

Climate accord loopholes could spell 4.2-degree rise in temperature and end of coral reefs by 2100

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A global temperature increase of up to 4.2 C and the end of coral reefs could become reality by 2100 if national targets are not revised in the Copenhagen Accord, the international pledge which was agreed at last year's Copenhagen's COP15 climate change conference.

Just ahead of the next United Nations [Climate Change Conference](#), which starts on 4 October in Tianjin, China, a new report published today, Wednesday, 29 September, in IOP Publishing's Environmental Research Letters describes how, due to lack of global action to date, only a small chance remains for keeping the global [temperature increase](#) down to 2 C as set as a target in the Accord.

Looking at individual countries' agreed targets for emission levels, the

report shows that many developed countries such as the USA and the European Union have set their aims very low, aiming at reaching emission levels just a few percent lower than 1990 levels by 2020. Only Japan and Norway are aiming to drastically reduce their emission to 25% and 30 to 40% below 1990 levels respectively.

Presenting their results in *Environmental Research Letters*, a group of international researchers from seven European research centres, has also found that even if nations would agree to a 50% reduction of emission levels by 2050 - a target that strong international agreements would greatly facilitate - there would still only be a less than 50% chance to keep global warming below 2 C.

Rising global temperature levels would not be the only consequence of failing to raise the ambition level of future global emission reductions. Increasing [ocean acidification](#), a direct result of growing atmospheric CO₂ levels, could lead to a rapid decline of [coral reefs](#) and the marine ecosystem in the 21st century.

As the researchers write, urgent action is necessary, "It is clear from this analysis that higher ambitions for 2020 are necessary to keep the options for 2 C and 1.5 C open without relying on potentially infeasible reduction rates after 2020.

"In addition, the absence of a mid-century emission goal - towards which Parties as a whole can work and which serve as a yardstick of whether interim reductions by 2020 and 2030 are on the right track - is a critical deficit in the overall ambition level of the Copenhagen Accord."

Professor Dan Kammen, Editor-in-Chief *Environmental Research Letters* said, "The researchers provide an important lens on the ecological impacts and both social and ecological costs of inaction on climate protection."

Provided by Institute of Physics

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