

Planting Trees Won't Save the World

Focusing on trees as the big solution to climate change is a dangerous diversion.

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The authors are scientists.

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One trillion trees.

At the World Economic Forum last month, President Trump drew applause when he announced the United States would join the forum's initiative to plant one trillion trees to fight climate change. More applause for the decision followed at his State of the Union speech.

The trillion-tree idea won wide attention last summer after a study published in the journal *Science* concluded that planting so many trees was "the most effective climate change solution to date."

If only it were true. But it isn't. Planting trees would slow down the planet's warming, but the only thing that will save us and future generations from paying a huge price in dollars, lives and damage to nature is rapid and substantial reductions in carbon emissions from fossil fuels, to net zero by 2050.

Even a 16-year-old can tell you that.

Focusing on trees as the big solution to climate change is a dangerous diversion. Worse still, it takes attention away from those responsible for the carbon emissions that are pushing us toward disaster. For example, in the Netherlands, you can pay Shell an additional 1 euro cent for each liter of regular gasoline you put in your tank, to plant trees to offset the carbon emissions from your driving. That's clearly no more than disaster fractionally delayed. The only way to stop this planet from overheating is through political, economic, technological and social solutions that end the use of fossil fuels.

There is no way that planting trees, even across a global area the size of the United States, can absorb the enormous amounts of fossil carbon emitted from industrial societies. Trees do take up carbon from the atmosphere as they grow. But this uptake merely replaces carbon lost when forests were cleared in the first place, usually long ago. Regrowing forests where they once flourished can undo some damage done in the past, but even a trillion trees can't store enough carbon to head off dramatic climate changes this century.

In a sharp rebuttal to last summer's paper in *Science*, five scientists wrote in the same journal in October that the study's findings were inconsistent with the dynamics of the global carbon cycle. They warned that "the claim that global tree restoration is our most effective climate solution is simply incorrect scientifically and dangerously misleading."

The focus must shift from treating climate change as a "global carbon" problem to a "carbon pollution" problem. No matter that deforestation, tilling soils for agriculture and even methane emissions from livestock and rice paddies also contribute to global climate change. All together these account for only about 20 percent of total greenhouse gas emissions. Carbon pollution from fossil fuels is the overwhelming reason global climate change is such an urgent problem. Solve this, and the need for other climate change solutions is not nearly so urgent.

Before it was blocked by the Trump administration, the Environmental Protection Agency was already moving in this direction, by requiring states to meet targets for cutting emissions of carbon dioxide and other greenhouse gases from power plants. Combating pollution has a long track record of success in the United States and around the world — effective solutions have been pursued through an array of approaches, from direct penalties and taxes to cap-and-trade programs and government investments in new technologies that avert pollution.

Still, carbon pollution from fossil fuels remains the greatest regulatory challenge ever. Globally, fossil fuels provide about 80 percent of the energy powering the global economy today. Yet ending fossil fuel use could also provide huge economic and employment opportunities. Through new spending on infrastructure and research for energy and transportation, the American economy could be transformed for the better and for the long run. For example, all internal flights between American cities less

than 600 miles apart could be replaced by high-speed electric 'bullet' trains traveling over 200 miles per hour, providing a quicker, safer and cleaner way to get around and built with American technology, steel and workers. The battle against carbon pollution is also a battle for a better America and a better world.

Everyone loves a simple solution, but it is just too tempting to say "let's plant trees" while we continue to burn fossil fuels. We must not play foolish games with the Earth's climate: We will all end up paying for it in the end. Regulating carbon pollution down to net zero emissions by 2050 will end the global climate crisis for good.

And making this possible will require making clean energy cheap — through investments, incentives, regulation and research. Experience from around the world shows that decarbonizing modern societies is hard, and even harder in the face of the vested interests of industries and people still holding trillions of dollars in carbon stocks. But there is no other real solution.

Cheap energy is a universal social good. But the reality is that fossil fuels are not cheap at all. More than \$5 trillion per year is spent globally to subsidize fossil energy and the long-term costs of carbon pollution are orders of magnitude above those. Do not imagine that free markets are what sustain the fossil fuel industry either: at least 12 of the world's 20 largest fossil fuel companies are state owned.

The ultimate challenge in solving global climate change is to make clean energy cheap, safe and available. That and regulating fossil carbon pollution will boost innovation, employment and our health and well-being. When it comes to reducing emissions fast, let's put the focus where it needs to be: regulating carbon pollution and making clean energy available to everyone. Planting trees can't do that.

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