

Mitigating Climate Change Through the Net Zero Economy



What is the Net Zero Emissions Target?

The Net Zero concept refers to realizing a total balance between the greenhouse gas emissions produced and emissions removed from the atmosphere. We achieve net zero when the amount of emissions we add is no more than the amount we take away. A common example often used to describe the Net Zero concept is the 'bath-with-the-taps-on' principle. If we think about it like a bath; turn on the taps and we add more water and pull out the plug and water is drained. Thus, the volume of water in the bath depends on both input from the taps and output through the plughole. To maintain the volume of water in the bath at the same level, there is need to ensure that the input and output are balanced. But one would wonder if there is a difference between Net Zero and Gross Zero and given the impact of emissions on the planet, why wouldn't we aim to achieve Gross Zero or Zero as opposed to Net Zero. We aim for Net Zero because Gross Zero or Zero would mean bringing an end to all emissions, which isn't realistically achievable across all sectors of our lives and the economy; as even with the best of efforts there will still be some emissions.

Attaining the Net Zero Emissions Target

Given that the Net Zero concept considers that some emissions are produced by 'hard-to-control' sectors such as aviation and manufacturing (where reduction of emissions is either too expensive, technologically too complex, or simply impossible) the residual emissions from these sectors are permissible provided they are offset by removing emissions via natural or engineered sinks. Naturally, emissions can be removed from the atmosphere by planting trees to absorb carbon dioxide through photosynthesis. Technologically, emissions can be removed through a set of emerging technologies such as carbon capture and storage, direct air capture, using hydrogen as an alternative to methane, and finding other ways to change industrial processes towards cleaner production.



COP26 and the Race to Zero

As countries assemble at the UN hosted COP26 climate summit in Glasgow, the UK Government calls on the global private sector to join the 'UN Race to Zero' drive. This is necessary because both large and small businesses across all sectors of the global economy have critical roles to play in reducing their environmental impact and developing green technologies that sets the world on a path to reaching the Net Zero target. In the UK, for example, over 2000 small businesses have pledged to reduce their emissions by joining the Race to Zero. Altogether, more than a fifth of the world's 2000 major businesses have committed to Net Zero targets.

The Race to Zero will be achieved not only by setting bold targets for the future but also by following it up with action. This means that countries and businesses will be investing more in technologies such as renewable energy projects to accelerate the Net Zero transition. Acting on climate change via the Race to Zero drive will help businesses grow, take hold of new opportunities, create more jobs, inspire more investments, and be resilient against the challenges of a changing planet. Reducing emissions can also lower the running costs of businesses, save money, and attract new clients, which ultimately helps to maintain a competitive advantage both locally and globally.

Nigeria's 2060 Net Zero Emissions Target

Along with more than 130 countries, Nigeria has pledged to reach Net Zero emissions in the next several decades. Being Africa's largest oil producer, Nigeria has committed to achieve Net Zero emissions by 2060 while also emphasizing the importance of gas as a transition fuel. Nigeria's Net Zero commitment is consistent with other oil producing countries such as Saudi Arabia and the United Arab Emirates, which also pledged to achieve carbon neutrality by 2060. Speaking at the COP26, Nigeria's President Muhammadu Buhari said that although the country was already experiencing adverse effects of climate change, but due to challenges of energy access and issues related to energy poverty, it will rely heavily on gas for a stable energy transition. According to President Buhari, relying on gas would enable Nigeria to launch long-term renewable energy infrastructure procurements and investments needed to attain sustainable energy supply. The main challenge for Nigeria's Net Zero ambition would be funding; as earlier this year, President Buhari noted that the country will require more than \$400 billion to build infrastructure for generating, transmitting, and distributing electricity to reduce overreliance on fossil fuels.



PwC's Net Zero Economy Index: Code Red to Go Green

The PwC Net Zero Economy Index tracks the degree of decarbonization of the G20 across energy-related emissions. Amongst the G20, Mexico and Indonesia had the highest rates of emissions reduction in relation to their economic growth. Across the two countries, energy-related emissions dropped by 12.4 and 10.6 percent, respectively on 2019 levels, mostly because of economic restrictions from the COVID-19 pandemic. It is important to note, however, that these results are likely to be isolated occurrences as opposed to evidence of a long-term trend as each country has declared plans to invest on fossil fuel production in 2021.

As of 2020, global decarbonization was only 2.5 percent. Achieving the goal of the Paris Agreement of limiting warming to 1.5 degrees Celsius and delivering Net Zero would require more than five times increase in the rate of global decarbonization every year. On the other hand, the Intergovernmental Panel on Climate Change (IPCC) issued a code red that there is more than a 50 percent chance that we will reach 1.5 degrees Celsius within the next two decades if emissions continue at current rates. Whereas many countries have reinforced their pledges, the ambitions are not anywhere close to keeping global warming to 2 degrees Celsius much less 1.5 degrees Celsius. Though the PwC Net Zero Economy Index of 2021 finds that a decarbonization rate of 12.9 percent (which is more than five times greater than what was achieved over the preceding year and eight times faster than the global average over the course of the 21st century) is essential to halve global emissions by 2030 to achieve Net Zero by mid-century.

Converting Climate Pledges into Action

Governments have a crucial role to play in creating the enabling environment for the transition to Net Zero through policy and regulatory reform and investment. National targets need to be underpinned by policies that will deliver change at the pace and scale required. These policies will vary by nation, depending on the socio-political and economic context, but need to set the regulatory environment that businesses and individuals operate within, and encourage capital to be deployed to the right places. This requires clear all-embracing strategy and ambition, long-dated policy mechanisms and the removal of fiscal or other disincentives.

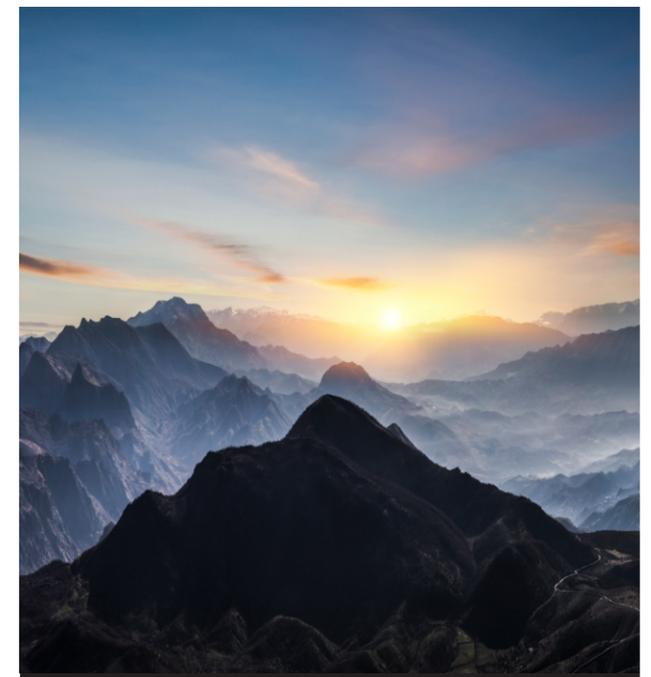
A significant step to helping achieve Net Zero is the phasing out of coal from a nation's energy mix. This is a central milestone to achieving Net Zero and reducing energy-related emissions according to the International Energy Agency, with a

need to end the approval for development of any new unabated coal plants from this year onwards. Coal phase out is a contested issue, with some G20 countries pushing for phase out by 2025, whereas for others it continues to be a major part of their power sector energy mix and wider energy plans. For these states, ensuring a just transition in tandem with coal phase out will be key.

Economic levers are another method by which a nation can reach Net Zero. Carbon pricing is widely agreed by economists to be the most effective way for a country to reduce their emissions. The International Monetary Fund estimates that setting fossil fuel prices that reflect their true cost (which is currently not the case) would cut global carbon dioxide emissions by over a third. Over half of the G20 nations have a form of carbon pricing in place at the national level, be this a carbon tax or an emissions trading scheme, and other countries are likely to follow suit. Notably, China's national emissions trading scheme became operational earlier this year. It is estimated that 21.5 percent of global emissions are currently covered by carbon pricing initiatives implemented or scheduled to be implemented. There is an expectation that carbon pricing will be increasingly used to deliver carbon reductions, with this ultimately flowing down to businesses.

Transport comprises 24 percent of global greenhouse gas emissions, making the mass-market adoption of alternative fuel vehicles a key focus area for economies around the world. The transition to electric vehicles is a key policy focus of many of the G20 nations, with targets set on the proportion of electric vehicles on the roads, the development of electric vehicle infrastructure, or the phase out of internal combustion engine vehicles, often using a combination of policy instruments.

Renewable energy targets, backed up by policy enablers to catalyze investment, are crucial to decarbonizing economies. Whilst grid-based renewables have advanced significantly over the past 20 years, governments are now focused on advanced energy storage solutions and the hydrogen economy.



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