

View

The Rush for Carbon Neutrality

'Carbon-neutrality' is a term that is buzzing increasingly as a growing list of companies and countries announce dates for when they intend to become carbon neutral or net zero. In May-21, the German government has approved a bill that would reduce greenhouse gas emissions with the goal of becoming climate neutral by 2045, 5-years earlier than previously planned. Just as the earlier multilateral climate agreements led to the HFC phase-out and trading of carbon credits, the carbon neutrality targets have implications for businesses and investing.



What is carbon neutrality: Carbon neutrality means that you bring your net greenhouse gas (GHG) emissions down to net zero through climate actions; achieved through a mix of reducing emissions (like shifting to renewable energy) and having balancing off-sets (carbon capture, afforestation). Carbon-neutrality does not mean that a country would bring down its emissions to zero. Rather, it is a state in which a country's emissions are compensated by absorption and removal of greenhouse gases from the atmosphere. Net zero emission means that humanity must remove as much carbon as it emits each year.

Why carbon neutrality:

- The Paris Agreement is a legally binding international treaty with a target to prevent the global temperature rising more than 2 °C above pre-industrial level in order to substantially reduce the impacts of climate change.
- The UNFCCC launched the Climate Neutral Now Initiative to encourage a climate neutral world by 2050 as enshrined in the Paris Agreement. Over 400 organizations globally (from football teams to airlines) have signed up.
- As per IPCC's 2018 special report - In order to achieve the 1.5 °C target, CO2 emissions must decline by 45% over 2010 - 2030, reaching net zero by around 2050.

IPCC's Assessment Report – Climate change data summarised by Scientists

The Intergovernmental Panel on Climate Change (IPCC) is a body formed under the UN in 1988 and governed by delegates of the member states. It elects a new bureau of scientists (for ~6-7 years duration), which in turn undertakes a systematic review of all relevant published literature and compiles the key findings into "Assessment Reports". These reports provide a comprehensive update on climate change, its effects, and potential strategies for policy makers (including the UNFCCC) and the general public. IPCC's review process has been described as the biggest peer review process in the scientific community. The IPCC's Fifth Assessment Report won the 2007 Nobel Peace Prize for contributions to the human understanding of climate change. IPCC's First Assessment Report was released in 1990 and the Sixth Assessment Report is being released in stages starting with the Physical Science report released in Aug-21.

Evolving understanding of climate change with successive Assessment Reports

With each report building upon the previous knowledge base, there has generally been a steady evolution of our understanding of climate change and levels of scientific confidence from one assessment report to the next. Before moving to what the Sixth assessment says, we highlight what the previous reports have said:

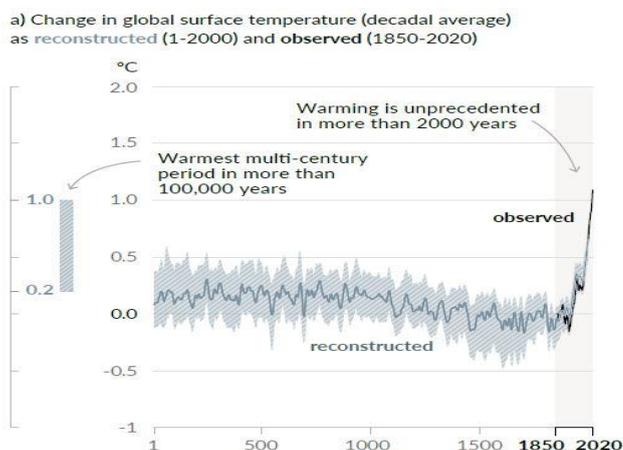
- 1st Assessment - Global mean surface temperatures had increased by 0.3-0.6 °C over the past 100 years and would rise by 0.3 °C per decade in the 21st Century.
- 2nd Assessment – Evidence suggests a discernible human influence on global climate change.
- 3rd Assessment – 66% probability that the observed warming is due to human activities. Subsequent reports have raised the probability from 66% to 90%-100%.
- 4th Assessment - Warming would continue for centuries even if GHG emissions were reduced, due to the time scales associated with climate processes and feedbacks.
- 5th Assessment – Business as Usual projections suggest an increase in global mean temperature in 2100 of 3.7°C to 4.8°C.
- 6th Assessment – Global surface temperature was 1.09°C higher over 2011-2020 than between 1850-1900 with larger increases over land (1.59°C) than over oceans (0.88°C).

IPCC's Sixth Assessment Report released in August – raises alarms anew

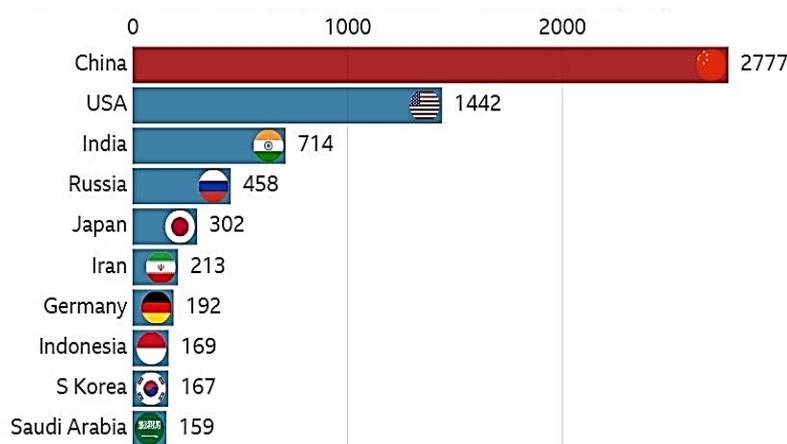
- Temperatures will reach 1.5°C above 1850-1900 levels by 2040 and keep rising till at least 2050 under all emissions scenarios.
- Human-induced climate change is already affecting many weather and climate extremes in every region across the globe (with more frequent heat waves, floods, droughts, fire weather) and the impact will further intensify with increasing warming. The report explores regional impact in greater detail.
- Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO₂ and reaching at least net zero CO₂ emissions, along with lower CH₄ emissions occur in the coming decades. The report presents Global warming estimates at various emission levels.

In summary, a hotter future is now essentially locked in and the Paris Agreement targets will be breached at the current rate unless there is further action taken urgently to reduce GHG emissions by around 2050 to prevent a more harrowing future.

Changes in global surface temp relative to 1850-1900



Carbon Emissions (mn tns of CO₂ pa in 2019)



Rising pressures on India to decarbonise

There have been a series of international treaties - Montreal Protocol (1987), Kyoto Protocol (1997), Paris Accord (2015) – each with progressively more ambitious climate action targets though falling short on implementation. The net-zero goal does not figure in the 2015 Paris Agreement - which only requires countries to set and take the best climate action it can. The latest IPCC report calls out for more aggressive policy actions, and will add to the pressure on governments to act. Several European countries have enacted laws to reach carbon neutrality by 2050 with even China promising to be net-zero by 2060. The new US President in Apr'21 has also committed to a 2050 target. Keeping its growing energy needs in mind, India is averse to committing internationally to a target but the pressure may increase in coming years. India currently has pledged to reduce its carbon footprint by 33-35% over 2005-30, which it is on track to achieve sooner.

Market implications

For the coming decade, climate change action has wide ranging implications in policy making, business and investing. For policy makers, it's imperative to incentivise EVs, Renewables and Green Hydrogen – opening up multi-year growth opportunities. This is already happening in India and which we will cover in more detail subsequently. There are also plans for disincentive measures, like the carbon border tax proposed by the EU.

As an increasing number of Global companies aim for carbon neutrality, it has implications for their entire supply chains, including exporters from India. At a company level, carbon neutrality will be an important factor of ESG goals. The rise of ESG and Carbon Neutral Funds is another factor that would compel listed companies to watch out for their carbon footprint. Infact, Microsoft has not only targeted to be carbon negative by 2030, but by 2050, also remove all its cumulative historical carbon emissions since it was founded in 1975. Soon, net-neutral and net-zero is not going to be enough and companies will have to look beyond at net-negative if they are looking to remain at the forefront!

Happy Investing !

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