



The main problem with fossil fuels is not that they are running out, but probability that the earth's atmosphere has a limited capacity for absorbing the resulting greenhouse gas emissions.

CREDIT: SHUTTERSTOCK/TTSTUDIO

IPCC puts focus on fossil fuels, not livestock

Campaign groups have complained vocally for years of the damage that greenhouse gas emissions from livestock can cause to the environment. In their most detailed report so far, scientific experts on the Intergovernmental Panel on Climate Change made it clear in November 2014 that, although methane emissions from cattle are a problem, efforts need to concentrate elsewhere, on areas that are easier to mitigate. Their main targets are fossil fuels.

The Intergovernmental Panel on Climate Change (IPCC), the world body for assessing the science related to climate change, has delivered a new synthesis document, which distills and integrates the findings of the IPCC Fifth Assessment Report produced by more than 800 scientists and released over the past 13 months. The organisation has called the Fifth Assessment Report “the most comprehensive assessment of climate change ever undertaken”. There are implications for the leather and livestock supply chain because claims from campaign groups that livestock farming ought to end on the grounds of its contribution to greenhouse gas emissions simply do not stand up to scrutiny in the light of this, the assessment of the best climate-change scientists in the world.

In contrast, the report makes it clear that our use of fossil fuels is the area in which there is the most obvious need for change. The only way our societies can continue to consume fossil fuels at anything like current rates without seeing average temperatures around the world rise by dangerous amounts would be to speed up the roll-out of carbon capture and carbon storage technology. And without widespread use of these technologies, a reduction in the use of fossil fuels, the raw material for most plastics that purport to imitate leather, will be the only way.

Irreversible impacts

“Human influence on the climate system is clear and growing, with impacts observed on all continents,” the synthesis document, which was released at a press conference in Copenhagen on November 2, states. “If left unchecked, climate change will increase the likelihood of severe, pervasive and irreversible impacts for people and ecosystems.”

However, the document also says options are available for humanity to adapt to climate change. By adapting and by implementing what it calls “stringent mitigation activities”, the peoples of the world can ensure that the impacts of climate change “remain within a manageable range, creating a brighter and more sustainable future”.

Although livestock farming comes in for intense criticism from some environmental campaigners, the same criticism is absent from the synthesis report. It says reducing emissions of non-CO₂ climate forcing agents, including methane (the gas livestock emit), can be an important element of mitigation strategies and insists that low-cost options to reduce many of these emissions are available. But it says specifically that methane emissions from livestock “are difficult to mitigate”. There are other ways to reduce non-CO₂ emissions, ways that are easier and cheaper and have a lesser impact on the availability of food worldwide and on



United Nations secretary general, Ban Ki-moon, with Danish prime minister, Helle Thorning-Schmidt, visiting Greenland in March 2014.

CREDIT: UNITED NATIONS

the ability of people in developing economies to have some access to wealth and status. And unlike other sources of methane, cattle, sheep and goats go some way towards mitigating their own emissions: they often graze on land that is not and sometimes cannot be used to grow food crops and as they eat the grass on the grazing land, new grass grows capturing carbon as it does.

Eye witness from a “common man”

United Nations secretary general, Ban Ki-moon, has drawn three conclusions from the report. “Human influence on the climate system is clear, and clearly growing,” he says. “Secondly, we must act quickly and decisively if we want to avoid increasingly disruptive outcomes. Three, we have the means to limit climate change and build a better future.” He says he needs no convincing, having seen “rapidly melting glaciers in Greenland”, during a visit there in March 2014. “I have seen it for myself,” he explains. “I can add my voice to those of the scientists, as a common man. What I have seen, I have conveyed: Antarctica, the North Pole, the Amazon River Basin, Lake Chad. I am adding a political voice to what the scientists have been working hard to show.”

There is an aim to make sure the rise in the average temperature between now and the end of this century is within two degrees Celsius. To achieve this, there is a need for humanity to act now, the UN secretary general insists. “Science has spoken,” he says. “There is no ambiguity. Time is not on our side and leaders must act to make this planet sustainable for succeeding generations.” He talks of the planet as though it were a sick child with a high temperature: any parent would take whatever measures were required (administering medicine or even visiting a doctor) to bring the child’s temperature back down. He is hopeful of a global agreement on policies to take the necessary steps at the UN Climate Change Conference that will take place in Paris at the end of 2015.

It’s not the role of the IPCC to carry out research of its own, but instead to have the experts that sit on the panel review the thousands of pieces of research (in this case more than 30,000) that academics are now producing on the subject. They do so voluntarily and have, in the words of Ban Ki-moon, no incentive other than a desire to help preserve the planet.

Beyond the sensationalist ‘ban’ headlines

The panel’s chairman is Indian academic Dr Rajendra Kumar Pachauri, whose involvement, spanning more than 12 years now, has earned him worldwide renown and it is he who answers most of the questions when the IPCC comes face to face with the global media. He takes it all in his stride, politely deferring on one or two technical points to panel colleagues, but handling most enquiries himself. The Fifth Assessment Report’s insistence that fossil fuels remain firmly in focus has attracted a great deal of media attention, even sparking sensationalist headlines suggesting the use of hydrocarbons as raw material for energy is about to be banned. Not so. The IPCC’s figures are that 35% of greenhouse gas emissions come from the energy sector, 24% from agriculture, 21% from industry, 14% from transport and 6.4% from the building sector. Of the greenhouse gases that are having a detrimental effect on the climate system, the presence of carbon dioxide has grown far faster than that of methane or nitrous oxide. Anthropogenic or human-induced CO₂ emissions have grown “very rapidly”, the IPCC says, with fossil fuels, cement and flaring (the device used to burn off unwanted flammable gas at refineries and so on) the principal contributors.

It talks about a carbon budget, which means the amount of greenhouse gas we can afford to emit to keep to that two-degree target for the average increase in temperature by the end of this century. Nothing like a century has elapsed since the IPCC began talking about this budget: it was part of the Kyoto protocol in 1997, with 2008-2012 as the first emissions budget period by when developed economies were to bring their carbon emissions below 1990 levels by between 6% and 8%. Already, the Fifth Assessment Report makes clear, 65% of that budget is used up. It is figures like this one that have led media commentators to suggest large proportions of the fossil fuels that remain may be “unburnable”. The IPCC’s position is that by 2050, emissions will have to reduce by between 40% and 70%, and go to zero, “or even below zero” (it all depends on how quickly the world can put itself on a “less carbon-intensive pathway”), by 2100 if the world wants to limit global warming to two degrees.

The right direction

Livestock farming comes at the end of a list of human activities that the IPCC groups together under the heading Agriculture, Forestry and Other Land Use (AFOLU). Its share of almost a quarter of anthropogenic greenhouse gas emissions equates to between 10 and 12 gigatonnes of CO₂ equivalent per year. This



Indian academic Dr Rajendra Kumar Pachauri has been the chairman of the Intergovernmental Panel on Climate Change for the last 12 years.

CREDIT: IPCC

is a significant amount, but one of the IPCC working groups, specifically working group three, has made some positive statements about the direction AFOLU is taking.

It puts deforestation and agricultural emissions from soil and nutrient management ahead of livestock farming as the main factors in AFOLU's contribution to global warming. It goes on to say: "Most recent estimates indicate a decline in AFOLU CO₂ fluxes, largely due to decreasing deforestation rates and increased afforestation. In the future, annual CO₂ emissions from AFOLU are projected to decline, with net emissions potentially less than half the 2010 level by 2050 and the possibility of the AFOLU sectors becoming a net CO₂ sink before the end of century."

Improvement is required in the way we use land and raise crops and animals to achieve this vision, and the working group sets out what the world's scientists believe to be the best ways to achieve that improvement. Changes have to bear in mind that AFOLU plays a central role for food security and sustainable development across the world. "The most cost-effective mitigation options in forestry are afforestation, sustainable forest management and reducing deforestation," the working group states. "In agriculture, the most cost-effective mitigation options are cropland management, grazing land management, and restoration of organic soils."

A menu of options

Dr Pachauri repeats that what he and his colleagues are presenting to the global community now is a menu of options. Substantial changes in the way we use energy is a part of the menu. He does mention phasing out the use of fossil fuels as a

possible direction to take, but only, he insists, if the global community fails to take mitigating action through ideas such as carbon capture and storage. The IPCC has made it clear that the problem we have is not so much that fossil fuels are running out, but that the atmosphere has only a finite capacity for the disposal of the greenhouse gases. This is the real challenge, and one that no discovery of new fossil fuel resources is going to help humanity resolve. Dr Pachauri is fond of quoting Ahmed Zaki Yamani, the world's most famous oil expert during the turbulent 1970s and the founder in 1990 of a market analysis group called the Centre for Global Energy Studies. Sheikh Yamani has made the point that the world needs to find new sources of energy and then move on from fossil fuels because it has found something better, not because it no longer has enough fossil fuels. His phrase is that the Stone Age did not end because there were no longer any stones on earth.

"We have provided a roadmap by which policy makers can find their way to a global agreement to tackle climate change," Dr Pachauri says. "The scientific community has now spoken, but we are passing on the baton to politicians. We have a very short window of opportunity. It's a question of exercising the choices we have. I don't think one can translate the findings of this report into fossil fuel assets becoming redundant, because with carbon capture and storage it's entirely possible that fossil fuels can continue to be used on a large scale. There's a whole list of choices that the world has available. Different countries and different societies will exercise those choices based on their national interests, but I hope also based on global interests because we all live on this planet. And there is no plan B because there is no planet B."

He thinks the global community must look at the science and at the numbers and opt for measures that mitigate against carbon emissions. Business as usual is not an option; delay is not an option. There was hope that the United Nations Climate Change Conference in Copenhagen in 2009 would lead to a new global climate agreement and to speedy action. Representatives put off making a decision, highlighting doubts raised by some voices on the soundness of the science. The IPCC's position is that its Fifth Assessment Report will render this excuse invalid. More than 800 scientific experts have examined more than 30,000 pieces of recent research on the subject. The IPCC insists the messages coming out of all this work are now crystal clear. ☺



The IPCC's working group three is optimistic about agriculture, forestry and other land use, saying scientists around the world project an annual decline in emissions from these sources.

CREDIT: IPCC