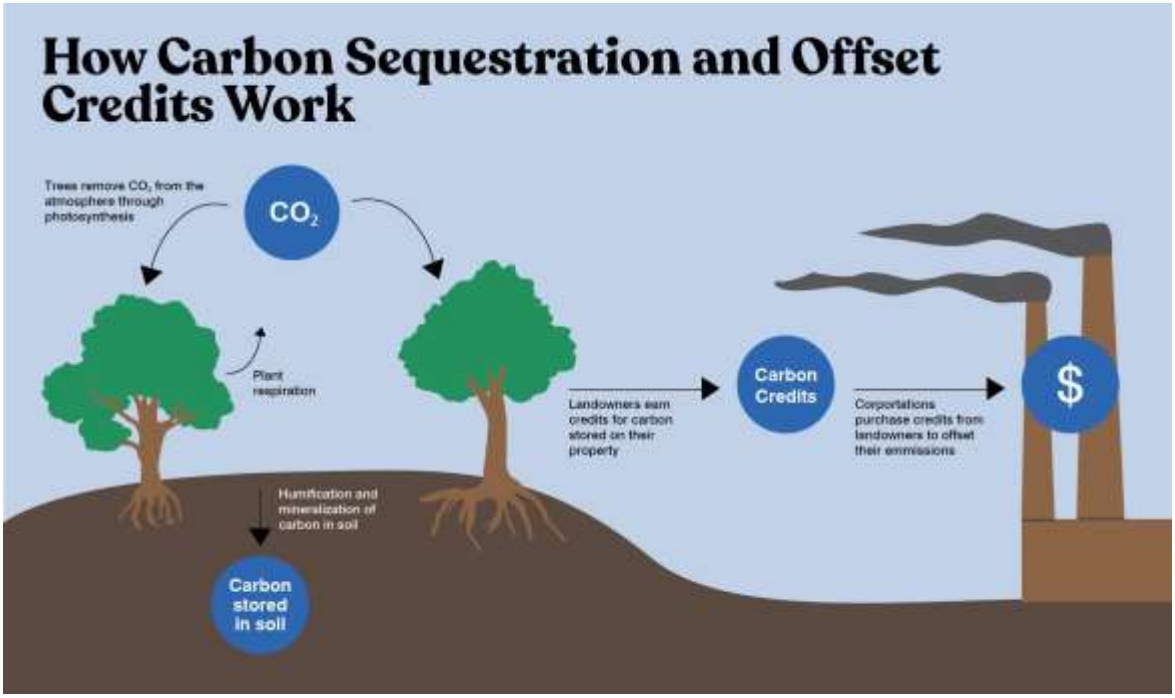
CARBON OFFSET INVESTMENTS

Carbon offsets are mechanisms through which buyers fund efforts that remove or avoid greenhouse gas (GHG) emissions in one place to “offset” GHG emissions elsewhere on Earth. They help corporations compensate for their carbon footprints and meet their environmental objectives.Companies can invest in carbon offsets by purchasing mechanisms known as carbon offset credits.

Demand for carbon offsets reached a new high in 2023, with 163.6 million offsets.But concerns about greenwashing have prompted predictions that demand might level off. Critics say that companies might rely too heavily on carbon offset programs while doing little to source more renewable energy, enact energy efficiency measures and take other steps toward carbon neutrality. Without more robust standards, concerns about the integrity of carbon offsets could drive down demand and prices.

How does a carbon offset work
Also referred to as voluntary emission reduction (VER), a carbon offset represents the avoidance, destruction, reduction or sequestering of the equivalent of one tonne of greenhouse gas. The actions can take place through various means, from nature-based methods such as tree planting to technology-powered practices, such as methane capture.

Companies invest in offset projects by buying carbon offset credits from voluntary carbon markets. Such carbon credit purchases can help companies compensate for both their own carbon emissions and other greenhouse gas emissions. This strategy can help them meet environmental, social and governance (ESG) goals and science-based targets for scope 1, 2 and 3 emissions, in alignment with global efforts on climate change mitigation.



Carbon offset credit
A carbon offset credit is a transferable instrument certified by a government or independent certification body. It allows the purchaser to “retire” the credit by claiming the underlying reduction toward their emissions reduction goals.

The rules for certification require that the offset credited is real, permanent and verifiable, and is in addition to a business-as-usual scenario. In other words, the destruction or avoidance of a particular amount of carbon dioxide (or other greenhouse gas) emissions wouldn’t have occurred without the offset purchase.

Examples of carbon offset projects

Supporting forests as carbon sinks: Forests store between 10 and more than 1,000 tons of carbon per hectare. This makes tree planting and forestry initiatives—such as reforestation, improved forest management (IFI) and avoiding deforestation—attractive avenues for carbon reduction projects. Such nature-based initiatives also have co-benefits, including protecting or enhancing biodiversity.

Carbon sequestration in agriculture: Some projects manage farmland to improve the carbon storage capacity of soil. Techniques such as crop rotation and planting cover crops—plants that help prevent soil erosion, moderate moisture levels and provide other benefits—improve soil health to facilitate greater carbon sequestration.

Waste management and methane destruction: Methane on landfills can be captured and destroyed or converted to a power source. On farms, meanwhile, manure is a major source of methane emissions. When manure is treated through an anaerobic digestion system, however, the waste is broken down to produce biogas, a fuel with a lower carbon footprint than methane.

Renewable energy generation: Companies can purchase carbon credits that support renewable energy projects such as solar arrays, wind farms and hydropower facilities. This category of offset projects is the second-most popular after forestry.

Cleaner equipment for households: In developing countries, people burn fossil fuels during household activities, from cooking over open flames to burning wood to boil water. Some carbon offset projects bring cleaner, more efficient appliances to households and local communities, such as cook stoves powered by liquefied petroleum gas. Upgrading household systems not only reduces emissions but also improves indoor air quality.

Carbon capture projects: Evolving technologies remove carbon dioxide emissions at the source or directly from the atmosphere. The former, known as carbon capture and storage (CCS), entails the collection of the carbon dioxide resulting from industrial operations and power plants. The latter, direct air capture and storage (DACS) technologies, extract carbon dioxide directly from the atmosphere and use chemical reactions to filter out CO_2 molecules. The captured carbon can be stored underground or used for other purposes.

The carbon offset market is a complex and highly scrutinized space. Equipped with the right tools, organizations can navigate that market successfully while demonstrating the effectiveness of their emissions reductions efforts to their stakeholders and investors.