How alternative meats could help save the planet

Opinion by Bruce Friedrich and Anand Gopal. September 30, 2021

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(CNN) As the US swelters under repeated killer heat waves, fire seasons start earlier and burn ever more acreage, and floods ravage Europe, the urgency of reducing greenhouse-gas emissions has never been greater. "Code red for humanity," indeed, as we were warned with the Intergovernmental Panel on Climate Change's sixth assessment.

But remarkably, absent the occasional private sector investment from the likes of Leonardo DiCaprio or Richard Branson, most in the community of scientists and advocates for climate-change action—who justifiably express outrage at the fact that the world is not addressing the crisis with the urgency it warrants—seem to have given little thought to what is perhaps the highest impact, scalable climate solution available outside of energy: producing meat from plants or animal meat in cultivators, no industrial farms or slaughterhouses required. We know that might sound curious: Veggie burgers to save the world? Cultivated meat as a solution to climate change? But hear us out.

Based on our evaluation of the science, we're convinced that the world will fail in its mission to reach net-zero emissions and hit targets spelled out in the 2015 Paris Agreement unless it seriously prioritizes support for alternative ways of making meat—and now. According to a new article in the journal Nature Food, the meat, dairy, and animal-based-feedstock industry is responsible for about 20% of global greenhouse gas emissions, which rivals—and may indeed surpass—all forms of transportation combined.

In short, government policies concerning alternative meats hold at least as much promise as many clean energy policies to address climate change. And the clean energy movement has shown us how to succeed.

Like clean-energy technologies, making meat from plants and cultivating it from cells can reduce emissions at a massive scale while providing consumers with a comparable product. With government support to facilitate research and development, alternative meats could be indistinguishable from conventional meat in taste and mouthfeel. They could also be cheaper and healthier than products made from animals.

Yes, you heard that right: Just as combustion engines are now only the second-most energy-efficient way to move your car, animals could soon be the second- or third-best way to make meat. You can drive your car, eat your meat, and still save the climate. Also, like clean energy, alternative meats can create hundreds of thousands of high-wage jobs, according to estimates from the Breakthrough Institute. Those could replace unsanitary, unsafe and low-wage jobs in slaughterhouses.

It's worth noting that the pioneers in plant-based meat, Beyond Meat and Impossible Foods, have launched burgers that are easy to find. But plant-based meat still represents just 1.4% of all meat sales in the US, and the Beyond and Impossible burgers have not yet reached price parity with commodity beef. For these products to reach their full potential, they need to compete on price with all meat, including cheaper meats like chicken and fish. For that to happen, we need to learn from the clean-energy community.

Clean energy has caught on, with dramatic price drops and increased uptakes for wind and solar power generation, thanks to a specific set of government policies. Their success began with sustained government investment in research and development, which eventually made them commercially viable.

Alternative meats have yet to see that kind of support. The largest grant ever from the US government for cultivated meat was $3.55 million over five years to the University of California at Davis. By contrast, the annual budget of the US Department of Energy for renewable energy research was $3 billion in 2021.

Once clean-energy technologies hit the commercial market, regulations like clean-energy standards and zero-emission vehicle standards, complemented with government subsidies, were critical for clean energy to begin displacing fossil fuels. Now, with proposals similar to the American Jobs Plan and the European Union's Fit for 55 legislation, countries around the world are on track to support the creation of millions of new, green jobs that will spur a broad energy transition.

So, while we still have a long way to go, we know that climate policies can succeed. Now, we need the climate community to apply the clean-energy playbook to alternative-meat production. If we do that successfully, we can save more emissions than ending the use of coal globally.

By switching to alternative meats, the world can cut greenhouse-gas emissions by roughly 8 metric gigatons per year, according to data from the Intergovernmental Panel on Climate Change. That's because a complete shift to alternative proteins (including alternative dairy) would slash carbon emissions via efficiency gains and eliminate methane and nitrous oxide emissions from animal digestion and manure decomposition, which are among the top causes of these potent greenhouse gases.

The same shift would also reduce agricultural land requirements by three quarters. That is more than three times the size of China and India combined. But if even a fraction of this land is left alone and allowed to rewild, we will unlock a massive carbon sink.

By revitalizing this land, we could sequester roughly another 26 metric gigatons per year, according to an estimate published in Nature Sustainability. Through such revitalization efforts, governments could help farmers, ranchers and others with intimate understanding of local lands and waters access new income streams and enjoy livelihoods funded by recovery and rewilding.

The world is highly unlikely to meet Paris Agreement targets unless conventional meat consumption goes down globally, and so far, the only plausible suggestion for making that happen is to produce the meat that consumers love —but to make it from plants or to cultivate it from cells. If clean-energy and alternative-meat advocates join forces, we can save our climate for generations to come.