carbon-free standard, we can just keep grinding away with the status quo. This is a status quo that asks our New England neighbors to live in the shadows of nuclear reactors long after we have shut down nuclear power in Vermont and a status quo that continues to slow-roll new renewable construction.

When Vermont Yankee closed its doors, many Vermonters sighed in relief. But residents in Connecticut, New Hampshire, and Massachusetts are still dealing with the realities of living next to nuclear facilities. Nuclear facilities that are aging with signs of wear at a time when extreme weather from climate change is placing new stressors on these plants. The people that live and work near these plants live every day with warnings like this one from the Massachusetts Department of Emergency Management stating that, "People that live, work, or vacation within ten miles of a nuclear power plant should be prepared for an emergency at a nuclear power plant." A carbon-free standard would codify the status quo and perpetuate an environmental injustice.

Rebranding as a carbon-free standard now would be all even more misguided because, with the passage of the landmark Inflation Reduction Act (IRA), there has never been a better time for Vermont to invest in renewable energy alongside the electrification of our thermal and transportation sectors. The IRA provides tax credits that will cover 30% of the cost of a new renewable energy or battery storage project and includes new provisions that will allow non-profits and municipal governments to access these benefits as well. Doubling the amount of in-state renewable energy that we build by 2030 would result in hundreds of millions of dollars of federal tax credits flowing into Vermont. The IRA is already credited with creating more than 100,000 new jobs across the country and by investing in renewable energy and electrification, we can bring new jobs right here to Vermont.

The IRA also includes a host of other tax credits and rebates that support families and businesses as they transition to electric vehicles, heat pumps, and electric stoves, and invest in other efficiency measures. Electrification helps combat climate change and protects Vermonters from an increasingly volatile fossil fuel market. Making sure that electrification is powered by renewable energy maximizes these benefits.

Real success fighting climate change comes from pairing electrification with the development of new renewable energy. Vermont legislators have a choice: they can update our Renewable Energy Standard so that it really spurs the development of new renewables in Vermont and throughout the region, or they can rely on rebranding measures like a carbon-free standard in hopes of making us feel better about the same old path. I know what I want. It is real Vermont leadership on climate, not another meaningless "rebrand."

Jonathan Dowds is the Deputy Director, Renewable Energy Vermont. More information is available at revermont.org. ♻