

# FOCUS ON POVERTY: CLIMATE SCIENCE'S DUAL ROLE



*Image credit: Suzanne Lee / Panos*

## Speed read

- The IPCC has issued what has been dubbed a “final warning” on climate change
- Carbon Capture and Storage (CCS) could be an important solution for poor nations
- Transfer of CCS to poor nations is essential if they are to continue developing

The Intergovernmental Panel on Climate Change (IPCC) has just issued a “final warning” that the window of opportunity for keeping global warming below the critical threshold of two degrees Celsius is fast closing. It came in the shape of the ‘synthesis report’: a distilled summary of the panel’s fifth assessment report, which has been under preparation since 2009. [1]

IPCC chair Rajendra Pachauri said negotiators attending the UN's 2015 climate conference this time next year, where global agreement on [climate change](#) is due to be agreed, must “take a little closer view of the science” and take decisive action. [2] And one of the report's findings is that, to keep warming within manageable limits, we may well need to phase out fossil fuel use by 2100. [3]

Under these circumstances, science has two roles: warning of the consequences of ‘business as usual’ and outlining possible solutions.

The synthesis report calls for a radical increase in global low-carbon [electricity generation](#), including renewables and [nuclear](#), from about 30 per cent today to “more than 80 per cent” by 2050. Statistical climate models suggest that keeping warming to below two degrees Celsius will require the concentration of atmospheric greenhouse gases to be kept below the equivalent of 450 parts per million of carbon dioxide. The report warns that most models predict that, without carbon capture and storage (CCS) [technology](#), this will be impossible to achieve. A few models do suggest it will be possible without CCS, but only if “fossil fuel power generation without CCS is phased out almost entirely by 2100”.

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Roger Williamson

What about the solutions side? Mark Jaccard, an environmental economist at Simon Fraser University in Canada, has made a strong case that global energy scenarios will remain heavily carbon-dependent until at least 2050. [4] Poor countries will continue to expand their energy use if they can. If they have coal, they will burn it.

This will also be true for big industrialising economies such as China, India and South Africa, each of which is coal-rich. [Sustainable](#) development research centre the Wuppertal Institute has

carefully studied these three countries, showing both the possibilities and difficulties involved with large-scale coal-powered energy generation. [5] It shows that making cleaner the fuel burnt by India and China — together home to getting on for three billion people — is of huge importance.

In general, poorer countries should not be denied the possibility of lifting their people out of extreme poverty. To do this, they need to use more energy, and they will use whatever is available at a reasonable price.

So several things are needed. We have to end subsidies on fossil fuel production, which act as perverse incentives and distort markets by favouring carbon-based fuels. And CCS technology needs to be developed and applied, not only in rich countries, but also in emerging economies. The technology needs to be shared internationally.

But what if CCS cannot deliver improvements quickly and reliably enough, at the scale needed? Then renewables — already a vital part of the energy mix — become even more essential, and the choices get harder and costlier.

Source : <http://www.scidev.net/global/energy/analysis-blog/poverty-climate-science-role.html>