Science & Technology

Researchers Call for Clean-Energy Push

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A team of researchers from Columbia's Center on Global Energy Policy, together with collaborators at the nonprofit Information Technology and Innovation Foundation (ITIF), have issued a report calling for the US government to launch an ambitious effort to spearhead the development of new climate-friendly energy technologies.

The book-length report, titled Energizing America, provides a comprehensive roadmap for how the US can assert itself as an international leader in clean-energy systems and help stave off the most catastrophic consequences of global warming. It calls for a tripling of federal investments in clean-energy research and development over the next five years and for the creation of a new interagency authority to coordinate such spending.

Currently, the US devotes about $9 billion a year to clean-energy R&D — just one-quarter of what it spends on medical research and less than one-tenth of what it spends on defense innovation. A threefold increase in funding for new energy technologies would bring the country's investments in this area roughly in line with China's as a share of GDP and would deliver "economic returns that far outstrip investments," according to the report.

Energizing America was written by Varun Sivaram, a visiting senior fellow at the Center on Global Energy Policy, which is housed within the School of International and Public Affairs; Julio Friedmann and David Sandalow, both former Obama-administration energy officials and now senior research scholars at the center; and ITIF's Colin Cunliff and David Hart.

The scholars argue that the rapid deployment of existing renewable-energy systems — wind, solar, geothermal — will not be enough for the US to achieve net-zero carbon emissions by mid-century, which president-elect Joseph Biden has already proposed as a goal, echoing commitments made by dozens of other nations in recent years. The authors say entirely new technologies will be needed to improve energy efficiency in areas like agriculture, shipping, aviation, and steel and cement manufacturing. To this end, the researchers provide detailed recommendations for how an expanded R&D budget could be distributed across numerous federal agencies and programs.

Regarding their plan's political feasibility, the authors note that bipartisan support for clean-energy R&D has been growing in recent years; they point out that although the Trump administration proposed slashing funding for such research in every one of its annual budgets, congressional Republicans and Democrats both refused to make the cuts.

"There's a consensus emerging that the development of new energy technologies is going to be essential not only for fighting climate change but also for advancing America's international economic competitiveness in the coming decades," says

Sivaram. “Leaders on both sides of the aisle are recognizing that if the US establishes itself as an innovator in this area, creating the next generation of energy systems that eventually get adopted throughout the world, we’ll benefit economically and in terms of our global influence.”

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