**Net-zero targets**

Zile Huma

Thursday, Jul 20, 2023

While talking about climate change issues, the term ‘net-zero’ is used very often. According to the United Nations Climate Action literature, net-zero refers to a reduction of Greenhouse Gas (GHG) emissions nearly to zero and the remaining emissions re-absorbed from the atmosphere by oceans and forests.

Our World in Data says that the “energy sector is attributed for 73.2 [per cent], agriculture, forestry, and land use 18.4 [per cent] industry for 5.2 [per cent], waste 3.2 [per cent] for global carbon emissions.”

Net zero targets are important to keep the global temperature below 2.0 degrees Celsius and limit it to 1.5 degrees Celsius. The signatories of the Paris agreement set their net zero targets in their Nationally Determined Contributions (NDCs). Around 70 countries covering 76 per cent of global emissions have committed to reaching net zero targets. These countries also include the highest carbon emitters like China, the US, and the EU.

Similarly, 1000 cities, 1000 educational and 400 financial institutions have also joined hands to reach the target of net-zero by 2030. But unfortunately, these commitments are attractive slogans only. The economic interests of nations stop them from taking concrete steps to achieve these targets.

On the other hand, there are some countries that have reached targets of net-zero. According to the World Economic Forum, eight small countries with less population and blessed with natural forests have already achieved net-zero targets. These countries include Bhutan, Comoros, Gabon, Guyana, Madagascar, Niue, Panama, and Suriname.

All countries need to realize this climate emergency and take practical steps to achieve net-zero targets. This can be achieved by adopting a dual strategy of emission reduction and emission removal in the atmosphere.

Keeping in view the first strategy of carbon reduction, several steps can be taken by countries to reach their net-zero claims. First of all, willingness and solid commitment to give priority to protecting our planet rather than seeking economic interests is required.

Second, since the energy sector has the highest contribution to global carbon emissions, we need to identify and utilize clean energy for various sectors like transport and industry. The potential of clean energy in the form of solar, wind, and hydro is not being fully utilized. According to the International Renewable Energy Agency (IREA), 90 per cent of the world’s electricity can come from renewable energy resources by 2050.

The transition to clean energy has many other advantages apart from achieving net-zero targets. It is easily available in all countries, has economic viability, job opportunities, and is healthier as compared to energy produced from fossil fuels. The upfront cost of renewable energy is a challenge for many developing countries. They need financial and technical support to install and promote clean energy projects. But this initial cost of renewable investment is far less than the socio-economic losses faced by climate-hit countries in the form of floods, heatwaves, droughts, and melting glaciers. Rich nations responsible for climate change disasters should extend their financial and technical support to developing countries to cover the initial costs of clean energy projects.

Similarly, agriculture and livestock are important contributors to Greenhouse Gases (GHG). Forests are cut down to clear land to be utilized for agriculture causing more emissions in the atmosphere. Fertilizers used for crops also release some Greenhouse Gases (GHG). Crop burning after harvesting to clear stubble and weeds is also a significant cause of carbon emissions. We need to adopt sustainable agriculture to reduce emissions.

One sustainable pattern that can be adopted in the agriculture sector is crop rotation. Throughout the year, different crops can be grown on the same piece of land according to the season to reduce deforestation in the agriculture sector. An enzyme has been discovered that can decompose residues of crops in a few days when sprayed. This option can be further explored to be utilized on a commercial basis to prevent crop-burning practices.

We can also alter our eating habits by relying on the consumption of food whose production process releases less emissions. Instead of burning crops an alternative means of disposing of remains of crops should be identified and farmers educated regarding it.

Under the second component of emission removal, we need to increase our forest restoration and preservation. More plantations are required to remove carbon from the atmosphere. There is a carbon capture technology under consideration. Effective utilization on a commercial level can solve this problem to a great extent.

Agriculture soils are deficient in carbon due to continuous ploughing and grazing. Cover crops can be grown when fields are otherwise barren so as to have a photosynthesis process throughout the year which is important to remove carbon from the atmosphere.

Similarly, carbon capture from source points like coal plants and then storing it underground or in a sea-bed can also help remove significant amounts of carbon dioxide from the atmosphere. According to the International Energy Agency, Carbon Capture and Storage (CSS) can remove as much as 20 per cent of total CO2 emissions from industrial and energy production facilities.

In addition to this, both strategies of emission reduction and removal require mass-level awareness campaigns at the grassroots level to apprise people about new technologies and techniques to implement these strategies.

The writer is a graduate of University of Oxford in Public Policy. She tweets @zilehumma\_1