Carbon Markets
An overview

Carbon Market Institute

What is a carbon market?

A carbon market refers to a market in which carbon units, representing emissions reductions, are exchanged within a defined framework. Carbon markets are created by governments for policy compliance or by governments and business for voluntary reductions of greenhouse gas (GHG) emissions. They place limits on emissions and/or allow the purchase or trading of emissions units or equivalents. A compliance carbon market places a requirement on industry to reduce emissions (demand side) and allows for the purchase and/or trading of carbon emissions through the creation of carbon credits (supply side). Entities with a requirement to reduce their carbon emissions may do so directly, for example, by installing low emissions technology to reduce their emissions or they may purchase carbon credits that may allow for or offset their GHG emissions. Entities that sell carbon credits may do so, for example, by running projects or implementing new technology that reduces, stores or avoids GHGs. Carbon credits may also be purchased by the government or regulatory entity and sold to emitting industry and retired or sold by industry seeking to manage emission reductions efficiently.

The purchase and/or trading of carbon credits between the demand side of the market and the supply side of the market sets a price for carbon and forms the basis of a carbon market. The requirement to reduce emissions (demand side) is generally set by emissions reduction targets.

What are carbon credits?

The term carbon credit is often used when discussing the tradeable component of carbon markets. While carbon credits can vary in different markets around the world, there are generally two main types referred to, as is depicted in the image below.

- **Carbon offset**

A carbon offset is a unit generated from a project that either stores or avoids the release of a certain quantity of GHG. Typically, a carbon credit or offset is one tonne of carbon dioxide equivalent either stored or avoided. In Australia, the primary carbon credit unit is the Australian Carbon Credit Unit (ACCU) which is a regulated, tradeable financial instrument.

- **Carbon allowance**

Another type of carbon credit typically used in carbon pricing mechanisms around the world, such as the European Union (EU) Emissions Trading Scheme (ETS), is the carbon allowance. Unlike a carbon offset, a carbon allowance represents the right to emit a quantity of GHG. For example, under the EU ETS, emitting businesses must attain a European Union Allowance (EUA) for the right to emit GHGs, the carbon allowance unit thus permitting businesses to emit a quantity of GHG emissions equivalent to the number of EUAs they have purchased or been provided.

Carbon Credit Types

Carbon Credits

Generally represents 1 tCO_2-e

Impacts a carbon price

Tradeable

Rules differ on how credits are created and used

Carbon Offset

- Represents CO_2-e stored or avoided by a project
- Generated through carbon offset schemes

Carbon Allowance

- Represents the right to emit CO_2-e
- Often used in mechanisms such as a Cap-and-Trade scheme

Carbon markets often allow both types of carbon credits to be used. The Australian carbon market has two main parts: a compliance market and voluntary market. Only the ACCU is eligible for use in Australia's compliance market.

The Australian carbon market (compliance)

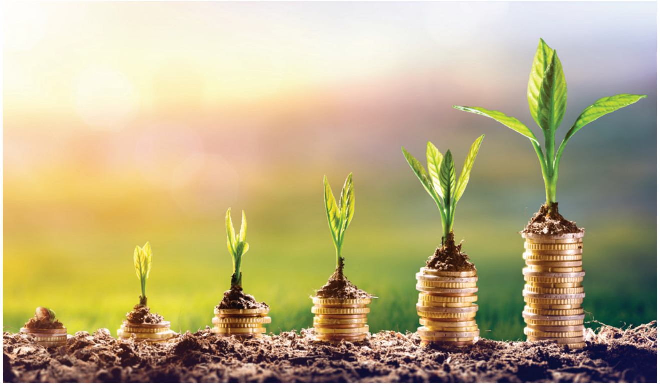
Australia's carbon compliance market comprises the Emissions Reduction Fund (ERF) and the Safeguard Mechanism. It is known as a compliance market because the delivery of emissions reductions is required by legislation. In Australia, the requirement to reduce and restrict emissions (demand side) is split between the Federal Government and industry. Through the ERF, the Federal Government seeks to meet Australia's emission reduction targets, at lowest cost, by purchasing ACCUs via a reverse auction process through long-term carbon abatement contracts.

To ensure the emissions reductions purchased by the Federal Government at ERF auctions are not offset by increases in emissions above business-as-usual levels elsewhere in the economy, the ERF Safeguard Mechanism seeks to limit emissions from industry. It does this by applying emissions baselines (emission limits) to large businesses that restrict their carbon emissions to business-as-usual levels. Businesses that exceed their emissions baseline in any one year can, among other options, purchase ACCUs from ERF projects equivalent to the level of carbon emissions they have emitted above their baseline. To date, only a limited number of businesses have exceeded government established baselines, and thus, only a limited number have been required to purchase ACCUs in this way.

The Australian carbon market (voluntary)

ACCUs and other types of carbon offsets can also be voluntarily purchased by Australian entities outside of the compliance market to meet their own emission reduction commitments. This is known as the voluntary carbon market. For example, the Australian Government's Climate Active Carbon Neutral Standard supports Australian businesses in recognising them as carbon neutral organisations. The Climate Active program supports and guides organisations in managing their emissions, through active reductions and offsetting remaining emissions through the purchase of carbon offsets, such as ACCUs. These ACCUs must be voluntarily surrendered, which means they are cancelled in the Australian National Registry of Emissions Units (ANREU) and cannot be used again. Some Australian state, territory and local governments have also made commitments to reduce or offset their emissions.

Buyers of carbon offsets, such as ACCUs, in the voluntary market are often also interested in the environmental, economic and social & cultural co-benefits associated with the carbon offset projects (refer to Fact Sheet 1: Carbon Farming).



International carbon markets

Since the adoption of the Paris Agreement in 2015, a landmark voluntary global agreement to combat climate change, carbon markets are increasingly being implemented around the world. As part of the Paris Agreement, each signatory country has set their own Nationally Determined Contribution or emissions reduction target, and carbon markets are fast becoming one of the primary tools in reducing carbon emissions. As a result, there are a number of functioning carbon markets around the world at both a regional, national and sub-national level including the EU ETS, New Zealand ETS and Californian Cap and Trade respectively. Each of these markets is created through environmental policy related to climate change that establishes a demand side and a supply side of the market to achieve emission reduction targets.

There are also international schemes and initiatives that support and make up international carbon markets. Initiatives such as the Gold Standard, Verra (previously known as the Verified Carbon Standard) and Clean Development Mechanism (CDM) allow for the creation of international carbon offsets. Similar to the ERF, these initiatives set the standards and governance requirements for carbon projects that create carbon offsets by reducing, storing or avoiding carbon emissions. These projects could be undertaken in one country and used by an organisation in another country to help them meet their compliance or voluntary commitments to reduce carbon emissions. For example, under the Australian Government Climate Active Carbon Neutral Standard scheme in Australia, certain types of carbon offsets created under the Gold Standard, Verra and CDM are eligible to be purchased by Australian organisations and voluntarily surrendered to assist the purchaser in reaching their goal of carbon neutrality under the scheme.

More Information

Carbon Farming Industry Roadmap carbonmarketinstitute.org/roadmap

Emissions Reduction Fund cleanenergyregulator.gov.au/ERF/Pages/default.aspx

Safeguard Mechanism cleanenergyregulator.gov.au/NGER/The-safeguard-mechanism

The Paris Agreement unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

Climate Active climateactive.org.au

The Gold Standard goldstandard.org

Verra verra.org

Carbon Pricing Dashboard carbonpricingdashboard.worldbank.org

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