

What Is Carbon Credit?

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In step with the dramatic rise in CO₂ emissions and other pollutants in recent years, a variety of new financial markets have emerged, offering businesses key incentives — aside from taxes and other punitive measures — to slow down overall emissions growth and, ideally, global warming itself.

A key feature of these markets is emissions trading, or cap-and-trade schemes, which allow companies to buy or sell “credits” that collectively bind all participating companies to an overall emissions limit. While markets operate for specific pollutants such as greenhouse gases and acid rain, by far the biggest emissions market is for carbon. In 2007, the trade market for CO₂ credits hit \$60 billion worldwide — almost double the amount from 2006.

Key Stats

- **Size of global carbon credit market:** Approximately \$60 billion
- **Amount of CO₂ the United States traded in 2007:** Nearly 23 million metric tons
- **Amount of CO₂ the EU traded in 2007:** More than 1.6 billion metric tons

How It Works

Emissions limits and trading rules vary country by country, so each emissions-trading market operates differently. For nations that have signed the Kyoto Protocol, which holds each country to its own CO₂ limit, greenhouse gas-emissions trading is mandatory. In the United States, which did not sign the environmental agreement, corporate participation is voluntary for emissions schemes such as the Chicago Climate Exchange. Yet a few general principles apply to each type of market.

Under a basic cap-and-trade scheme, if a company’s carbon emissions fall below a set allowance, that company can sell the difference — in the form of credits — to other companies that exceed their limits. Another fast-growing voluntary model is carbon offsets. In this global market, a set of middlemen companies, called offset firms, estimate a company’s emissions and then act as brokers by offering opportunities to invest in carbon-reducing projects around the world. Unlike carbon trading, offsetting isn’t yet government regulated in most countries; it’s up to buyers to verify a project’s environmental worth. In theory, for every ton of CO₂ emitted, a company can buy certificates attesting that the same amount of greenhouse gas was removed from the atmosphere through renewable energy projects such as tree planting.

Why It Matters Now

Industry watchers say carbon markets will continue to grow at a fast clip — especially in the United States, where Fortune 500 powerhouses such as DuPont, Ford, and IBM are voluntarily capping and trading their emissions. Even though a national cap on carbon emissions doesn't yet exist in the United States, most consider it inevitable, and legislators are already pushing the issue in Congress.

It's not just governments who are demanding emissions compliance — consumers want it, too. The commitment a company makes to curb its pollutant output is an increasingly public aspect of strategy. More and more employees are taking these factors into account when deciding where to work. A recent study from MonsterTRAK found that 80 percent of young professionals want their work to impact the environment in a positive way, and 92 percent prefer to work for an environmentally friendly company.

Why It Matters to You

Let's say a company can't afford to modify its operations to reduce CO₂. Purchasing carbon credits or offsets buys it time to figure out how to operate within CO₂ limits. For others, it can be a cost-effective tool to help lower emissions while earning public praise for the effort. Each credit a company buys on the Chicago Climate Exchange — usually for about \$2 — means another company will remove the equivalent of one metric ton of carbon.

The Advantages

Companies in different industries face dramatically different costs to lower their emissions. A market-based approach allows companies to take carbon-reducing measures that everyone can afford. "The private sector is better at developing diversified approaches to manage the costs and risks [of reducing emissions]," says Jesse Fahnestock, spokesman at Swedish power company Vattenfall, which is a member of a global Combat Climate Change coalition.

Reducing emissions and lowering energy consumption is usually good for the core business. For example, in 1997 British energy company BP committed to bring its emissions down to 10 percent below 1990 levels. After taking simple steps like tightening valves, changing light bulbs, and improving operations efficiency, BP implemented an internal cap-and-trade scheme and met its emissions goal by the end of 2001 — nine years ahead of schedule. Using the combined CO₂ reduction strategy, BP reported saving about \$650 million.

Then there's the long-term investment angle: Buying into the carbon market boom now suggests significant dividends later on. Carbon credits are relatively cheap now, but their value will likely rise, giving companies another reason to participate.

The Disadvantages

As with any financial market, emissions traders are vulnerable to significant risk and volatility. The EU's trading scheme (EU-ETS), for instance, issued so many permits between 2005 and 2007 that it flooded the market. Supply soared and carbon prices bottomed out, removing incentives for companies to trade. Enforcement of trading rules can be just as unpredictable, though Fahnestock says the EU is working to correct the problems.

Carbon offsets have their own drawbacks, which reflect a fast-growing and unregulated market. Some offset firms in the United States and abroad have been caught selling offsets for normal operations that do not actually take any additional CO₂ out of the atmosphere, such as pumping CO₂ into oil wells to force out the remaining crude. In 2008 the Climate Group, the International Emissions Trading Association, and the World Economic Forum will work to develop a Voluntary Carbon Standard to verify that offsetting projects are beyond business-as-usual and have lasting environmental value.

The lack of offset regulations has also made marketing problematic. Recently, companies have taken to declaring themselves "carbon neutral." But until the Federal Trade Commission determines the guidelines for such terms, it's unclear which companies actually merit the distinction. Already Vail Resorts, the organizers of the Academy Awards, and other organizations have taken heat for touting their investments in carbon offset projects that were not entirely environmentally sound.

Key Players

Bank of America is a leader in carbon-reduction strategies. The bank recently launched a \$20 billion, 10-year initiative to finance emission-reduction projects, invest in green technology, and facilitate carbon-credit trading.

BP is among the most well-known companies to implement an internal cap-and-trade system. The company assigned its 150 units an emissions quota and allowed them to buy and sell carbon credits among themselves.

The European Union Emission Trading Scheme (EU ETS) is the mandatory cap-and-trade program for the EU.

The Chicago Climate Exchange (CCX) is a U.S. carbon-trading scheme in which companies make a voluntary but legally binding commitment to meet emissions targets.

How to Talk About It

Cap-and-trade scheme: A market approach to reducing greenhouse gases that works by setting emissions targets. Governments or businesses that reduce their carbon outputs in excess of the target can sell the difference to those who produce more than the limit. This is the favored solution of many business groups.

MACs: Marginal abatement costs refer to the cost of cutting CO₂ emission, which varies from country to country and industry to industry.

Free-market environmentalism: This theory holds that the free market, which offers economic incentives, is the best tool to address global warming. This view goes against the traditional approach to environmentalism, which looks to government regulation to prevent environmental destruction.

Further Reading

[“The Combat Climate Change Roadmap,”](#) the 3C Initiative’s recommendations to political leaders

[“Getting Ahead of the Curve: Corporate Strategies That Address Climate Change,”](#) a report of the Pew Center on Global Climate Change

[“Industry Caught in Carbon ‘Smokescreen,’”](#) *Financial Times*, April 25, 2007, on the problems with carbon offsetting

[“A Green Employment Tax Swap: Using a Carbon Tax to Finance Payroll Tax Relief,”](#) by Gilbert Metcalf, discusses the advantages of a revenue-neutral carbon tax

[“Another Inconvenient Truth,”](#) *BusinessWeek*, March 26, 2007, on carbon-offset deals that don’t deliver what they promise