

2020 | CARBON MARKETS AND CARBON OFFSETS

Prepared by
Intengine.com

“Connecting you with environmentally and socially responsible businesses in your community and around the world.”



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Carbon Markets and Carbon Offsetting

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An Overview of Carbon Markets and Carbon Offsetting

Carbon offsets are a popular tool used by businesses, organizations, and governments to reduce climate-harming greenhouse gas



emissions in the atmosphere. Navigating the carbon offset world can seem complicated as policies governing carbon markets change often and the standards regulating offset project quality can get quite technical. The following information has been gathered to help readers better understand and approach the carbon market.

Carbon Credits and Offsets

Carbon offsets and credits are synonymous terms for a market-based tool that allows an entity to counteract the greenhouse gas (GHG) emissions released from an activity. A business that may wish to offset GHG emissions from an activity, such as company flights, may purchase an amount of carbon offsets that either removes or prevents an equivalent amount of GHG

emissions elsewhere. Carbon offsets are generated through the development of projects which facilitate GHG emissions removal (e.g. tree planting or carbon sequestration technology) or GHG emissions prevention (e.g. forest conservation or renewable energy projects).

Carbon offset projects are often funded and developed by private investors and governments. Not all projects are developed to the same quality standards and it can be difficult for offset purchasers to assess which projects are most effective. Some offset projects, especially those created under the [UN's Clean Development Mechanism¹](#), have faced criticism over their credibility and impact.

The Carbon Market trades carbon credits between those that are reducing emissions and those that are generating emissions. Project developers sell their offsets either directly to the final buyers or through brokers and resellers. Where the funds go from an offset purchase depends on what phase the project is in and the costs and resources associated with that project. When offsets are resold, the offset reseller will take a margin of the profits from the sale.

Voluntary and Compliance-Based Carbon Markets

Carbon offsets are commonly bought and sold on international carbon markets to help nations meet their GHG reduction targets. These markets allow nations struggling to develop offset projects in their own countries, to purchase and claim reductions from more cost-effective projects abroad. Individuals, businesses, and other organizations also purchase offsets from the carbon market to help reduce their own emissions.

The international carbon market is subdivided into markets that are both compliance-based and voluntary. The compliance-based market stems from international agreements such as the Paris Agreement, where countries' emissions reduction targets are known as [Nationally Determined Contributions \(NDCs\)²](#). Each country that signed the Paris Agreement after the 21st Conference of the Parties (COP21) in 2015 has committed to certain reduction goals in order to keep global average temperature well below 1.5-2°C. Government agencies and businesses can also be required to make emissions reductions—requiring them to purchase carbon offsets. The organizations [We Mean Business³](#) and [BSR⁴](#) collaborated to develop a [Climate Policy Tracker⁵](#) for businesses to record what climate targets look like in each country.

“Motivations to pursue VERs may be related to an organization wanting to meet certain sustainability targets or wanting to account for the price of carbon within its operations.”

See Table 1 for examples of the world’s largest compliance-based carbon markets.

Table 1	
EU ETS	The European Union Emissions Trading System is a carbon market that sets mandatory annual emissions caps for certain industries within the EU. Any entity under this system that pollutes above the cap must offset the difference by purchasing carbon credits.
CORSIA	The Carbon Offsetting and Reduction Scheme for International Aviation sets out new offsetting requirements for the aviation industry. Starting in 2021 all international flights between countries signed onto CORSIA will be required to offset their flight emissions each year ⁶ . After 2027 all international flights will be required to be offset —with a few exceptions ⁷ . Countries participating in CORSIA are listed here ⁸ .
Western Climate Initiative (WCI) kage	WCI was created to be the largest carbon market in North America. Currently, the agreement facilitates international carbon credit trading between Quebec, Canada and California, USA. In 2019, The Trump Administration filed a lawsuit against the State of California for its involvement in this deal ⁹ —this is ongoing and the consequences of California pulling out of the initiative are still unclear.

The voluntary carbon market is separate from the international agreements described above and exists so that entities can opt to use carbon offsetting as a strategy to reduce their own emissions. Carbon offsets on the voluntary market are known as Voluntary Emissions Reductions (VERs). Motivations to pursue these reductions may be related to an organization wanting to meet certain sustainability targets or wanting to account for the price of carbon within its operations. See Why Businesses Offset in the following sections.

International Governance on Carbon Markets: Article 6

Governance over the international carbon market is still a contentious topic. In December 2019, at COP25 held in Madrid, the conference agenda included finalizing the Paris Agreement. Article 6, the last section of the Paris Agreement, attempts to lay out a framework for governance over the world’s carbon markets. For companies specifically, decisions over Article 6 would clarify the private sector’s participation in the market and businesses’ ability to purchase and claim offsets from abroad.

Coming to an agreement over Article 6 ended up being the **most contended topic of the conference**¹⁰ and the effectiveness of the entire Paris Agreement was **tied to the outcomes of this negotiation**¹¹. By the end of COP25, it was decided that the finalization of Article 6 would be **postponed until 2020**¹².

Local Governance on Carbon Markets: Pan-Canadian Framework

The **Pan-Canadian Framework on Clean Growth and Climate Change**¹³ outlines Canada’s commitment to meeting its climate targets under the Paris Agreement. Canada has committed to reducing its GHG emissions to **30% below 2005 levels by 2030**¹⁴. However, Canada is still **severely behind** in meeting this target¹⁵. Canada is one of the few countries that intends to **include international offset credits** in its strategy to meet its emissions reductions goals¹⁶.

The most direct impact that Canadian businesses will feel from the Pan-Canadian Framework is from nation-wide carbon taxes. All provinces and territories in Canada now have a [Provincial or Federal carbon tax](#)¹⁷. The federal carbon tax started at [\\$20 per tonne in 2019](#) and will continue to increase \$10 per tonne each year until it reaches \$50 in 2022¹⁸. Each province has [different rules](#) regulating its carbon pricing initiatives¹⁹. Purchasing offsets will not reduce the amount of carbon taxes a business is paying, yet organizations that engage in significant carbon reductions from their activities could reduce the financial impact of the tax.

Why Businesses Offset

There are very few countries in the world where offsetting is mandatory for the private sector. The two major mandatory international offsetting schemes that affect businesses are the EU ETS and CORSIA (explained in Table 1).

Most businesses that offset take part in voluntary offsetting. Businesses choose to offset for many reasons, such as to: manage their carbon impact in a cost-effective way, set an internal carbon price for their business, fulfil supplier sustainability requirements requested by customers, better manage climate-risks and reduce emissions, or get ahead in their industry and differentiate themselves as sustainable brands.

How Businesses Report on Emissions

A carbon footprint is a report detailing the amount of direct and indirect GHGs an organization emits through its activities. These emissions are broken down into scope 1, 2, and 3 emissions. Scope 1 emissions are direct emissions from activities owned by or under the control of the organization, such as heating, on-site fuel combustion, or use of company vehicles. Scope 2 emissions primarily refer to emissions generated from purchased electricity. While Scope 3 indirect emissions come from all other activities emitted upstream and downstream of the supply chain, including employee commuting and travel, and purchased products and services.

Emissions are calculated for each scope by collecting and measuring consumption data such as energy, fuel and material use. Emissions are calculated and converted into a unit called carbon dioxide equivalent (CO₂e)—which is the standard unit converting the global warming potential of all the different types of GHGs emitted from an activity.

The [Greenhouse Gas Protocol](#), by the World Resources Institute²⁰ is the most well recognized method and standard for calculating GHG emissions. This protocol sets out what businesses should include in their GHG inventories and what frameworks they should use to calculate them. Some businesses choose to also report their emissions and targets publicly through organizations such as the [Carbon Disclosure Project](#)²¹ and [Science-Based Targets](#)²².

See Table 2 below for brief definitions of the GHG Protocol Standards Scopes.

Table 2	
Scope 1	All direct from the activities of an organization or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.
Scope 2	Indirect emissions from electricity purchased and used by the organization. Emissions are created during the production of the energy and eventually used by the organization.
Scope 3	All other Indirect Emissions from activities of the organization, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.

Certifications and Designations on the Carbon Market

Claims about carbon neutrality are becoming more common on the voluntary market. However, inconsistency over what data needs to be included to reach carbon neutrality has led to confusion over what these claims mean or whether they are credible. For example, carbon neutrality under the Greenhouse Gas Protocol **does not require companies to offset their scope 3 emissions**²³, yet some companies and certifications seek to raise the bar and include scope 3 anyway. Note that regardless of which certification an organization seeks or whether it is participating in voluntary or mandatory reporting, the Greenhouse Gas Protocol is the most recognized methodology to categorize and calculate corporate emissions.



Certifications and designations exist to provide third-party assurance that an organization has honestly and accurately calculated and offset its carbon footprint. It is important to distinguish that certifications typically involve more rigorous third-party auditing processes than designations do. However, it is unfortunately most common

for companies to make self-assessed carbon neutrality claims without any third-party fact-checking or guarantee. Asking for professional assistance or expertise is the best way for a business to ensure that it is taking the proper steps to account for its true carbon impact and getting properly assessed for a certification or designation.

See Table 3 below for brief definitions of the terminology of these carbon claims.

Table 3	
Carbon or Climate Neutral	A company that has reduced or offset its emissions to reach net-zero. Sometimes this will include scope 3 emissions.
Climate Positive	A company that goes beyond carbon neutrality to reduce or offset more emissions that it produces.
Carbon Negative or Carbon Positive	Both of these terms mean the same thing as “climate positive”. More organizations and carbon offset providers are moving towards using the phrase ‘Climate Positive’ instead.
Carbon or Climate Friendly	Some carbon offset companies offer looser designations for companies that are not yet carbon neutral. The requirements for these types of designations vary and there are no standard expectations for what a climate friendly company is.

Inhouse management, expert guidance.

When preparing your company to buy or sell offsets the first step is clear. A company-wide audit is needed to identify areas where improvements can be made. Often the advice and direction of a nonpartial expert is helpful to evaluate and educate on areas of improvement. The peace of mind that your efforts are being accurately represented is also often a motivator to get compliance from staff that may need to change their work habits to support new policies designed to contribute to GHG emission reductions positively.

“Often the advice and direction of a nonpartial expert is helpful to evaluate and educate on areas of improvement.”



climatesmart

One example: Climate Smart Business Accreditation

Climate Smart Businesses, Inc. helps companies and non-profits learn how to measure and reduce their carbon footprints. Their unique training programs incorporate classroom learning, web-based software, and one-on-one support. With the tools and knowledge to tackle greenhouse gas management in-house, a company can contribute responsibly.

Once a Climate Smart representative has assessed your plan to ensure a complete effort, they award a seal and list your business among their business certificate holders. This public endorsement lends credibility and can provide additional benefits such as cost savings from greater efficiency, and marketing benefits from being known for taking a lead role on sustainability.

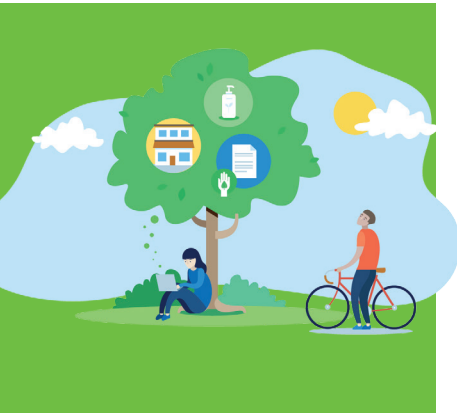
Different businesses see different benefits from participating in Climate Smart. These businesses each share a declaration of their efforts and acknowledgement of their intention to do better. [Browse businesses with a Climate Smart certificate here.](#)

“It is critical when assessing the credibility of a carbon offset project to research how it guarantees effectiveness, real reductions, and permanent climate impact.”

Determining an Offset Project’s Credibility

Not all carbon offset projects are developed to the same standards. It is critical when assessing the credibility of a carbon offset project to research how it guarantees effectiveness, real reductions, and permanent climate impact. The four most important credibility issues to look out for when purchasing carbon offsets are: Double Counting, Additionality, Permanence, and Leakage. These credibility risks are explained in the table below.

Table 4	
Double Counting	This occurs when the carbon credits from an offset project are claimed by more than one entity. Double counting is prevented when offsets are recorded on a public carbon offset registry.
Additionality	This is the requirement to prove that an offset project would not have occurred without carbon credit funds. Additionality can be difficult to assess, especially where evolving conditions change the likelihood that the project would have occurred anyway.
Permanence	The requirement to prove that a project cannot be easily reversed. For example, permanence issues could arise where forestry carbon offsets are claimed only for the trees to later be cut down.
Carbon or Climate Friendly	This occurs when organizations and companies move production abroad to avoid the consequences of over emitting in their own country. This is a concern as some organizations try to take short-cuts and find loopholes in international emissions agreements.
Leakage	Information about a project’s credibility can usually be found within the project’s verification reports on the registry where it has been published. A project should have these documents readily available online. If these documents do not exist, or the project is not publicly registered, it would be best to consider a different project.



“There is no universal way to tell whether one offset project is more effective than another. Some projects will have more carbon sequestering potential than others based on the size of the project, where the project is, or what type of project it is.”

The best way to ensure that an offset project is meeting these requirements is to look into the project’s verifiers, developers, and who is selling the project. Ask:

- Are the project outcomes measurable?
- Are the GHG reductions claimed by the project a result of real and specific actions?
- Has the project been verified by a third-party? Can the verifiers name and verification documents be found online?
- Is the project listed under a trusted carbon standard?
- Is the project listed on a public registry?
- Who is selling the carbon credits attached to the project? Is it a broker or carbon offset provider that you trust, or that has a reputation for listing credible and effective offset projects?

Table 5 lists the most recognized international standards for carbon offset projects and the most common public registries where most carbon offset credits are listed.

Table 5	
Examples of internationally recognized carbon offset project standards	<ul style="list-style-type: none"> • Verified Carbon Standard • Gold Standard • Clean Development Mechanism • Climate Action Reserve • Other jurisdictions may have their own standards specific to their region
Examples of carbon credit registries	<ul style="list-style-type: none"> • IHS Markit²⁴ and APX²⁵, soon to be merged into Verra²⁶ • Gold Standard Registry²⁷ • Clean Development Mechanism Registry²⁸ • American Carbon Registry²⁹ • Other jurisdictions may also have their own local carbon registries specific to their region

The Most Effective Offset Projects

There is no universal way to tell whether one offset project is more effective than another.

Some projects will have more carbon sequestering potential than others based on the size of the project, where the project is, or what type of project it is. It is also important to recognize that projects are not necessarily less effective just because they are developed abroad. Often projects are developed abroad because this method is more cost-effective than developing the project in the developer's country of origin.

There are certain characteristics that may make some offset projects more effective than others. In the case of forestry projects, it is argued that forestland conservation projects are far **more effective than tree planting projects**³⁰. This is mostly because conserving forestland protects biodiversity that would be destroyed when the forest area is clear-cut.

Hydro-electric projects should also be avoided as they have also faced criticisms for leading to negative **consequences for local communities** living near the project sites³¹. Otherwise, the best way to assess these projects is to assess a project's credibility using the methods above and ask questions to your carbon offset provider.

“Take the small, tangible steps to transformative change.”

Incorporating Carbon Management into your Business' Sustainability Goals

When deciding whether carbon offsets are right for your business it is important to consider what real impact your carbon management initiatives will have on the climate. Organizations that use offsetting to avoid making any real changes to their operations may be at risk of greenwashing. Organizations should first prioritize improving operational efficiencies, switching to renewable energy and low carbon transportation, and investing in technology that reduces emissions overall. Only after your organization has made as many reductions as possible, should you turn to carbon credits to offset what cannot be reduced.

An organization with a smaller budget can also use offsetting as a stepping stone towards changes it cannot afford to make today. For example, a company may want to switch to an all electric fleet of vehicles, but the technology or funding for this transition may be many years away. This company may choose to offset its transportation emissions as it works towards undertaking more costly climate-related actions later.

“The best way to get started with carbon offsetting is to contact an offset service provider to understand how offsets can fit into your organization's sustainability goals.”

If most activities from your organization's carbon footprint can be easily decarbonized, you may want to also explore options other than offsetting. Most countries under the Paris Agreement are **incorporating carbon pricing and taxes** into their reduction plans³². If your organization was a delivery business using gas-powered vehicles and you operated in a jurisdiction with carbon taxes, focussing on switching to an electric vehicle fleet could both help you meet your reduction goals and significantly reduce the amount of carbon taxes paid by your company.

The best way to get started with carbon offsetting is to contact an offset service provider to understand how offsets can fit into your organization's sustainability goals. Visit Intengine's Certification, Labelling and Accreditation page to find a carbon management firm for your business.

Resources

- ¹<https://carbonmarketwatch.org/publications/the-clean-development-mechanism-local-impacts-of-a-global-system>
- ²<https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs>
- ³<https://www.wemeanbusinesscoalition.org>
- ⁴<https://www.bsr.org/en>
- ⁵<https://climatepolicytracker.org>
- ⁶<https://www.iata.org/contentassets/fb745460050c48089597a3ef1b9fe7a8/corsia-fact-sheet.pdf>
- ⁷<https://www.iata.org/contentassets/fb745460050c48089597a3ef1b9fe7a8/corsia-fact-sheet.pdf>
- ⁸<https://www.icao.int/environmental-protection/Lists/CORSIAParticipation/AllItems.aspx>
- ⁹<https://www.cbc.ca/news/canada/montreal/quebec-california-cap-and-trade-1.5331865>
- ¹⁰<https://www.nationalobserver.com/2019/12/13/analysis/one-piece-paris-agreement-holding-cop25-negotiations>
- ¹¹<https://www.carbonbrief.org/in-depth-q-and-a-how-article-6-carbon-markets-could-make-or-break-the-paris-agreement>
- ¹²<https://www.politico.eu/article/6-takeaways-from-the-cop25-climate-talks>
- ¹³<https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework/climate-change-plan.html>
- ¹⁴<https://www.canada.ca/en/environment-climate-change/services/sustainable-development/strategic-environmental-assessment/public-statements/pan-canadian-framework.html>
- ¹⁵<https://climateactiontracker.org/countries/canada>
- ¹⁶<https://business.financialpost.com/commodities/energy/canada-plans-first-carbon-trades-under-paris-climate-change-agreement>
- ¹⁷<https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/industry/pricing-carbon-pollution.html>
- ¹⁸<https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/industry/pricing-carbon-pollution.html>
- ¹⁹<https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work.html>
- ²⁰<http://ghgprotocol.org/>
- ²¹<https://www.cdp.net/en>
- ²²<https://sciencebasedtargets.org/>
- ²³<https://ghgprotocol.org/corporate-standard>
- ²⁴<http://hdl.handle.net/10986/31755>
- ²⁵<https://apx.com/>
- ²⁶<https://verra.org/project/vcs-program/registry-system/>
- ²⁷<https://registry.goldstandard.org/projects?q=&page=1>
- ²⁸<https://offset.climateneutralnow.org/vchistory>
- ²⁹<https://americancarbonregistry.org/>
- ³⁰<https://www.nytimes.com/2019/10/30/climate/climate-change-forests.html>
- ³¹<https://www.climatechangenews.com/2019/12/09/carbon-offsets-patchy-human-rights-record-now-un-talks-erode-safeguards/>
- ³²<http://hdl.handle.net/10986/31755>

Additional Carbon Offset Certifications and Standards

Alberta Emissions Offsets Registry
Australian National Carbon Offset Standard
BC Carbon Offset Regulation
California Air Resources Board
Certified CarbonNeutral (CarbonNeutral Company standard)
Climate Action Reserve
Climate Neutral Certified (new company)
Climate, Community and Biodiversity Standard
CSA Standard Certified
Gold Standard
Ontario Voluntary Carbon Offsets Program
South Pole (Penguin Label)
UN Certification for Carbon Offsets (Carbon Neutral Now/Clean Development Mechanism)
Verified Carbon Standard

Browse Intengine's updated list of Energy, Environment & Carbon Certifications

<https://intengine.com/certifications/category/energy-environment-carbon>

Carbon Smart
Carbon Smart Gold Certified
Carbon Smart Silver Certified
CarbonFree Certified
CarbonNeutral Product
Climate Action Reserve
Climate Smart Certified Business
CSA Standard - Climate Change - Carbon Accounting and Management
CSA Standard - Climate Change - CO2 (Carbon)
GHG-IQ
Gold Standard

About Intengine

intengine.com    @intengine   @goodintengine

Intengine, Winner of 2019 and 2020's Most Outstanding Platform for Sustainable & Eco-friendly Business (by AI Global Media Ltd.)

What Matters To Us



The Power of Good

Positive incremental changes in our everyday lives can lead to substantial transformations on a global scale.



Transparency and Accountability

Consumers and businesses alike can benefit from an open platform for feedback and communication.



Equal Access

Regardless of size, all businesses have equal access to our features and users, so they can bring about important changes to the sustainable marketplace.



Giving Back

Being responsible takes dedication, so we support conscientious innovators and entrepreneurs by donating 10% of our advertising space to emerging companies.



Human Rights

We support an inclusive and equitable marketplace that benefits from the contributions of a diverse and engaged population.



Ecological Stability

Respect, replenish and reuse the earth's resources to maximize its potential with the least impact.

MAKING AN IMPACT

Every Decision Counts

At Intengine, we know you're tired of empty promises from greenwashed brands. You want to know that you are supporting a business you can believe in. Our extensive database of social and environmental certifications gives you a more balanced story, so you can understand not just who claims to offer sustainable products and services, but what these companies are actually doing to make a difference.

FOR BUSINESSES

Be Part of the Solution

It's about progression, not perfection. Your business belongs on Intengine if you are committed to fostering, measuring, or improving your social and environmental performance. List your own business, find businesses that can help make your supply chain something your customers feel great about, and use our advertising platform to connect with an audience that shares your passion.