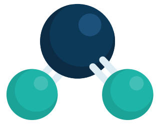
# Carbon Offsetting

## Paving the Way for a Greener Future

NEW YORK LIFE INVESTMENTS

**Greenhouse gases (GHG)** are known to trap heat in the Earth's atmosphere, an effect that contributes to global warming.



Of these gases, Carbon Dioxide ($CO_2$) is the most prevalent.

# Breakdown of U.S. GHG Emissions


$CO_2$ is released into the atmosphere through human activities such as:

- Deforestation
- Fossil fuel consumption

Source: EPA, 2024

As significant emitters of $CO_2$, businesses can play a large part in reducing global emissions.

A company's carbon footprint can be broken down into three scopes:

## Scope 1

**Direct emissions from company operations**

- Company vehicles
- Factories

## Scope 2

**Indirect emissions from company operations**

- Emissions from purchased electricity

## Scope 3

**Indirect emissions from company supply chains**

- Raw material extraction
- Business travel
- Shipping

In most cases, completely eliminating these emissions is not yet possible.

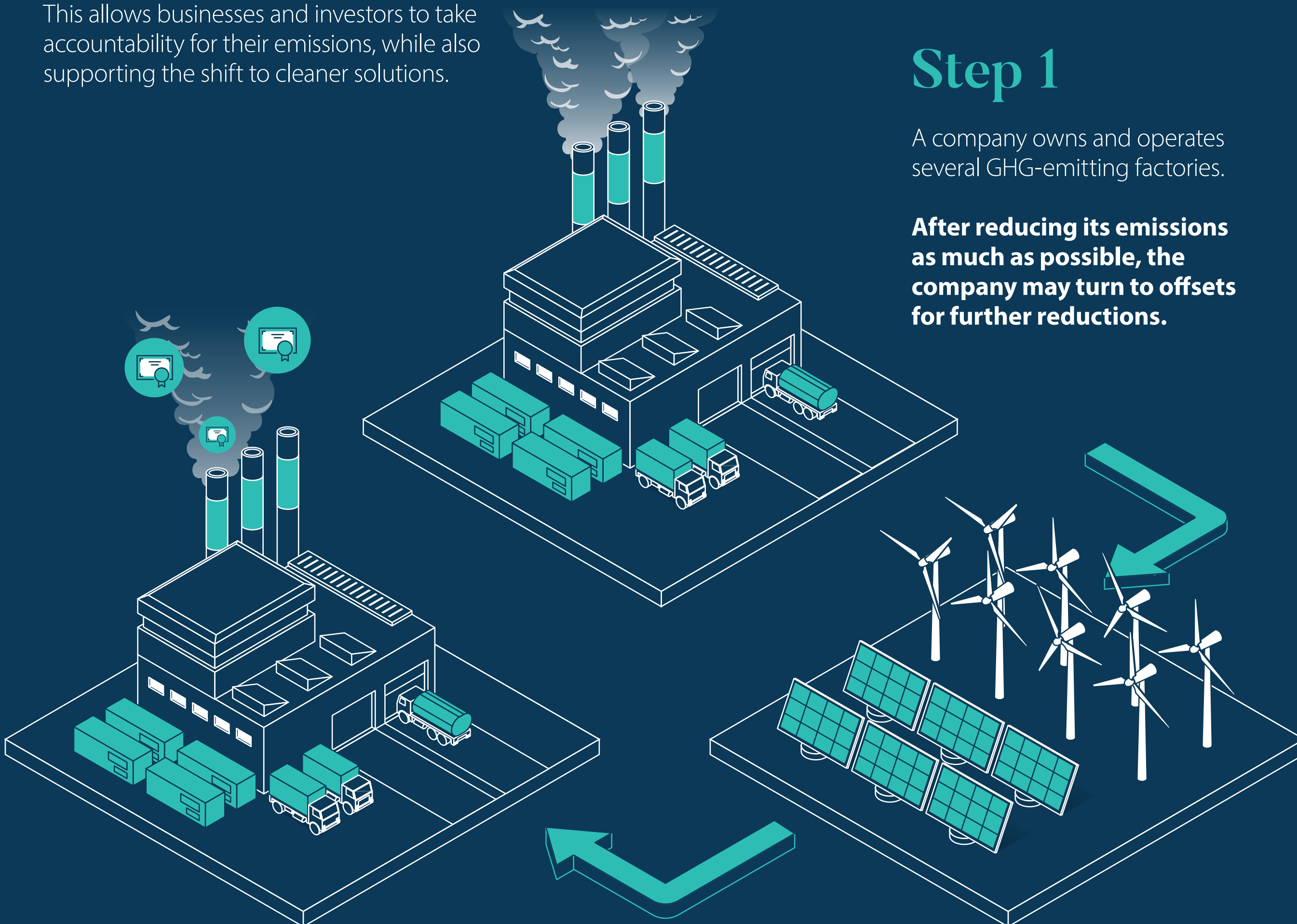
Instead, a company can opt to neutralize its emissions through an activity known as **carbon offsetting.**

What is

# carbon offsetting?

Carbon offsetting is the method of counteracting emissions by funding GHG reduction projects.

This allows businesses and investors to take accountability for their emissions, while also supporting the shift to cleaner solutions.



## Step 1

A company owns and operates several GHG-emitting factories.

**After reducing its emissions as much as possible, the company may turn to offsets for further reductions.**

## Step 2

The company makes investments in several GHG reduction projects.

**The environmental benefits of these projects, expressed in tonnes of $CO_2$ equivalent ($CO_2e$), are certified by carbon credits.**


One carbon credit

One metric ton of carbon emissions

## Step 3

The company receives carbon credits in return for its investments, which it uses to counteract its emissions for the year.

An important aspect for any carbon offsetting transaction is the effectiveness of the underlying project.

GHG reduction projects focus on several areas:


## Energy efficiency

These projects reduce our current energy consumption.

**Project example**

Replacing firewood and charcoal with fuel-efficient stoves reduces emissions and improves living conditions.

Examples of eligible projects:

- **Installing** efficient light bulbs and cookstoves in households
- **Generating** sustainable electricity from wastewater biogas


## Nature-based Projects

These projects involve the conservation, restoration and management of natural ecosystems.

**Project example**

Protecting California's redwood forests to maintain their environmental integrity while sustaining the local timber economy.

Examples of eligible projects:

- **Planting, regenerating, and protecting** forests
- **Transition** to sustainable farming practices
- **Protect and restore** mangroves, wetlands, and peatlands


## Renewable energy

These projects reduce our reliance on fossil fuels.

**Project example**

Building wind farms in Taiwan can improve Taiwan's national security and future prosperity.

Examples of eligible projects:

- **Powering** countries with wind, solar, and geothermal energy
- **Capturing** methane from landfills and converting to electricity

Source: South Pole, 2024

Businesses aren't the only entities that can offset their GHG emissions.

Consider a sustainably managed strategy that wishes to neutralize the carbon of its investments.

Portfolio holdings

Associated emissions

## Company A

**20% ownership** stake in Company A

The company emits **10,000 metric tons of $CO_2$** annually

The fund is seen as "emitting" **20% of the company's emissions**

The fund would require **2,000 carbon credits** to offset its associated emissions

## Company B

**5% ownership** stake in Company B

The company emits **50,000 metric tons of $CO_2$** annually

The fund is seen as "emitting" **5% of the company's emissions**

The fund would require **2,500 carbon credits** to offset its associated emissions

Carbon offsetting can allow an investment strategy to neutralize its associated emissions.

How is

# offsetting regulated?

The market for carbon offsets is not regulated by a sole entity.

Instead, verification is provided by third-party organizations such as Verra, Gold Standard, or American Carbon.

Carbon credits are only issued after a project has undergone a verification process covering four broad criteria:


## Measurability

The GHG savings of the project must be measurable.

## Verifiability

The results of the project must be verified by an independent auditor on an annual basis.

## Sustainability

Each project should have a minimum lifespan of seven years.

## Additionality

The GHG reductions of the project must be considered in reference to a baseline scenario.

Carbon offsetting in the U.S. is primarily a voluntary activity, but several states have made it mandatory for significant polluters.

Case study

# California's Cap and Trade

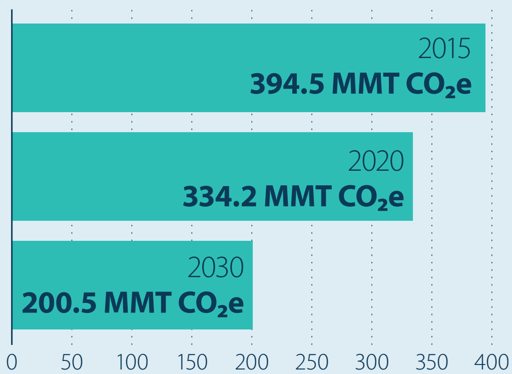
California's cap and trade program is one of the world's largest regulatory emissions programs.

## What is it?

The program is overseen by the California Air Resources Board, which issues annual emissions allowances to significant polluters.

This allowance sets a "cap" on total GHG emissions, and is reduced over time.

California emission allowances, in million metric tons (MMT)




## Who does it affect?

California's cap and trade program applies to significant polluters such as:

Power plants

Industrial facilities

Fuel distributors

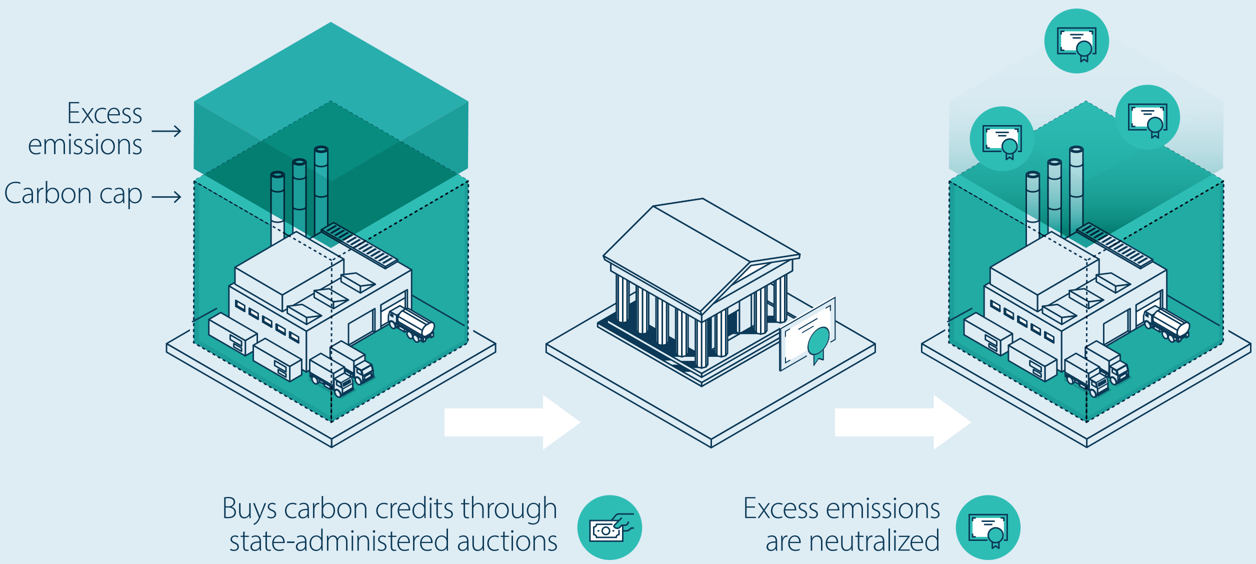
Businesses that emit more than 25,000 metric tons of $CO_2e$/year are subject to regulation.

Entities in-scope can offset 4% of their emissions with carbon offsets. Half of these offsets must directly benefit California.

Source: Center for Climate and Energy Solutions, 2021

# How does it work?

Businesses must acquire carbon credits to offset any emissions in excess of the cap.




# Benefits

California's carbon credit auctions have generated $13.6B in revenues since the start of the program.

These revenues are used to fund various projects across the state:

**1,069** transit agency projects funded

**891,000 acres** of land preserved or restored

**201,125** urban tree plantings

**10,399** affordable housing units under contract

Source: California Climate Investments, 2023

Investors are driving the shift to

# carbon neutrality

Shareholder concern and regulation has pressured corporations to increase their sustainability efforts and report on their progress.

**Number of S&P 500 companies publishing sustainability reports**

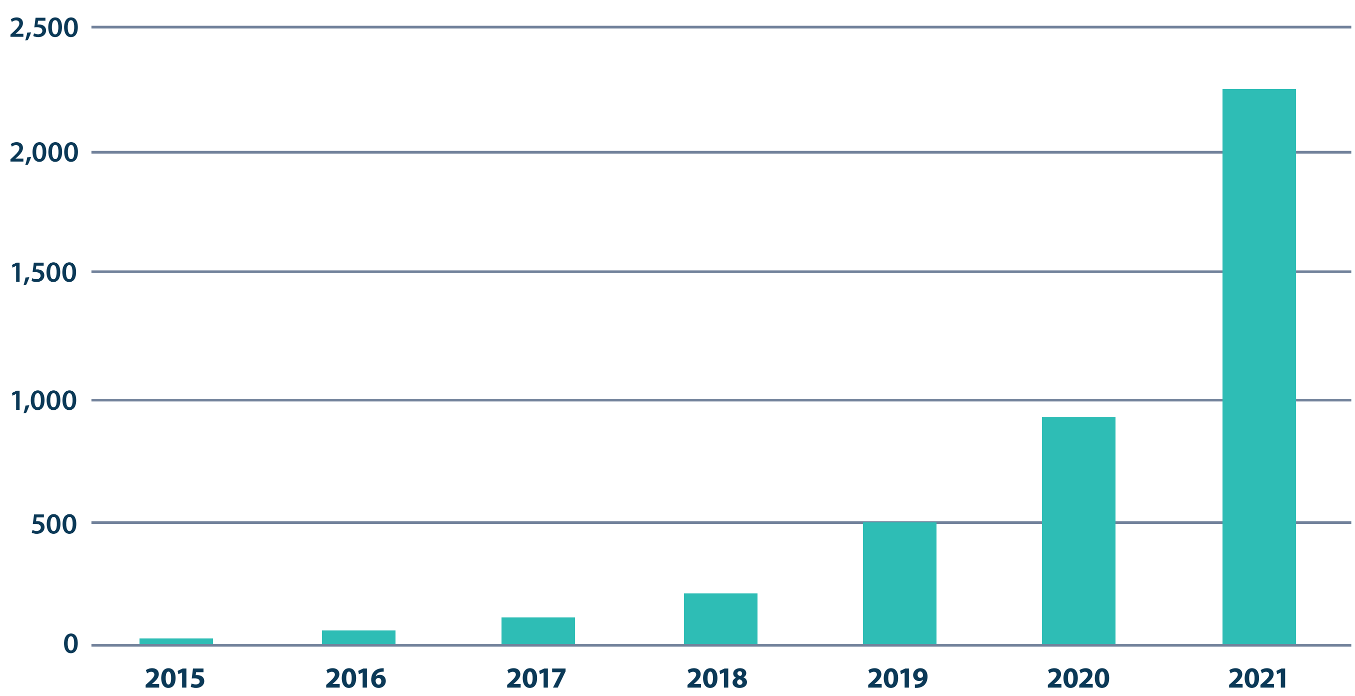
2011 **20%**

2022 **98%**

Source: Governance & Accountability Institute, 2023

In addition, a record number of companies have committed and set GHG emissions reduction targets in line with the Science Based Targets initiative (SBTi).

**Annual cumulative number of companies with emissions reduction targets and commitments, 2015-2021**




Source: SBTi, 2022

The consequences of global warming are becoming more evident, and significant investment will be required to develop sustainable solutions.

In this regard, carbon offsetting can be a powerful tool used by both businesses and investors.

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