

Minimum CO₂ price of \$32 needed to curb warming, study shows

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Emissions spew out of a large stack at the coal fired Morgantown Generating Station, on May 29, 2014 in Newburg, Maryland

A global carbon price of at least \$32 (24 euros) per tonne is needed by 2015 to apply an effective brake on global warming—almost five times today's European market rate, a study said Monday.

Co-authored by British economist Nicholas Stern, an authority on the costs of climate change, the report reviewed a widely-used model for assessing risk and found it led to a "gross underassessment" of danger.

This beefs up the case for strong cuts in greenhouse gas [emissions](#), helped by a carbon price "in the range of \$32-103 per tonne of CO₂ (tCO₂) in 2015", said the study carried by *The Economic Journal*.

"Within two decades, the carbon price should rise in real terms to \$82-260/tCO₂," it added.

Such a price should limit the concentration of greenhouse gases in the atmosphere to 425-500 particles per million, the level required to contain global warming to 1.5-2.0 degrees Celsius (2.7 degrees Fahrenheit), said the report.

The study was co-authored by Stern's colleague, Simon Dietz, at the Grantham Research Institute on Climate Change and the Environment.

It was released a day after the close of UN talks in Bonn on concluding a deal to curb [greenhouse gas emissions](#). The pact is expected to be signed in Paris in December 2015.

In April, the UN's expert Intergovernmental Panel on Climate Change (IPCC) said the world can still limit [global warming](#) to relatively safe levels, provided annual emissions are cut by 40-70 percent by 2050.

The panel listed a global [carbon price](#) as one option for tackling the challenge. It warned temperatures could rise by up to 4.8 Celsius this century and sea levels by 26-82 centimetres (10-32 inches) on present emissions trends.

The International Monetary Fund and World Bank have also this year

called for the introduction of a universal price on carbon—the most common [greenhouse gas](#) blamed for climate change.

For the moment, carbon prices are determined by national or regional systems—either as a tax on emissions or as a cap-and-trade scheme that allows companies to sell unused allotments.

The European Union Emissions Trading Scheme (ETS), the most ambitious cap-and-trade system in the world, has seen prices drop drastically from a peak of about 30 euros per tonne eight years ago to \$7.7 (5.7 euros) today—partly due to countries issuing too many allowances.

The Stern-Dietz report said the standard DICE model used to calculate economic risks from [climate change](#), also by studies included in the IPCC's latest report, used unrealistic values and underestimated the potential damage.

The updated model, "strengthens the case for strong cuts in emissions of [greenhouse gases](#)," Dietz said in a statement.

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