

Update #2 – Climate Change

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This past week the final report of the IPCC – the International Panel on Climate Change - issued its final report after seven years of study. Earlier reports had verified that the climate was changing, human activities were responsible for most of it, and that it has already begun to affect us. The final report focuses on its consequences, what we have to do to keep it from becoming a global catastrophe, and how long we have to do it.

Many articles, but this is a good summary:

<http://www.theguardian.com/environment/blog/2014/apr/14/ipcc-report-scientists-world-seize-opportunity-roadmap>

The bad news is that we have only a brief time period, 5 to 15 years, to make drastic cuts in our use of fossil fuels. If we don't, then anything we do later will be inadequate and too expensive. This means, as the International Energy Agency and others have stated, that we need to leave 2/3 of all the fossil fuels we know exist in the ground and unused.

The good news is that the IPCC says it is possible to make the transition away from fossil fuels using technologies we already have, and at a cost that we can afford. It is only the lack of political will that keeps us from solving this problem.

Just as this report came out, a new study was released on methane emissions leaking from shale gas wells. Methane, the main ingredient of natural gas, is a greenhouse gas that is a much stronger contributor to global warming than CO₂ (carbon dioxide). Over a 20-year period it is 86 times more powerful as CO₂ as a greenhouse gas and even after a century it is still 34 times worse. This means that if any more than 3% of the gas we extract leaks to the atmosphere, its effects on climate change are worse than burning coal.

Industry had 'estimated' that emissions were below this level, and tests at sites controlled by industry had verified that. However, recent independent testing that involved taking atmospheric readings from airplanes and towers in shale gas areas found much higher percentages of leaking, ranging from 2 to 6 times as much as industry and EPA estimates.

The new study flew over seven specific well pads that had been drilled, but not yet fracked. **They found emissions ranging from 100 to 1,000 times higher than estimates.** This indicates, if nothing else, that we, including the industry and EPA, know very little about the potentially extreme hazards associated with shale gas, particularly in light of our urgent need to combat climate change immediately.

<http://ecowatch.com/2014/04/15/purdue-cornell-researchers-methane-emissions/>

Toward a better understanding and quantification of methane emissions from shale gas development
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