

# Can Developing Countries Pursue the Dual Goal of Carbon Neutrality and Economic Growth?

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## Introduction

The influential 2018 IPCC Report painted an alarming picture of the implications of a 2 degree versus a 1.5 degree scenario for global warming. In the wake of the report, countries covering over half of global GDP had (as of June 2021 – according to the World Resources Institute) committed to reach carbon neutrality in their economies, usually expressed in terms of reaching ‘Net Zero’ by (mostly) 2050. This will be a stretch for any country. But for developing and emerging economies, many of whom have experienced a big economic shock from the pandemic, it will be especially challenging. Often, their position is exacerbated by currency depreciation and/or greater exposure to the effects of climate change – including extreme weather events or diminished viability of traditional crops. It is legitimate and important, therefore, to ask whether they will be able to attain carbon neutrality while lifting their populations out of poverty. In doing so, we need to recognise the wide variations within this somewhat loosely defined group – in terms of stage of economic development, the characteristics of their energy sectors, differing natural resource endowments, and share of population having access to modern energy services. So what follows is an attempt to pull out the extent to which they may face different challenges, or have different opportunities, from advanced economies – typically, but not universally, so.

## GDP Growth and the Trajectory of Carbon Emissions

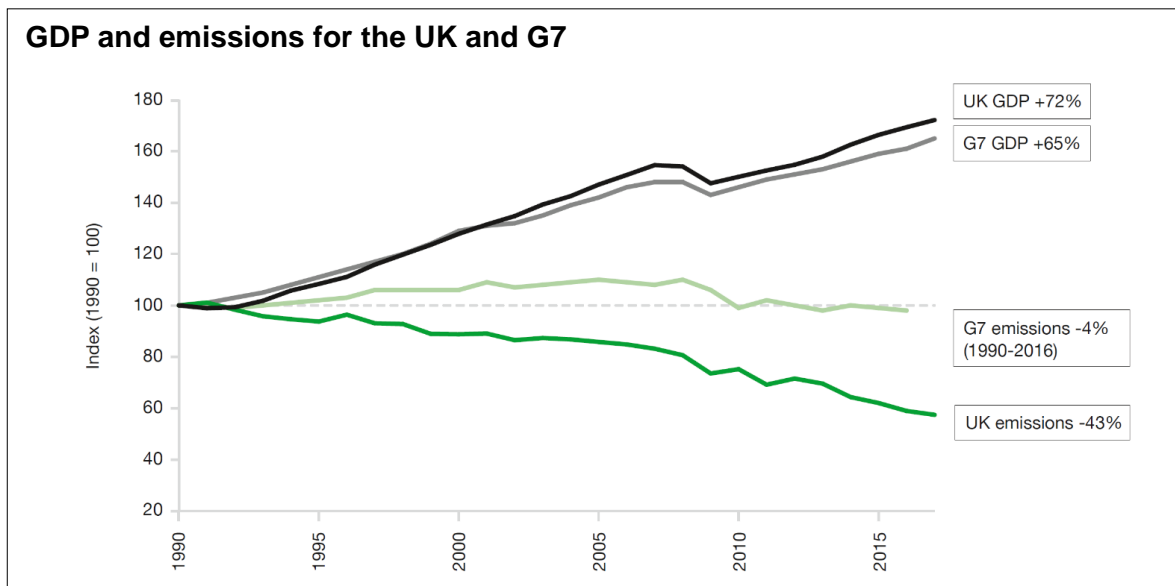
Historically, GDP growth has been closely correlated with increases in carbon emissions. However in developed countries this link appears to have been broken, if one takes the chart below at face value.

But there is a caveat here. While much of the decoupling has indeed been driven by changes in fuel use, the application of clean technologies, and/or enhanced energy efficiency, some of it also comes from offshoring production of goods consumed in those countries. This has led to an increase in emissions attributed to the *producing countries* and an equivalent reduction for the *countries which are importing those goods*. The effect is significant: in 2015, net imports constituted one-third of the material-related carbon footprint of the EU; while net exports amounted to 13% of China’s material-related emissions and 18% of the emissions from the BRITS (Brazil,

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Russia, Indonesia, Turkey, South Africa).<sup>1</sup>



## Opportunities and Challenges for Developing Countries in the Low Carbon Transition

Attribution of responsibility for emissions is particularly relevant to developing countries. Many of those economies may be more reliant on sectors lower down the value chain, and their economic strategy may entail growing such sectors further by utilising low cost labour. This method of accounting for a country's emissions potentially disadvantages them further; it goes to the heart of how 'Net Zero' is defined for an individual country, given the current emphasis in international negotiations on national contributions to reducing emissions. (Of course this is not the only accounting issue around countries' responsibilities – others include the weight to attach to historical responsibility for the concentration of GHG's in the atmosphere, or the significance of per capita emission levels. But those are debates for another article.)

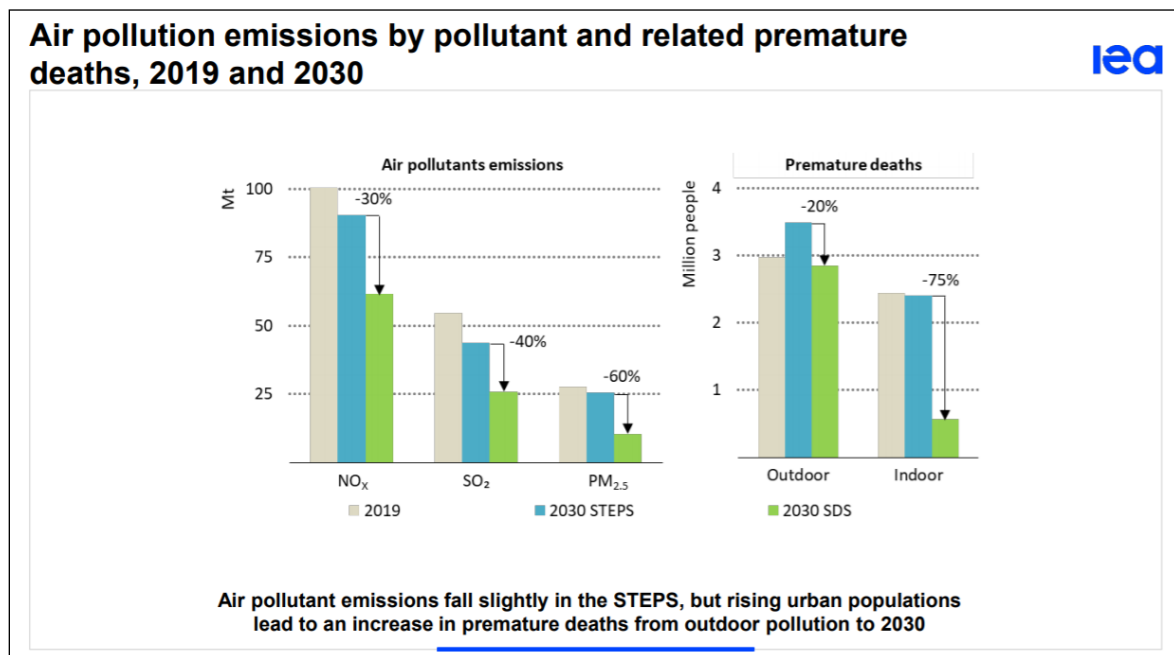
If one accepts (as I do) that clean economic growth is now entirely feasible, given the availability and cost competitiveness of zero (or at least near zero) carbon technologies, the most important challenge for developing economies is how to secure the needed investment. Some are 'locked in' to carbon intensive legacy infrastructure, such as low efficiency coal fired power generation. For these countries, funding the early retirement of such assets on a large scale is even more of an issue than for richer countries who have been progressively investing in higher efficiency and cleaner generation. To take just one example, coal plant retirements have been running at a record level in the US and no new coal plant projects are on the horizon. Most new build coal generation is concentrated in less advanced economies.

<sup>1</sup> Increased carbon footprint of materials production driven by rise in investments.

Nor will those countries benefit from any recently discovered oil and gas reserves to the same extent as long established oil and gas producing regions. Recent IEA analysis of oil demand and prices under a net zero pathway<sup>2</sup> implies a price of \$35 per barrel in 2035, which one suspects would offer little or no return for projects which are at an early stage in their lifecycle, and hence their payback period. Much attention seems to have focused on the destabilising effect of reduced oil demand/prices in traditional oil producing countries; less so on the implications for countries newly developing such resources.

The impact on developing countries' economies of the transition away from traditional fuels is not necessarily wholly negative. The net impact may even be positive. Energy efficiency (a key component of the transition to Net Zero) is now assessed as a larger driver of economic growth than most assume<sup>3</sup>. It could well be a source of improved competitiveness for early adopters, and also underpin affordability for the consumer; but only with the right policies in place to encourage investment in high efficiency appliances or energy services.

For those countries who are net importers of oil and gas, reducing the carbon intensity of their economies will reduce balance of payment deficits, and their exposure to oil (or gas) price volatility. Perhaps most immediately, clean energy solutions will reduce deaths (and illness) associated with air pollution. Even without attributing a specific value to avoided premature deaths, or pollution induced illness, this is clearly worth a lot in economic terms – as well, obviously, as in human ones.

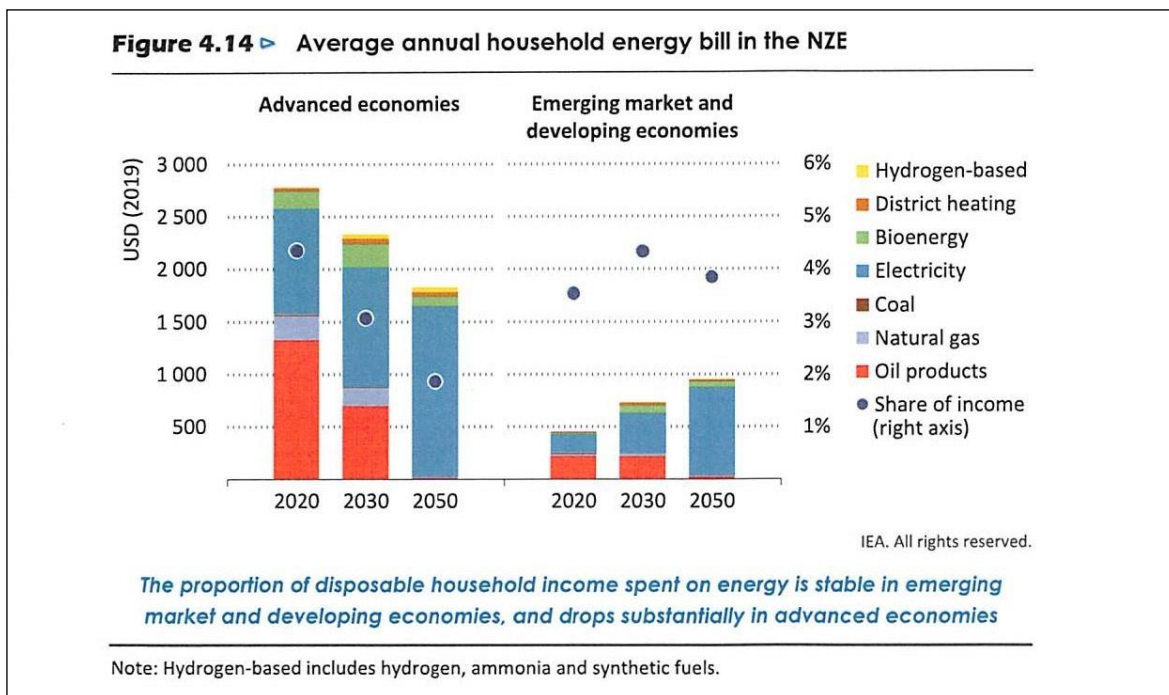


Moving to clean sources of energy not only drastically reduces mortality and morbidity associated with air pollution; it helps tackle the lack of access to electricity currently afflicting

<sup>2</sup> IEA 'net Zero by 2050 – A Roadmap for the Global Energy Sector', May 2021.

<sup>3</sup> 'Energy efficiency contributed 25% of UK economic growth between 1971 and 2013', Guest post, Dr Paul Brockway, Dr Marco Sakai, Prof John Barrett and Prof Peter Taylor, Carbon Brief.

hundreds of millions of people – damaging their quality of life and constraining their ability to lift themselves out of poverty. As well as access, the question of affordability must also be addressed. The IEA assesses that increases in household energy bills will be relatively minor, but international development assistance needs to flow to prevent this becoming a barrier to universal access to clean energy.



This matters enormously, for developing economies face a larger requirement for clean energy investment and do so from a weaker economic position. The pandemic hit to their economies may be expected to persist at least until their vaccination rates catch up with advanced economies, and probably even beyond. Again the contrast with the advanced economies is stark – developing economies are likely to have neither the balance sheet, nor the borrowing power, to inject significant stimulus to help their economies recover and to do so in a way to advance their path to Net Zero. The question to my mind therefore is not whether they can attain Net Zero while fostering the economic growth needed to give their citizens an adequate standard of living. Rather, it is whether they can be helped to get the necessary investment flowing on a scale that will set them on a clean energy growth path. Richer countries must urgently make good on their promise, from as long ago as COP 15 in Copenhagen in 2009, to mobilise \$100bn a year to support climate mitigation and adaptation measures in less affluent parts of the world. There must be development aid to build capacity in developing countries – otherwise the development and implementation of fit for purpose policy frameworks will take too long. Examples abound of what can be achieved – such as the Under2 Coalition ‘Pathway’ project run by the Climate Group, supported by the Norwegian government. But they are far from widespread enough. Without the right policy frameworks, the risk premium attached to the cost of capital in developing countries will rule out many otherwise viable projects. Unless private investors can be given confidence in the protection

of private property rights, and in the predictability of regulatory decisions, the rate of flow of such investment will be inadequate to save the climate from catastrophic levels of climate change.

It is a matter of enlightened self-interest for advanced economies to accelerate the ramp up of investment in the developing world – if only to safeguard the planet as a place fit for human habitation. But enlightened self-interest extends further even than that, to include greater overall prosperity: joint modelling by the IEA and the International Monetary Fund estimates that making the investments needed during the current decade to get to Net Zero by 2050 would add 4% to global GDP by 2030<sup>4</sup>. One may wonder why governments are not moving faster to do so.

#### Writer's Profile

##### Joan MacNaughton

Ms. MacNaughton chairs The Climate Group and the International Advisory Board of the New Energy Coalition, and is a Non Executive Director of En+ Group plc., and of Heathrow Airport Holdings Limited. She sits or has sat on several other boards in the academic, public and corporate sectors, and the Advisory Boards of the Grantham Institute, the Joint Institute for Strategic Energy Analysis, and Engie UK plc. She is one time Vice Chair of the UN High Level Panel on the CDM, former Chair of the Governing Board of the IEA, and a former Director General of Energy in the UK Government.

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<sup>4</sup> IEA 'net Zero by 2050 – A Roadmap for the Global Energy Sector', May 2021.