



Can Emerging Technology Solutions Combat the Climate Crisis?



Introduction

According to experts across the world, we are all in the middle of a **global climate crisis** — one that needs to be addressed.

Governments and organisations across the globe have taken it upon themselves to build products and solutions using [emerging technology solutions](#) to fight this crisis head-on.

In this piece, we'll discuss a few **innovative technology solutions** that are significantly contributing to combating climate change.

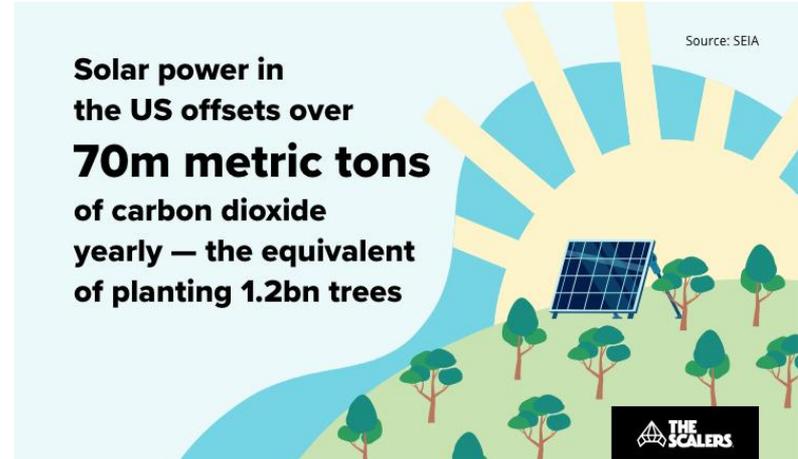




1. Harnessing Solar Energy

One of the key emerging technology solutions to **combating climate change** has been around for millennia — solar energy.

Solar panels use renewable solar energy and convert it into electricity without **releasing greenhouse gases**. This is one of the most efficient and cost-effective ways of generating power.





Here are some examples of the potential of solar energy:

- Solar energy helped **renewables in the US leap** from 9% in 2008 to 17% in 2018.
- **China's Longyangxia Dam Solar Park**, spread across 27 square kilometers, outputs over 850MW, which is enough clean energy to power nearly 200,000 homes.
- The Cochin Airport in India is the first airport to run **entirely on solar power.** The airport's solar farm also gives back energy to the electrical grid.



2. Carbon capture

According to scientists, the world will be unable to limit **global warming** to 1.5°C without eliminating roughly 1 trillion tons of CO₂ that have already been released.

Given the rapid rate of **urbanisation and industrialisation** in the world today, just planting more trees isn't enough.

And hence, many companies are experimenting with different emerging technology solutions to capture CO₂ efficiently.

Two promising carbon capture solutions are:

- Using bioenergy to capture and store carbon
- Direct air capture



Some examples of emerging technologies to capture CO₂:

- A Swiss startup called ClimeWorks captures CO₂ and sells it to the **food and beverage industry** to make carbonated drinks.
- A company called Newlight uses the captured carbon dioxide to create a growth solution that feeds microorganisms that produce the material used to make **bioplastics**.



3. Geoengineering

Geoengineering refers to technology projects that are specifically designed to tackle the effects of climate change.

Scientists and tech experts believe that it is an emerging technology solution that will become essential to **avoid the climate crisis**.





Examples of some exciting geoengineering experiments are:

- SCoPEX (Stratospheric Controlled Perturbation Experiment), led by Harvard, aims at using a giant balloon to spread calcium carbonate particles in the stratosphere, with the hope of **preventing ozone loss**.
- The releasing of large quantities of iron into the ocean to stimulate the **growth of phytoplankton**, which acts as food for fish, thereby rebuilding carbon-sequestering fisheries.

4. Green Hydrogen

Over the last few years, hydrogen has emerged as one of the key ingredients in the energy transition space.

Unfortunately, **95% of the hydrogen** used in industries today is derived from natural gas or coal, resulting in the emission of CO₂.

Green hydrogen can help eliminate CO₂ production to create a versatile zero-carbon fuel that can be used for energy storage, long-distance transport, and heat generation for industrial purposes.





Some of the initiatives in implementing this emerging technology include:

- Spain has recently announced a \$10.5 billion investment in green hydrogen technology over the next ten years to propel their trucking and shipping industry to **zero-emission outputs**.
- Saudi Arabia has teamed up with a US company called Air Products to develop a **green hydrogen production plant** capable of producing 650 tonnes of green hydrogen fuel every day.



Wrap it up!

These are just a few examples of how **emerging technology solutions** can be used to fight the climate crisis.

While they may not be able to entirely eliminate the **harmful effects of climate change**, it is still a step in the right direction and a big one at that.

Thank you



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