

Climate - The IPCC WG3 Report: It's 'now or never' for the planet

Sunday 1 May 2022, by [THORNETT Alan](#) (Date first published: 27 April 2022).

Alan Thornett argues that life on planet Earth is facing a perfect storm.

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The precarious agreement from COP26 in Glasgow - which was barely enough to keep the goal of a 1.5°C maximum global temperature increase alive last year - is being overwhelmed by the fall-out from Putin's brutal invasion of Ukraine.

With Russian oil and gas drenched in Ukrainian blood, European governments who are heavily dependent on it are rushing off other despots who control oil and gas extraction to plead with them for new fossil fuel contracts - rather than turning to renewables that would secure a carbon free future.

Boris Johnson has already met Crown Prince Mohammed bin Salman of Saudi Arabia - who had recently broken his own record by publicly executing 81 people in a single day - to plead with him for more oil and long-term contracts.

He has since launched a new 'energy strategy' which junks his fraudulent Glasgow rhetoric about carbon emissions reduction and turns dramatically back towards fossil fuels and nuclear energy. It proposes a major expansion of North Sea oil and gas exploration, a continuation of Britain's (scandalous) ban on onshore wind, a 'review' of Britain's current ban on fracking with a view to ending it, and eight new nuclear reactors.

Jacob Rees-Mogg, Johnson's Minister for Brexit, has said that Britain must "squeeze the last drop of oil and gas out of the North Sea."

All this means that the planet stands at a dangerous crossroads, and at the beginning of what is already the crucial decade if we are to avoid climate chaos and ecological destruction running out of control. As Noam Chomsky recently commentated: "We are approaching the most dangerous time in human history".

The IPCC WG3 Report

The (UN) *IPCC Working Group 3 (WG3) Report* on the future of the planet entitled the '*Mitigation of Climate Change*' was published on March 4 against this background.

It was the third of a trio of such reports in preparation for the *IPCC Sixth Assessment Report (AR6)* – to be published early next year. The IPCC has published five previous Assessment Reports since it was established by the UN in 1998.

The *Working Group 1 Report*, was published in August 2021, and it warned that anthropogenic climate change was rapidly becoming irreversible. The *Working Group 2 Report* was published in February this year, and it warned that there would be catastrophic impacts on the planet if action against climate change was not given much greater urgency. A final *Report* will be published in September, as a 'Synthesis' of all three. (Each Report is drafted by a panel of around 100 scientists from 80 countries, and has to be agreed, usually after much wrangling, by all 195 countries in the world before adoption.)

What makes the *WG3 Report* particularly important is that it addresses not only the scale of the environmental crisis but the measures that will be needed to mitigate as a guidance to member states in meeting their carbon commitments. This review of it is based on its 63-page *Summary for Policy Makers*.

The starting point of the Report is that greenhouse gas (GHG) emissions world-wide are still increasing and at an accelerating rate. Only 18 countries have managed to sustain GHG emission reductions for longer than 10 years. As a result of this the carbon content of the atmosphere is also continuing to rise. It was 278 ppm at the start of the industrial revolution, 394.1 ppm in 2021, and now it is 412.5 ppm and on a sharply upwards trajectory.

if we are to have a chance of limiting global warming to the Paris (and Glasgow) limit of 1.5°C, the Report concludes, GHG emissions must peak by 2025 and then almost halve by 2030. It recognises that this is a huge challenge and will only be met if drastic measures are taken with sufficient political commitment. Without such measures the average global temperature will rise by over 3°C by the end of the century with catastrophic consequences for the planet.

António Guterres, the UN secretary general, reacted angrily to this assessment. This means, he said, that the world is on a 'fast track to climate disaster' and that "some governments and businesses" he said "were lying" when they claimed to be on track for 1.5°C – and the results will be catastrophic."

The co-chair of WG3, Jim Skea – professor of Sustainable Energy at Imperial College London's Centre for Environmental Policy, and a member of both the Bureau of the IPCC and of the British government's Committee on Climate Change – told the *Guardian* that: "It's now or never, if we want to limit global warming to 1.5°C". And since IPCC Assessment Reports take seven years to draft this could be the last before the world is set irrevocably on a path to climate breakdown.

The *Report* points out that the cost of renewable energy, wind and solar in particular, it says, has been plummeting since 2010, and that fossil fuel energy is often now substantially more expensive than the renewable alternatives. It examines four major sectors of the global economy in terms of carbon reduction: agriculture, urbanisation, transportation, and the industrial sector.

Agriculture

The most extensive section of the Report is on agriculture, forestry, and land use (acronym AFOLU). It notes that whilst this sector is the most destructive to the environment it also has the potential to deliver large-scale GHG emission reductions.

Practical proposals as to how to deliver this potential, however, are sorely lacking. In fact, the root cause of the problem – which is industrialised agriculture driven by the scale of meat consumption by the human population – is not even questioned. In fact, it actually advocates more intensification at one point.

There is no mention of the devastation inflicted on the environment by beef production and the environmental consequence of chemical run-offs from the grain produced to feed the cattle. This has already created over 400 oceanic dead-zones around the world with disastrous consequences for biodiversity.

The Report talks about “sustainable healthy diets” based on plant-based foods, and that animal-sourced food should be produced in “resilient, sustainable and low-GHG emission systems”. This is all very well but it misses the scale of the problem.

The biggest agricultural challenge by far is the current global level of meat production and consumption which is unsustainable. Today, human beings consume a staggering 65 billion animals (meat and poultry) a year. They in turn consume vast quantities of corn, maize, and soy that could otherwise be eaten, far more efficiently, by the human population – including the planet’s billions of hungry people.

A third of the entire global landmass is given over to producing and maintaining animals for human consumption. 14.5 per cent of all greenhouse gas emissions worldwide come from meat production – the same as the entire emissions from all form of transport: cars, lorries, buses, ships and aircraft.

Urbanisation

The Report points out that 55 per cent of the world’s 7.9 billion inhabitants live in cities or Mega-cities with populations up to almost 40m. Tokyo-Yokohama has 37,840,000 and Jakarta 30,539,000. Nor is this process slackening. It estimates that there will be 2.5bn more people living in cities by 2050 – with a new city of 10m being added every 10 days.

It concludes that GHG emissions in these cities could be reduced by three gigatons a year by 2050 – depending on a city’s land use and development level. The measures needed, however, should include the insulation and retrofitting of building both residential and non-residential, the repurposing of buildings, and the development of low carbon public transport plus a major expansion of “non-motorised” forms of transport such as cycling and walking.

Such cities it says: “can avoid future emissions by co-locating jobs and housing to achieve a compact urban form, and by leapfrogging or transitioning to low-emissions technologies. New and emerging cities will have significant infrastructure development needs to achieve high quality of life, which can be met through energy efficient infrastructures and services, and people-centred urban design.”

The Report recognises, however, that the insulation and retrofitting of buildings is painfully slow world-wide. In fact, emissions from both residential and non-residential buildings, it says, has increased by over 50% since 1990. This has mainly been driven, it says, by population growth and

the increased use of emission-intensive electricity and other fossil fuels. Lack of progress in this area, it says, increases the risk of locking in carbon for decades to come while if properly carried out it could make a major contribution towards meeting the targets set in Glasgow and beyond.

At the current rate of progress, it concludes, even the ultra-conservative target date of 2050 for completion of such retro-fitting will not be met.

Transportation

The Report focusses on electrification, and points to the production and the sales of (EVs) - light vehicles (cars and vans) - which is increasing all the time, not least because of the decisions to ban the sales of new combustion engine vehicles by 2030. It concludes that the transportation sector offers the biggest cuts in carbon emissions available to us in a short period of time.

The cost of running an EV, it points out, is falling fast - including the cost of the batteries. A global switch to EVs, it says, could cut carbon emissions very substantially, particularly in the developed countries. In fact, "EVs, powered by low emissions electricity (it says) offer the biggest decarbonisation potential available for land-based transport, on a life cycle basis."

It points out that EV's also have major health and environmental benefits , including improved air quality and reduced traffic congestion - particularly in the big cities. (WHO figures for global deaths from air pollution, most significantly road transport, is 3.3m people a year).

When it comes to heavy vehicles, however, such as heavy land vehicles, shipping and aviation, the Report proposes the use of biofuels and synthetic fuels - neither of which are ecologically acceptable. It also gives the impression that air travel can be decarbonised to a significant degree. There is no basis for such a view. Aviation, in my view, will have to be hugely cut back with severe restrictions on long-haul flights and short-haul domestic flights banished altogether.

The industrial sector

The most difficult sector to address, the Report argues, is the industrial sector, which it says is "challenging but possible". "Progressing towards net zero GHG emissions from industry will be enabled by the adoption of new production processes using low and zero GHG electricity, hydrogen, fuels, and carbon management."

It points out that the use of steel, cement, plastics, and other carbon heavy materials is increasing globally. There are many sustainable options, it says, such as management efficiency and circular material flows that can contribute to reduced emissions. How these can be applied will vary across regions and different materials... "These options, as well as new production technologies, are generally not considered in recent global scenarios nor in national economy-wide scenarios due to relative newness. As a consequence, the mitigation potential in some scenarios is underestimated compared to bottom-up industry-specific models."

Individual responsibility

The Report rightly sees a major role in individual action and the creation of low carbon lifestyles, which it terms "demand-side mitigation". While the principal responsibility to stop climate, change

lies at governmental level there is also a responsibility on the individual people to minimise their impact on the planet where they are in a position to do so – particularly in the global North.

By 2050 such action could reduce GHG emissions globally by 40 –70 per cent “compared to the 2050 emissions projection of two scenarios consistent with policies announced by national governments until 2020”. This could involve adopting a balanced and healthy diet (hopefully this means less meat), choosing long lived and repairable products, recycling, repurposing, and the reuse of metals, plastics and glass, the use of public transport and shared mobility, plus walking and cycling, a major shift towards electrified vehicles, better urban planning and design and a more rational use of living space and conserving water.

According to a report produced by Cambridge University and the Massachusetts Institute of Technology entitled Domestic Energy Use and Sustainability, domestic energy in Britain – i.e. usage that arises from choices made in the domestic situation, amounts to 58 per cent of total usage. In the USA it is even more, at 65 per cent.

Big problems remain

Although the Report is a step forward in terms of an analysis of the depth and severity of the environmental crisis, the responses it proposes fall a long way short of the mark.

It fails, for example, take the issue of growth properly into account- either economic or demographic. It refers to it but does not recognise the scale of the problem. The global human population is growing by 80 million people a year – and is likely to do so for most of the rest of this century – which adds to the growth arising directly from capitalist accumulation which is seen as crucial for future economic stability. This in turn adds an upward pressure on the global human carbon and ecological footprint.

It supports nuclear power as one of the ‘options’ towards low carbon energy that the member states should consider. It does not do so with great enthusiasm, but it does so just the same. (The others being wind power, solar power, hydro-power, geothermal energy and bio-fuel – which is also seriously problematic.) Nuclear power is not only prohibitively expensive – which the Report accepts – but it is highly dangerous. The issue of the disposal of nuclear waste remains unresolved and, as the invasion of Ukraine has reminded us, it is vulnerable to military action and political turmoil.

It makes Carbon Capture and Storage (CCS) and Direct Air Capture (DAC) – sucking vast quantities of carbon from the atmosphere by a vast number of machines and finding somewhere to store it – crucial to balancing its carbon books. Yet neither of these technofixes exist in a remotely usable form, and are not about to do so. It is hard to believe that such fixes are being seriously considered as a crucial component for a zero-carbon planet. It is a big problem.

The Report also embraces the concept of ‘net’ zero emissions. This is seriously problematic since it allows bogus offsets to be used to circumvent the nationally determined carbon reduction pledges made at COP conference. It is like saying that these pledges are crucial to the future of the planet, but here is the escape route if you don’t fancy implementing them.

At the strategic level, the Report has no exit strategy from fossils that could generate the mass support that would be needed to implement to make a rapid changeover to renewable – for example a major transfer of wealth from the rich to the poor in order to protect the most vulnerable in society. It has plans for a socially just transition from fossil fuel to renewable energy that would protect jobs and living standards and worker’s rights in the course of such a transition and without

which many of the changes could meet strong opposition.

Conclusion

The climate movement came out of COP 26 in Glasgow stronger than it went in – despite the fragility of the formal gains made at it. This has been demonstrated not least by the recent XR mobilisations against fossil fuel which have been excellent.

Putin’s invasion of Ukraine, however, has put all this at risk, including the next climate summit which is COP27 in Sharm el-Sheikh in Egypt in November this year, which could now be fatally damaged before it starts, with potentially disastrous consequences for the future of the planet. Instead of building on the gains of Glasgow, we could find ourselves unable to even defend them in such a situation let alone make improvements.

This defines the role of environmental activists for the rest of this year. A defeat for Ukraine would be a defeat for the planet. We have to stand in solidarity with the Ukrainian people in opposing Putin’s invasion and defending their right to self-determination, and at the same time step up the mobilisation for Sharm el-Sheikh to ensure that the gains of Glasgow are not only defended but that new national pledges are made that can turn the corner on climate change and break the addiction to fossil fuel.

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P.S.

• Red Green Labour. April 27, 2022:
<https://redgreenlabour.org/2022/04/27/the-ipcc-wg3-report-its-now-or-never-for-the-planet/>