

Decarbonizing the US Economy: Pathways Toward a Green New Deal



SAMPLE POLICY: PAYING FARMERS TO CAPTURE CARBON

INTRODUCTION

The climate crisis is here. According to the UN Intergovernmental Panel on Climate Change, limiting climate change to 1.5°C—and avoiding some of its most harmful impacts—would require a 45 percent cut in human-caused CO₂ emissions by 2030 and carbon neutrality by mid-century. We argue that decarbonizing at this rapid pace is not only possible, but that it will improve our economic outlook, create jobs, and promote equity. Such an endeavor, however, necessitates immediate action and a broad range of policy tools. In *Decarbonizing the US Economy: Pathways Toward a Green New Deal*, we outline the three pillars of such an approach: 1) carbon pricing that promotes an equitable transition while meeting our emissions goals; 2) comprehensive regulations to redirect private spending and to ensure climate targets are met; and 3) large-scale public investments.

Solving these sizable problems will require a sizable actor: government. To change the everyday decisions of businesses, individuals, and communities, and to provide a true alternative to the dirty “business-as-usual” economy, we must put a price on carbon and deploy direct environmental regulation. Though necessary, regulations and carbon pricing alone will be insufficient to meet the scale of the challenge and to address the dislocation associated with decarbonization. Carbon pricing and regulation may reduce fossil fuel extraction, for example, but they won’t ensure that workers in carbon-intensive industries find quality jobs; they may reduce transportation-related emissions, but they won’t offset increased driving costs or expand access to alternative modes of transit. Fortunately, the choice between decarbonization and meeting other social needs is a false one. A rapid transition to a carbon-neutral economy will raise living standards for the majority of Americans.

We must rewrite the rules of our economy to promote a rapid and equitable transition, with an increase in public investment at the core of such an undertaking. To transform our economy on the scale that a Green New Deal would require, we need a large degree of coordination—coordination that can and must be directed by the government. While the economics of decarbonization are often misunderstood as a problem of *scarcity*, in which doing more to avert climate change means doing less to meet other social needs, we argue that a more robust public sector to facilitate this transition is both affordable and attainable.

In *Decarbonizing the US Economy*, we outline a set of policy proposals that demonstrate how we can decarbonize the economy in ways that promote growth and ensure equitable outcomes. These sample policies show that decarbonizing the US economy can create quality jobs, reduce inequality, and tackle the existential threat of climate change. Here, we explore one of these policies: paying farmers to capture carbon.



SUMMARY

While farmers are and will be deeply impacted by global warming, our industrial agricultural sector is also a key producer of GHG, responsible for 9 percent of US emissions. Yet farmers also hold enormous potential to curb GHG emissions. To support rural livelihoods on the farm and start the transition in agriculture from a net producer of emissions to net carbon neutral, or perhaps even a net carbon sink, the federal government should directly pay farmers to capture carbon in their soil—a vital ecological service.

BACKGROUND

The industrial agricultural sector is a core contributor to GHG emissions. The EPA reports that 9 percent of all US GHG emissions come from this industry, particularly from factory- farm livestock. This likely underestimates the problem, as new research suggests that methane emissions are more problematic than conventionally thought (Ackerman 2019). The methane produced by cows, called “enteric fermentation,” alone comprises almost a third of all emissions from the entire agricultural industry. In addition, the way that animal waste is stored and processed, the farm management of agricultural soils, and even the production of rice emits methane and/or nitrous dioxide—both potent greenhouse gasses (EPA 2019).

At the same time, farmers and rural communities are on the frontlines of climate change. Experts predict climate change to have profound effects on the agricultural industry. The increased presence of carbon dioxide levels, combined with changes in air temperatures and precipitation (droughts and flooding), will greatly intensify the uncertainty and economic instability that farmers and farm workers already face. Additionally, this places the food supply at enormous risk. Scientists suggest that climate change could have significant effects on crop yields as well as reduce the nutritional value of many food crops overall (EPA 2019).

These impacts on the farming industry will also have broader impacts on rural communities, which are economically dependent in a variety of ways on the natural resources that will be affected by climate change, especially through farming. Climate change will likely shift the ideal climate for various crops northward, which could hobble rural economies, especially in the south.

Climate change and its effects on farmers are situated in the context of agricultural communities that have already struggled economically for decades. Many family farmers are losing money—with many being swallowed up by factory farming—and those who remain are contractually dependent on agricultural conglomerates that have outsized control of the prices they pay and effectively become contract workers with less and less control over their growing practices, not to mention their income (Howard 2016). This current state of agricultural markets makes the burden that climate change places on farmers, and encouraging farmers to be part of the solution, that much harder.

In order to both reduce emissions from agriculture and enhance its potential to sequester carbon, the US will need to broadly reform the sector. For example, the US must improve regulation of the agriculture sector—both through the Farm Bill and beyond it—including shifting regulations to align with climate goals by, for example, regulating feedlot emissions (McGinn et al. 2016). Policymakers could also reform crop insurance markets, which are partly subsidized by the government, to incentivize sustainable practices by rewarding them with lower rates and better coverage (Lilliston 2018).

The sample policy we focus on here is a federal investment program in the vast capacity of farmers to sequester



carbon by paying farmers to capture carbon in their soil. Responsible soil management holds enormous potential for capturing carbon from the atmosphere. Scientists are finding that farming systems that involve “integrated” soil-based practices—such as adequate crop rotation combined with minimal or no- chemical fertilizer and pesticide use—build organic matter in the soil that then promotes carbon accumulation in the ground. In other words, farming practices that are already better for productivity, environmental quality, and food safety are also a powerful carbon-mitigation technique. According to the IPCC, 89 percent of agriculture’s global sequestration potential lies in carbon capture through soil management (Zomer et al. 2017). And a study of the regional potential of carbon storage worldwide finds that North America has the highest potential for soil carbon sequestration, opening up a major opportunity to revitalize farming communities in the fight against climate change (Zomer et al. 2017).

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As the idea of soil carbonization takes hold, some impractically propose paying farmers through a market that gives them credit for the specific amount of carbon they sequester; companies can then buy those credits to offset their emissions. Soil-carbon levels vary a great deal across even one acre of land, making measurement impossible (Gewin 2019). However, this approach would also create a carbon market and open the door to carbon offset credits, which have largely been a disaster and are strongly opposed by environmental justice groups. We argue for a simpler, more effective approach below.

Some states are taking matters into their own hands. For example, California has implemented the California Healthy Soils Initiative. With revenue generated through the state’s cap-and-trade initiative, the state is piloting a program to provide grants up to \$50,000 each to approximately 50 farmers to engage in sustainable practices, such as applying compost and mulch, planting cover crops, introducing natural windbreaks, reintroducing native plants, and creating silvopasture (which integrates trees with pasture). These methods not only pull carbon from the atmosphere but also enhance farm productivity by building topsoil fertility; reducing the need for chemical pesticides, herbicides, and fertilizer; providing habitat for birds and beneficial insects; and curbing water runoff by improving soil drainage (CalCAN 2019).

SAMPLE POLICY

To support rural livelihoods and help transition agriculture toward carbon neutral, and possibly eventually a carbon sink, the US should start paying farmers based on their adoption of specific growing practices that foster soil carbon sequestration. This program should be kept simple, paying farmers based on their adoption of specific growing practices that foster soil carbon sequestration. It could be based on California’s Healthy Soils Initiative but scaled to the national level, paying farmers who employ sustainable soil management practices compensation for the environmental service they provide and subsidizing the transition from industrial farming to more sustainable agricultural practices such as regenerative agriculture. This program could also be broadened to paying rural communities for sustainable forest and land-use management more generally. The program should be fully financed by the federal government.



Of course, this kind of transition to climate sustainability will demand more than a grants program. It will require, for example, vastly restructuring agricultural markets by curbing the market power of agricultural conglomerates, building up processing infrastructure, engaging in outreach and educational programs, and seeding a new generation of farmers. But the importance of this particular program is that it can begin to address the economic needs of struggling farmers in the face of falling commodity prices and the rise of factory farming, while harnessing the vast potential of American farmland to serve as a carbon sink.



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