Net Zero Emission

Global net zero emissions describes the state where emissions of greenhouse gases due to human activities and removals of these gases, are in balance over a given period. It is often called simply net zero. In some cases, emissions refers to emissions of all greenhouse gases and in others it refers only to emissions of carbon dioxide.

How to reach net zero?

To achieve net-zero emissions, rapid transformation will be required across all global systems in order to reduce emissions – from how we power our economies, to how we transport people and goods and feed a growing population.

Approaches that would achieve net zero emission:

- Actions to reduce their own emissions
- Actions to directly remove carbon dioxide from the atmosphere
- Purchasing carbon credits

1. **Actions to reduce their own emissions:**

Robust net zero standards require some factors to reduce their own emissions as much as possible following science-based pathways. They must then balance their residual emissions using removals and offsets. This typically involves shifting from fossil fuels to sustainable energy sources. Residual emissions are emissions that are not practical to reduce for technological reasons.

2. **Actions to directly remove carbon dioxide from the atmosphere:**

Carbon dioxide removal (CDR) is a process in which carbon dioxide is removed from the atmosphere by deliberate human activities and durably stored in geological, terrestrial or ocean reservoirs, or in products. This process is also known as carbon removal, greenhouse gas removal or negative emissions. Planting tree is a nature-based way to temporarily remove carbon dioxide from the atmosphere.

3. **Purchasing carbon credits:**

Carbon credits can also fund initiatives that aim to avoid emissions. One example would be energy efficiency retrofits or renewable energy projects. Carbon credits can be used to fund carbon removal projects such as reforestation.

10 key solutions needed to mitigate climate change:

- Retire coal plants
- Invest in clean energy & efficiency
- Retrofit and decarbonize buildings
- Decarbonize cement, steel and plastics
- Shift to electric vehicle
- Increase public transport, biking and walking
- Decarbonize aviation and shipping
- Halt deforestation and restore degraded lands
- Reduce food loss and waste and improve agricultural practices
- Eat more plants and less meat

What are the actions taken so far?

In the last few years, net zero has become the main framework for climate action. Many countries and organizations are setting net zero targets. As of November 2023, around 145 countries had announced or are considering net zero targets, covering close to 90% of global emissions. They include some countries that were resistant to climate action in previous decades. Country-level net zero targets 2000 publicly traded companies by annual revenue have net zero targets. Among Fortune 500 companies the percentage is 63%.

What is Paris agreement?

The Paris agreement is an international treaty on climate change that was adopted in 2015. The treaty covers climate change mitigation, adaptation and finance. Paris Agreement sets a long-term goal of achieving “a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in

the second half of this century, on the basis of equity and in the context of sustainable development and efforts to eradicate poverty". This concept of balancing emissions and removals is akin to reaching net-zero emissions.

Under the Paris Agreement, countries agreed to submit climate plans every five years, known as nationally determined contributions (NDCs). NDCs, which currently target 2030, are an important tool to align near-end long-term emissions reduction goals.

Conclusion:

Today's infrastructure can last for decades and have a major impact on mid-century targets. Net-zero commitments must be robust to be effective and advance climate action. Countries must take concrete steps to ensure this if they are to effectively address the challenge at hand.