Our Goal: Net Zero Carbon Dioxide Emissions by 2050

What is Net Zero?

According to the United Nations' Intergovernmental Panel on Climate Change (IPCC), we need to reach a point where we're not adding any more carbon dioxide (CO_2) into the atmosphere than we're taking out by 2050. This is crucial if we want to have a chance of keeping global warming to just 1.5 degrees Celsius this century. "Net zero" means that all the CO_2 we humans release is balanced out by methods that remove CO_2 from the air. To achieve this, we have to stop using coal completely by 2050 and gradually reduce our use of oil and gas. After 2050, we'll need to actively work on removing even more CO_2 from the air, especially if we've already exceeded the 1.5 degrees Celsius target for a while.

Is the World on Track to Reach Net Zero Emissions on Time?

No — even though we've made some good progress in fighting climate change, progress is happening far too slowly for the world to hold temperature rise to 1.5 degrees C (2.7 degrees F). The UN finds that climate policies currently in place point to a 2.8 degrees C temperature rise by the end of the century.

What are the Top Contributors of CO_2 Emissions?

Electricity and heat production are the largest contributors to global emissions. This is followed by transport, building, manufacturing and construction (largely cement and similar materials), and agriculture.

What are Scopes 1, 2 and 3 of Carbon Emissions?

Scopes 1, 2, and 3 are categories used to classify carbon emissions associated with an organization's activities:

Scope 1: These emissions are direct emissions that result from sources that are owned or controlled by the organization. Examples include emissions from on-site combustion of fuels in boilers, furnaces, vehicles, and other equipment.

Scope 2: These emissions are indirect emissions that result from the generation of purchased electricity, heat, or steam consumed by the organization. They occur at sources owned or controlled by another entity but are associated with the organization's activities.

Scope 3: These emissions are indirect emissions that result from activities outside the organization's direct control, such as emissions from the production of purchased goods and services, employee commuting, business travel, waste disposal, and upstream/downstream activities in the value chain.

How Can We Achieve Net Zero?

Achieving net zero CO2 emissions by 2050 requires a multifaceted approach and collaboration across various sectors. Here ae some strategies:

- **Transition to Renewable Energy**: Invest in renewable energy sources such as solar, wind, hydroelectric, and geothermal power to replace fossil fuel-based energy generation. This transition will reduce CO2 emissions from electricity and heat production.
- **Innovation to decarbonize industry:** Use energy more efficiently and make things like steel and cement without producing as much pollution. This will take a lot of new ideas and investments in technologies that already exist, but it's essential to reduce emissions from industries.
- **Incentivize eco-friendly buildings:** Since 2014, more zero-carbon buildings have emerged worldwide, using electric heating, efficient appliances, and recycled materials. But we need to speed up renovating older buildings and apply these methods to new construction projects. Green building guidelines and energy codes can help boost progress.
- **Redesign city and promote zero emission transportation:** The IPCC suggests that compact urban planning and car-free infrastructure, such as pedestrian zones and bike paths, could reduce fuel consumption by a quarter. These changes not only cut congestion and air pollution but also enhance urban livability.
- **Protect nature and promote sustainable agriculture system.** We can reduce a lot of emissions by stopping deforestation and managing forests and farmland better. We also need to waste less food and eat more sustainably. This will help us fight climate change and protect ecosystems.
- **Zero waste management:** Educating communities on waste reduction, recycling, and reusability. Implementing comprehensive recycling programs with convenient collection services and proper sorting is vital. Encouraging individuals and businesses to minimize waste through reduced consumption, reusable products, and repair initiatives is crucial. Supporting legislation and policies that incentivize waste reduction and sustainable practices is essential. Collaboration with businesses, organizations, and local governments fosters effective waste reduction initiatives. Investing in waste management infrastructure and promoting circular economy practices further advances zero waste goals. Leading by example and sharing success stories inspire broader adoption of zero waste practices, ultimately fostering a sustainable future.