

# **How to curb emissions? Put a price on carbon**

September 3 2015

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Literally putting a price on carbon pollution and other greenhouse gasses is the best approach for nurturing the rapid growth of renewable energy and reducing emissions. Credit: Environmental Defense Fund

Literally putting a price on carbon pollution and other greenhouse gasses is the best approach for nurturing the rapid growth of renewable energy and reducing emissions.

While prospects for a comprehensive [carbon price](#) are dim, especially in the U.S., many other policy approaches can spur the renewables revolution, according to a new policy article published in *Nature*.

The current price of [carbon](#) - which is below zero, once fossil-fuel subsidies are taken into account - is far too low given the hidden environmental, health and societal costs of burning coal and oil.

The authors - which include Princeton University's Michael Oppenheimer, Albert G. Milbank Professor of Geosciences and International Affairs at the Woodrow Wilson School of Public and International Affairs - urge policymakers to implement a range of policies until the time that a carbon price becomes politically realistic.

The article, whose lead author is Gernot Wagner, senior economist at the Environmental Defense Fund, urges modernizing and opening up access to power grids for [renewable sources](#) like solar and wind energy (similar to the access fossil fuel sources enjoy), and subsidizing key technologies, particularly for energy storage. Additionally, investments must be made that support research and development related to low-carbon energy technologies.

"The current inadequacy of carbon pricing stems from a catch-22," the authors write. "Policymakers are more likely to price carbon appropriately if it is cheaper to move onto a low-carbon path. But reducing the cost of renewable energies requires investment, and thus a carbon price."

While some obstacles regarding low-carbon energy are technological, many are policy-driven, the authors write. Current policies were set with the fossil-fuel industry in mind, but the same principle could apply with the emerging [renewable energy technologies](#) as well.

The authors point toward Germany and China as examples. Germany's Renewable Energy Sources Act guaranteed 20 years of grid access and fixed prices for solar- and wind-power producers. Meanwhile, in China, climate, energy and industrial policies have boosted the manufacturing scale of renewable technologies.

But despite these efforts, many countries still use coal and natural gas as their main source of electricity. Likewise, many forms of bioenergy actually increase net emissions rather than reduce them.

To this end, the authors suggest the following for policymakers and governments:

- Check that all climate-change interventions pass a benefit-cost test (taking environmental, health and societal costs into account);
- Ensure policies related to renewable energy ease the way toward a national carbon cap or tax;
- Open up access to electricity grids for renewables and break up any non-competitive arrangements;
- Support the modernization of [power grids](#) to facilitate adoption of new [renewable energy](#) sources; and

- View the energy sector in its entirety since transportation may become increasingly dependent on electricity.

"Ambitious renewables policies should be followed by strengthened climate policies," the authors conclude. "These are the sorts of pieces that need to come together to deepen solar and wind penetration levels and achieve the 'holy grail' of climate policy: an effective carbon price."

The article, "Push renewables to spur carbon pricing," was published Sept. 3 in *Nature*.

**More information:** Energy policy: Push renewables to spur carbon pricing, [www.nature.com/news/energy-pol ... rbon-pricing-1.18260](http://www.nature.com/news/energy-policy-push-renewables-to-spur-carbon-pricing-1.18260)

Provided by Princeton University

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