



CARBON CREDIT PROJECT



Monetise Agriculture Sustainably



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Global warming

Global warming is the phenomenon of a gradual increase in the temperature near the earth's surface. This phenomenon has been observed over the past one or two centuries. This change has disturbed the climatic pattern of the earth.

What causes global warming?

Global warming occurs when carbon dioxide (CO₂) and other air pollutants collect in the atmosphere and absorb sunlight and solar radiation that have bounced off the earth's surface. Normally this radiation would escape into space, but these pollutants, which can last for years to centuries in the atmosphere, trap the heat and cause the planet to get hotter. These heat-trapping pollutants—specifically carbon dioxide, methane, nitrous oxide, water vapor, and synthetic fluorinated gases—are known as greenhouse gases, and their impact is called the greenhouse effect.

Effects of global warming?

- Disappearing glaciers, early snowmelt, and severe droughts.
- Rising sea levels.
- Forests, farms, and cities will face troublesome new pests, heat waves, heavy downpours, and increased flooding. All of these can damage or destroy agriculture and fisheries.
- Disruption of habitats such as coral reefs and alpine meadows could drive many plant and animal species to extinction.
- Allergies, asthma, and infectious disease outbreaks will become more common due to increased growth of pollen-producing ragweed, higher levels of air pollution, and the spread of conditions favorable to pathogens and mosquitoes.

Reference Articles

1. [Causes and Effects of Climate Change](#)
2. [Climate Change Explained in Malayalam](#)
3. [NYTimes](#)
4. [Article on Global Warming](#)
5. [Tamil Article](#)

Greenhouse Gases

A greenhouse gas (GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect. The gases act like the glass walls of a greenhouse – hence the name, greenhouse gases. Without this greenhouse effect, temperatures would drop to as low as -18°C (-0.4°F); too cold to sustain life on earth.

But human activities are changing earth's natural greenhouse effect with a dramatic increase in the release of greenhouse gases. Scientists agree greenhouse gases are the cause of global warming and climate change.

Major Greenhouse Gases

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Fluorinated gases
 - Hydrofluorocarbons (HFCs)
 - Perfluorocarbons (PFCs)
 - Sulphur hexafluoride (SF_6).

Sources of Greenhouse Gases

Carbon dioxide

1. Fossil fuel combustion
2. Deforestation
3. Cement production

Methane

1. Fossil fuel production
2. Agriculture
3. Landfills

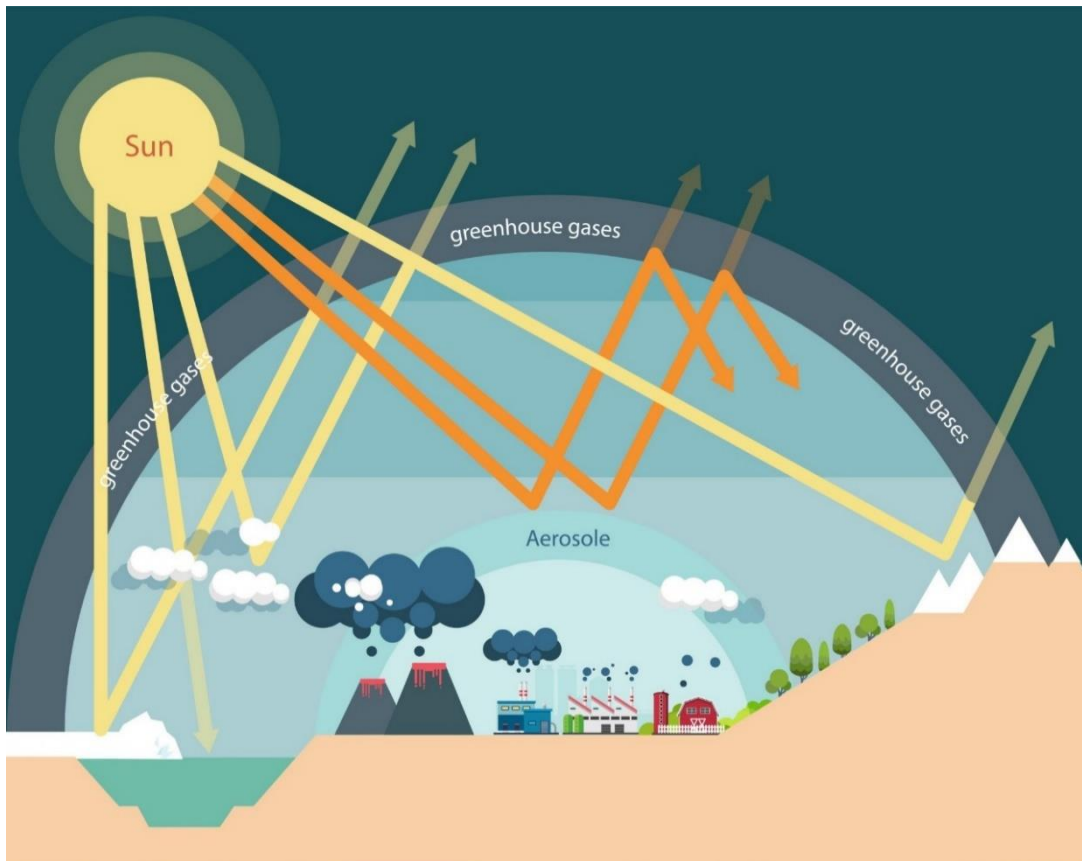
Nitrous Oxide

1. Fertilizer application
2. Fossil fuel and biomass combustion

3. Industrial processes

Fluorinated gases

1. Refrigeration
2. Air – conditioning
3. Aerosol cans



Reference Articles

1. [What Is the Greenhouse Effect?](#)
2. [Overview of Greenhouse Gases](#)
3. [Greenhouse gases](#)
4. [Tamil Video](#)
5. [Global Emissions](#)
6. [The Principal Greenhouse Gases and Their Sources](#)

Climate Change

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle. But since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels like coal, oil and gas.

Burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat, and raising temperatures.

The consequences of climate change now include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms, and declining biodiversity.



Reference Articles

1. [What Is Climate Change?](#)
2. [What is climate change? A really simple guide](#)
3. [Greenhouse Effect and Climate Change - Malayalam](#)
4. [Climate change impacts](#)
5. [Climate change and health](#)
6. [Tamil](#)

Rules on industrial emissions

The Paris Climate Agreement

The Kyoto Protocol was revised in 2012 in an agreement known as the Doha Amendment, which was ratified as of October 2020, with 147 member nations having “deposited their instrument of acceptance.”

More than 190 nations signed on to the Paris Agreement of 2015, which also sets emission standards and allows for emissions trading.

The U.S. dropped out in 2017 under then-President Donald Trump, but subsequently rejoined the agreement in January 2021 under President Biden.

The Glasgow COP26 Climate Change Summit

Negotiators at the summit in November 2021 inked a deal that saw nearly 200 countries implement Article 6 of the 2015 Paris Agreement, allowing nations to work toward their climate targets by buying offset credits that represent emission reductions by other countries. The hope is that the agreement encourages governments to invest in initiatives and technology that protect forests and build renewable energy technology infrastructure to combat climate change.

Several other provisions in the accord include zero tax on bilateral trades of offsets between countries and canceling 2% of total credits, aimed at reducing overall global emissions. Additionally, 5% of revenues generated from offsets will be placed in an adaptation fund for developing countries to help fight climate change. Negotiators also agreed to carry over offsets registered since 2013, allowing 320 million credits to enter the new market.

Worldwide Carbon Credit Initiatives

The United Nations’ Intergovernmental Panel on Climate Change (IPCC) developed a carbon credit proposal to reduce worldwide carbon emissions in a 1997 agreement known as the Kyoto Protocol. The agreement set binding emission reduction targets for the countries that signed it. Another agreement, known as the Marrakesh Accords, spelled out the rules for how the system would work.

The Kyoto Protocol divided countries into industrialized and developing economies. Industrialized countries, collectively called Annex 1, operated in their own emissions trading market. If a country emitted less than its target number of hydrocarbons, it could sell its surplus credits to countries that did not achieve its Kyoto level goals, through an Emissions Reduction Purchase Agreement (ERPA).

The separate Clean Development Mechanism for developing countries issued carbon credits called a Certified Emission Reduction (CER). A developing nation could receive these credits for supporting sustainable development initiatives. The trading of CERs took place in a separate market.

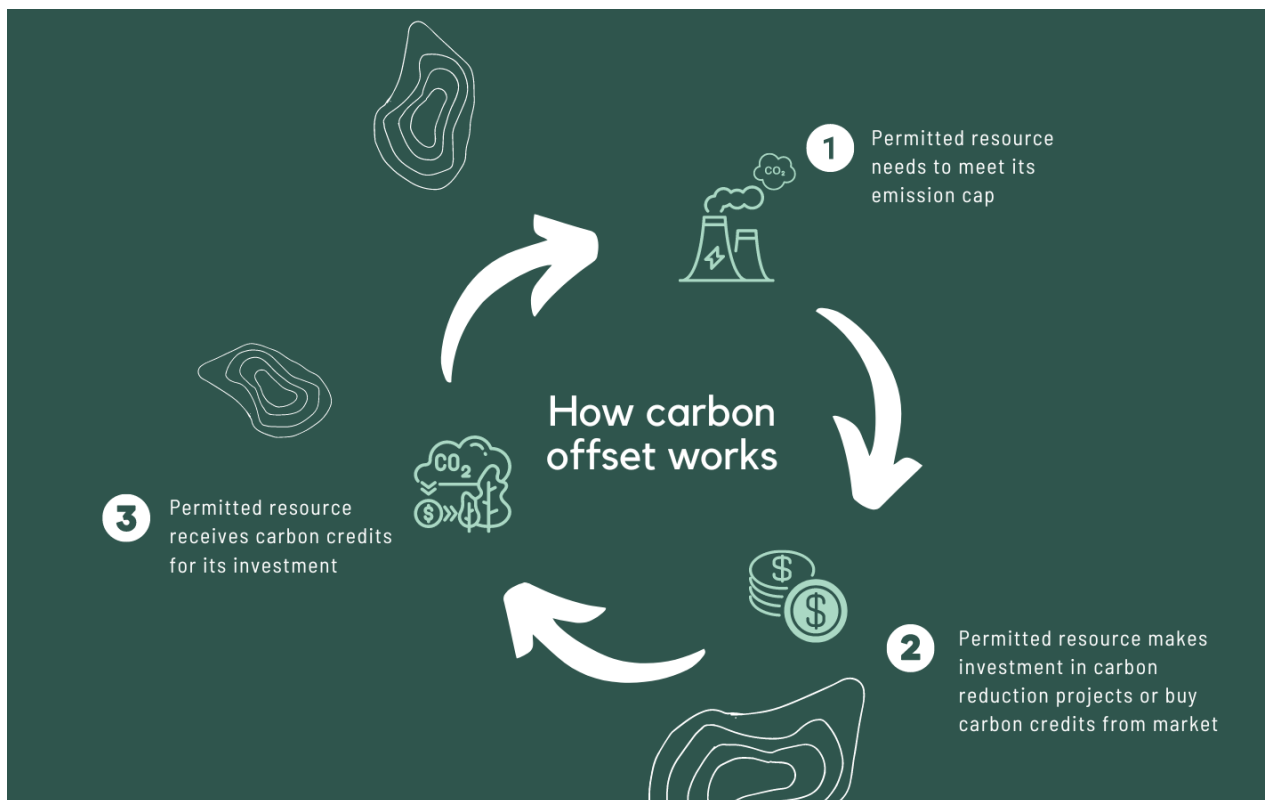
Reference Articles

1. [COP26: Together for our planet](#)
2. [Glasgow Climate Pact](#)
3. [Worldwide Carbon Credit Initiatives](#)

Carbon offsets

Carbon offsets help balance your carbon footprint by funding environmental projects that reduce greenhouse gases in the atmosphere. One carbon offset credit supposedly equals one metric ton of carbon dioxide, or a comparable amount of other greenhouse gases, removed from the air.

Organizations and individuals pursue carbon offsetting voluntarily or to comply with regulations. An individual or company can pay a broker to remove a portion of carbon from the atmosphere, often in another part of the world. The customer calculates their emissions level, and the broker then charges a fee based on that level. The broker will then invest a portion of that money in a project that reduces carbon emissions.

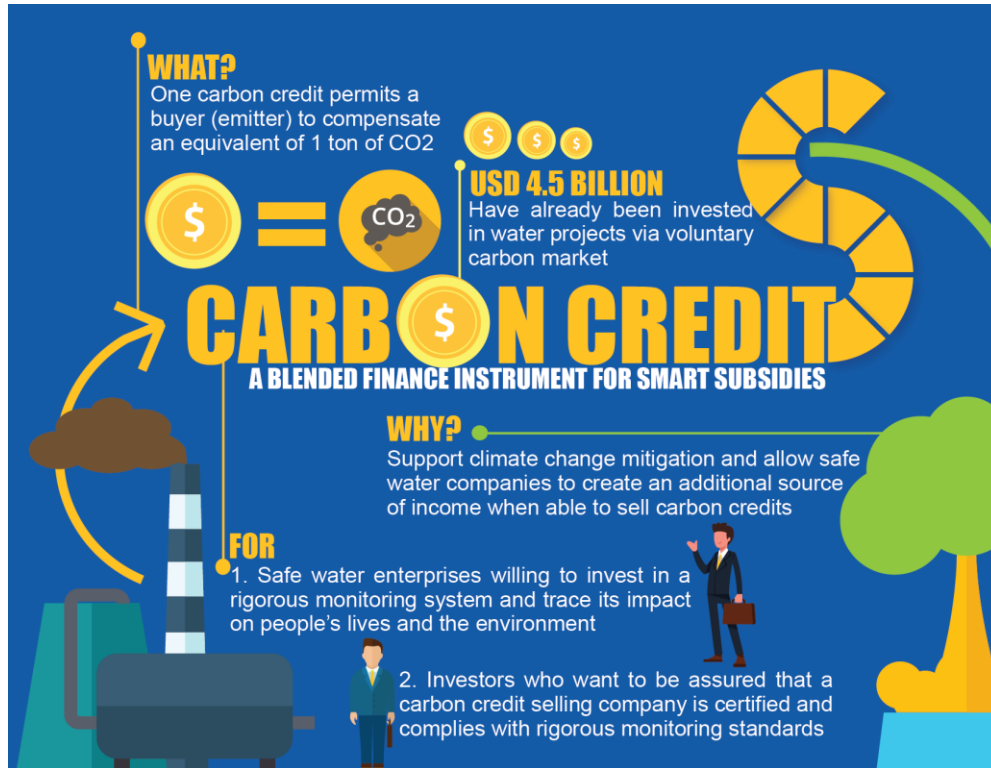


Reference Articles

1. [Understanding the Carbon Offset Market](#)
2. [What is a carbon offset?](#)
3. [A complete guide to carbon offsetting](#)
4. [Tamil](#)

Carbon Credit

A carbon credit (often called a carbon offset) is a credit for greenhouse emissions reduced or removed from the atmosphere by an emission reduction project, which can be used by governments, industry, or private individuals to compensate for the emissions they generate elsewhere.



Reference Articles

1. [Carbon Credits Explained](#)
2. [How do carbon credits work?](#)
3. [Carbon sequestration and trading: How can India ensure reduced footprints and enhanced incomes in agri-sector](#)
4. [Carbon Credit Project: Foreign company delegates capture visuals of forest land in Gavi](#)
5. [വിൽക്കാം, വാങ്ങാം കാർബൺ ക്രെഡിറ്റ്; ദരിദ്രരാജ്യങ്ങൾക്ക് പുതിയ വരുമാനമാർഗം തുറക്കുമോ?](#)
6. [45,000 acre paddy in carbon trading project](#)
7. [ഗവിയിലെ കാർബൺ ക്രെഡിറ്റ് പദ്ധതി വിദഗ്ദ്ധോപദേശം തേടി വനം വകുപ്പ്](#)
8. <https://enkingint.org/cookstove-project/>
9. [What are carbon credits? - Video](#)
10. [Tamil](#)

The Energy Conservation (Amendment) Bill, 2022

The Amendment Act introduces new concepts such as carbon trading and mandates the use of non-fossil sources by designated consumers to ensure faster decarbonisation and achievement of sustainable development goals.

Highlights of the Bill

- The Bill amends the Energy Conservation Act, 2001 to empower the central government to specify a carbon credit trading scheme.
- Designated consumers may be required to meet a proportion of their energy needs from non-fossil sources.
- The Energy Conservation Code for buildings will also apply to office and residential buildings with a connected load of 100 kilowatt or above

Reference Articles

1. [What Is Energy Conservation \(Amendment\) Bill](#)
2. [Economic Times](#)
3. [How is India celebrating Energy Conservation Day this year?](#)
4. [The Energy Conservation \(Amendment\) Bill, 2022](#)

Conclusion

Carbon credits were devised as a mechanism to reduce greenhouse gas emissions by creating a market in which companies can trade in emissions permits. Under the system, companies get a set number of carbon credits, which decline over time. They can sell any excess to another company.

Carbon credits create a monetary incentive for companies to reduce their carbon emissions. Those that cannot easily reduce emissions can still operate, but at a higher financial cost. Proponents of the carbon credit system say that it leads to measurable, verifiable emission reductions.

Links

1. Brochure English
2. Brochure Malayalam
3. [Website](#)
4. [Registration Link](#)



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