



CO₂ neutrality

The road to a
CO₂ neutral company



THE ROAD TO CO₂ NEUTRALITY

Inhoudstabel

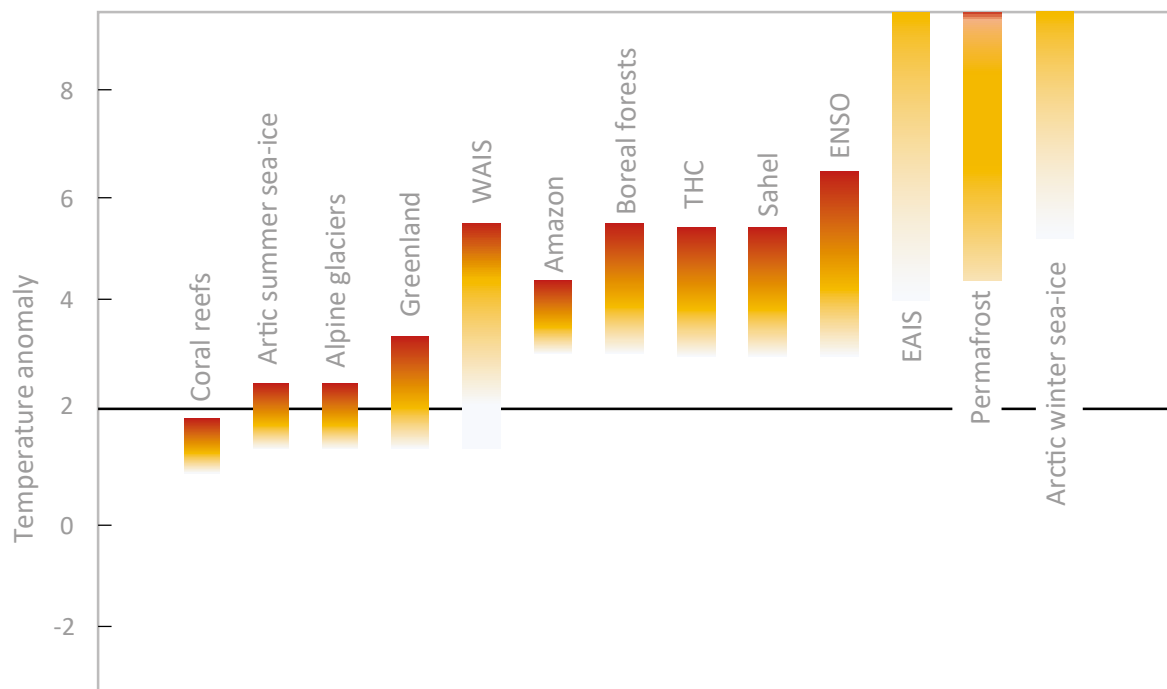
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THE ROAD TO CO₂ NEUTRALITY, A SENSE OF URGENCY

Since the 1960s, awareness has grown about the impact we as humans have on our planet. In recent decades, we have observed all over the world how this impact is changing our environment. Climate change is one of the most important challenges that awaits humanity.

Our generation is the first to see the consequences and the last able to intervene and turn the tide. In October 2018, the IPCC (International Panel on Climate Change) warned of an approaching “Tipping Point”. This is a tipping point at which irreversible events occur. Such an event is, for example, the melting of the ice caps in Greenland. Most of the surface on Earth is occupied by (sea) water or land. These surfaces absorb the heat from the sun. Ice, on the other hand, reflects sunlight. This is called the albedo effect. As the ice melts, less and less albedo will occur and the amount of land and (sea) water surface that will absorb the heat of the sun increases. This creates a vicious circle that can cause “runaway global warming”. This could cause the earth to warm up by 4 to 5 °C relatively quickly.

The melting of Greenland's ice caps is just one of several tipping points. Other tipping points are indicated in the figure below.



Graph 1: Tipping points

Graph 1: Tipping points

In this graph, the horizontal black line is important as a reference. This line represents how far the temperature is allowed to deviate (+ 2 °C) according to the current Paris climate agreement. The yellow-orange-red bars are depicted relative to this line. These represent the thresholds for the following tipping points:

- **Coral reefs:** The disappearance of coral reefs (e.g., The Great Barrier Reef in Australia)
- **Albedo effect:** The disappearance of surfaces covered by ice and snow will reduce the average albedo effect of the Earth. White surfaces have a much greater reflection percentage than dark/black surfaces, meaning they also heat up less quickly. If we lose these surfaces, the Earth's average albedo effect will decrease, and the Earth will warm up more.
 - Arctic summer sea-ice: sea ice at the North Pole in the summer
 - Alpine glaciers
 - Greenland: Greenland ice caps
 - WAIS: Western ice cap at the South Pole
 - EAIS: Eastern ice cap at the South Pole
 - Arctic winter sea ice: sea ice at the North Pole in winter
- **Amazon forest:** degradation of this forest reduces its capacity to store CO₂ from the atmosphere in biomass
- **Boreal forests:** degradation of these forests reduce their capacity to store CO₂ from the atmosphere in biomass.
- **THC:** Thermohaline circulation is the circulation of seawater across the different oceans. This influences the climate and can itself be influenced by the melting of the Greenland ice caps
- **Sahel:** Greening of the Sahel desert in Africa
- **ENSO:** El Niño Southern Oscillation
- **Permafrost:** Thawing of the permafrost releases methane

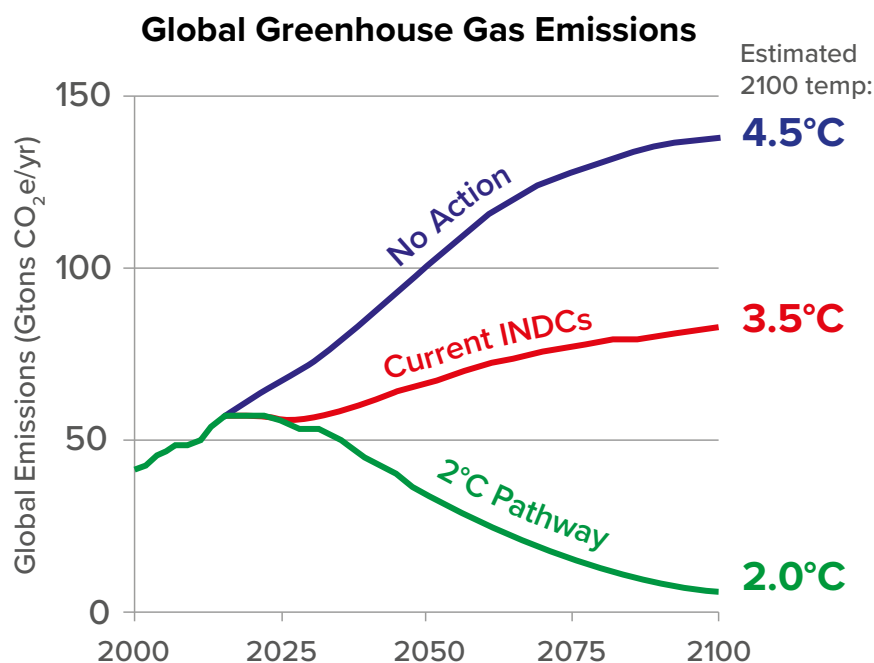
The position of the bars for each of the tipping points in relation to the black horizontal line is very important. These bars show how high the risk is that a tipping point will be reached with a certain temperature increase (e.g., complete destruction of the coral reef, complete melting of the Greenland ice sheet, etc.). Thus, beyond the red zone, the tipping point has been reached with certainty.

TIME FOR CLIMATE ACTION

To avoid a scenario of runaway global warming, an agreement was negotiated at the Paris 2015 climate conference and signed by 195 countries. The main goals of this agreement are:

- To ensure that the average global temperature does not exceed 2°C and to implement measures that limit the temperature increase to 1.5°C, knowing that this can significantly reduce the risks and impacts of climate change;
- The ability to adapt to the adverse effects of climate change and promote climate resilience and greenhouse gas emission reductions in a way that does not threaten food production;
- Creating consistent financing for a pathway to low greenhouse gas emissions and climate-resilient development.

Following the Paris Agreement, various countries have set their own objectives (INDCs - Intended National Determined Contributions) to meet the criteria of this agreement. For example, Belgium committed to achieving a reduction of CO₂ emissions of 15% compared to 2005 by 2020 and comfortably achieved this target, with a reduction in emissions in 2021 that is 20% lower than in 2005. By 2030, the federal government wants to achieve a reduction of 40% compared to 2005, which is a very challenging target that will require ambitious measures.



Graph 2: Possible scenarios of greenhouse gas emissions until 2100



Graph 2: Evolution of greenhouse gas emissions in the world

This graph shows three scenarios. The blue “No Action” line shows us the CO₂ emissions over the next few years if we do nothing. This is accompanied by a temperature increase of 4.5°C by 2100. The red line shows the CO₂ emissions in the coming years with the objectives to which the countries that have signed the climate agreement have committed themselves.

These objectives are known as the INDCs or the Intended National Determined Contributions. Even in this scenario, a temperature increase of 3.5°C is still caused. The green line shows the scenario that must certainly be realized according to the Paris agreement. This is called the 2° C path. By following this path, many of the aforementioned “tipping points” can be avoided.

The 6th IPCC report makes the target even stricter and advocates limiting the global temperature increase to 1.5°C. According to the IPCC report, the remaining carbon budget is still 500 GtCO₂. Without adjustments, this budget will run out in 14 years. To balance anthropogenic greenhouse gas emissions and move to Net-Zero emissions by 2050, reducing emissions will not be enough and CO₂ must also be removed from the atmosphere. Carbon removals are necessary to achieve global climate goals.

Policy as leverage

Various policy instruments have been drawn up to reduce CO₂ emissions. Below are 3 examples.

1. The EU ETS (EU Emissions Trading System) is one of them. It is a policy instrument that has been launched to create a carbon market in Europe through a “Cap and Trade” system. It is the world's first and largest carbon market. With the EU ETS, Europe determines the maximum CO₂ emissions and distributes the emission allowances across different countries and sectors. This is known as the “cap”.

Anyone who emits more than the emission allowances allocated must pay additional allowances purchase rights. Those who remain within the granted rights can sell them. Emission allowances are therefore traded, and it is the market that determines the price of CO₂. This is called the “trade”.

2. Another policy instrument is the CO₂ tax. The government determines how much a ton of CO₂ costs and tax is paid based on the amount of CO₂ emitted.
3. The CO₂ performance ladder was developed in the Netherlands. This ladder has 5 levels. The higher a company is on the ladder, the more it is demonstrably “master” of its CO₂ emissions. This ladder is often used by governments when tendering for infrastructure works. By using the CO₂ performance ladder, a government can award a contract in a public tender to a contractor who may be more expensive but is higher on the ladder than a competitor.

CO₂ footprint. What's in a name?

When an organization wants to reduce emissions (whether it is for its operations, a product or a service), it is first and foremost very important to know how effective the total greenhouse gas emissions are and especially where the largest emission sources are located. To map this out, a “Carbon Footprint” is drawn up. Also called a “CO₂ footprint”. In this calculation, all the organization's activities are converted into CO₂ equivalents (CO₂e). This heading includes the 6 different greenhouse gases defined in the 1997 Kyoto Protocol.

Gas	Greenhouse gas effect (for 100 year time horizon)
Carbon dioxide (CO ₂)	1
Methane (CH ₄)	30
Nitrogen oxide (N ₂ O)	265
Fluorkoolwaterstoffen (HFC's)	4 – 12400*
(Per)Fluorocarbon (PFC's)	6630 – 17400*
Sulfur hexafluoride (SF ₆)	23500

Table 1: Various greenhouse gases and their effect compared to CO₂

**Depends on the HFC or PFC used.*

A CO₂ footprint cannot only be drawn up for an organization, but also for a product, a production site, a process, a fleet, ... For each of these types of footprints it is important to define what is included in the calculation. Various standards have been developed for this purpose. The best-known standards are the Greenhouse Gas Protocol, Bilan Carbone, ISO14064 (for organizations) and ISO14067 (for products).

For organizations, for example, the Greenhouse Gas Protocol explains how to define the boundaries of an organization if you wish to calculate a CO₂ footprint:

1. Equity share approach

With this approach, the limits are determined by the percentage of shares that a company or organization has in a certain process from which greenhouse gas emissions arise. It reflects the economic interests of the company in that process.

2. Control approach

With this approach, the boundaries are determined by the processes over which a company or organization has control. The greenhouse gas emissions resulting from these processes are the full 100% included. Control can be interpreted in two ways: operational or financial control.

a. Operational control

A company or organization has operational control over a process if it has full authority to introduce and implement things in the process.

b. Financial control

A company or organization has financial control over a process if it can direct the financial or operational policy of the process, with a view to achieving economic benefits. For example: If a company is entitled to most of the benefits or risks of a lawsuit.

In practice, operational control is often used to determine the boundaries of an organization.

How much is 1 ton of CO₂?

- Driving an average car 9,500 km
- 1 round trip by plane from Brussels to Marrakech (1 passenger economy class)
- Heating a house for 2 months (350 liters of fuel oil or 450m³ of natural gas)

Once the boundaries of an organization have been determined, all CO₂ emission sources within these boundaries are mapped and divided into 3 categories:

Scope 1: Direct greenhouse gas emissions

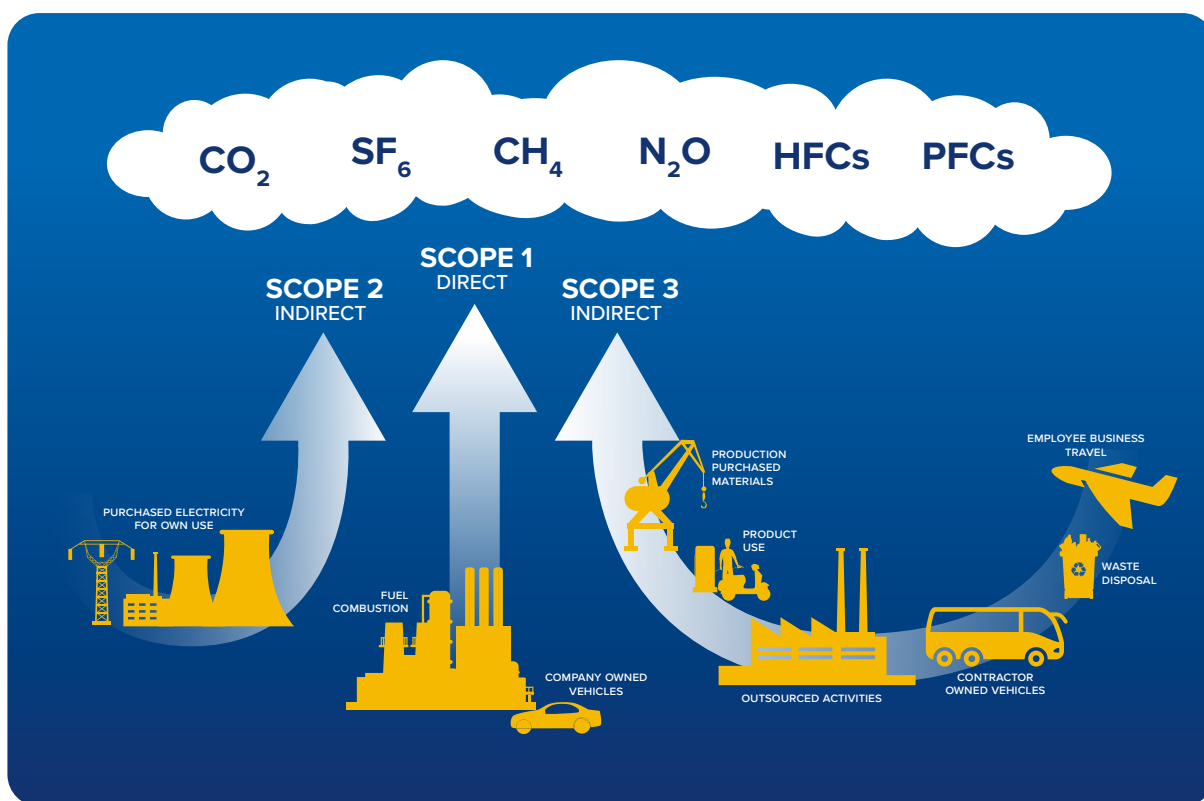
These are emissions caused by sources owned or controlled by the organization such as: gas consumption, commercial vehicles, refrigerant gases in air conditioning systems, etc.

Scope 2: Indirect greenhouse gas emissions for electricity or heat

These are emissions caused by the consumption of electricity or heat. These emissions do not take place at the organization but are released by the producer of consumed electricity or heat.

Scope 3: Other indirect greenhouse gas emissions

These are emissions that come from upstream and downstream sources. They are caused by the organization's activities, but the organization does not own the source or control it. This may concern business travel, incoming materials/raw materials, purchase of goods, IT equipment, hiring service providers, production of waste, use of sold products, etc.



Graph 3: Distribution of the emission sources in 3 different scopes

Emission sources all have one or more specific units in which they are expressed. Gas and electricity can both be reported in kWh. But gas can also be expressed in m³. The use of company cars is then shown in the number of kilometers driven or the number of liters of fuel consumed. These are the activity data (primary data).

KWh, l, m³, km... are of course less than kg of CO₂e. To convert the activity data to kg CO₂e, emission factors are used with the following formula:

activity data x emission factor.

To illustrate:

- For example, the emission factor for 1 liter of diesel is 3.256 kgCO₂e/liter. This means that the combustion of 1 liter of diesel releases 3.256 kg of CO₂e.
- The emission factor for the refrigerant gas R134a is 1300 kgCO₂e/kg. This means that if 1 kg of R134a escapes into the atmosphere, it will cause a warming effect equivalent to 1300 kg of CO₂.

(Source Emission Factors: CO₂ emissionsfactors.nl Diesel (EUR) and R134a, August 2023)

Emission factors can be found in (public) databases, from suppliers and producers, such as electricity suppliers, railway managers, service providers, etc. It is best that the emission factors are as recent as possible and approved by independent third parties/experts. Emission factors can also differ per country for electricity, for example, depending on the energy mix.

Once all emission sources have been converted into kg CO₂e, the various emissions can be added together to determine the total CO₂ footprint. Emission sources can be compared, and hot spots can be identified. This is important to determine the reduction options.

“ CO₂ neutrality is always mentioned as an additional action regarding sustainability. There is certainly added value.”
Larger customers specifically ask for this.

Sustainability coordinator @ Beyers Coffee

THE CO₂ NEUTRAL LABEL

The CO₂ Neutral label is a collaboration between CO₂logic and Vinçotte. The CO₂ Neutral Label guarantees that the validated organizations actively calculate, reduce and, if necessary, compensate their CO₂ emissions. This label ensures that the certified companies have real climate ambitions and corporate social responsibility with a view towards a more sustainable future. More information about the label can be found at www.co2-neutral-label.org and on [YouTube](#).



Types and levels of the CO₂ Neutral Label

The CO₂ Neutral label offers different levels and types of certifications to support any subject at every step of its climate journey. Label types can be: entity, product or service.

There are **three different types of the CO₂ Neutral Label**; a label for entities, for products and for activities.



Entities/organizations	Products	Services/activities
Companies or parts of companies (e.g. at establishment level), organizations, private bodies, households, cities or even individuals and can be defined by physical location or legal entity.	<ul style="list-style-type: none">■ An article or substance that is manufactured or refined for sale.■ Examples: food and fast-moving consumer goods, and even buildings	<ul style="list-style-type: none">■ Limited but well-defined activities that are not considered entities or products.■ Examples: events, logistics activities, production processes

The CO₂ Neutral Label has three different levels for entities/organizations and products. These range from bronze to gold. These levels indicate the level of ambition and can encourage companies to continue on their journey. It helps customers and stakeholders understand where a company stands in the climate journey.

The entity/organization criteria applied to determine which level applies are as follows:



Bronze

- Only scope 1 & 2 emissions are calculated
- An absolute or relative reduction target is defined to reduce CO₂ emissions



Silver

- Scope 1 & 2 and part (cat. 3, cat. 5, cat. 6 and cat. 7 according to the GHG protocol) of scope 3 emissions are calculated
- An absolute or relative reduction target is defined to reduce CO₂ emissions from scope 1, 2 & part (cat. 3, cat. 5, cat. 6 and cat. 7 according to the GHG protocol) of scope 3



Gold

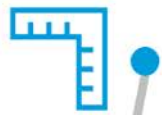
- The full scope 1, 2 & 3 emissions are calculated
- A reduction target must be set for all scopes and material scope 3 emissions
- The reduction target must be in line with the 1.5°C reduction scenario as defined by the 6th IPCC assessment report

CO₂ Neutral Labels for products are assigned their level based on an assessment matrix. In this matrix, various questions are asked that are linked to different aspects of the product such as: end-of-life, use phase, data quality, etc. After all questions have been answered in the matrix, a weighted score is calculated that will indicate whether the level of the CO₂ Neutral Label for the product is bronze, silver or gold.

Services/activities are not assigned a level. The full scope of the service or activity is automatically mapped out here. This means that all material and relevant emission sources are included.



Climate journey to obtain the CO₂ Neutral Label



A. Measure and analyze

Measuring climate impact by establishing a carbon footprint based on recognized methodologies.

Identify the main emission sources and propose concrete measures to reduce emissions.

Analyze climate scenarios, policies, and regulations to determine impact of core activities and supply chains



B. Determining targets and drawing up a trajectory

Set ambitious and realistic objectives, identify KPIs and determine a trajectory with clear targets and deliverables on four levels:

1. Reducing the negative climate impact of own value chain.
2. Identify actions that ensure the company can participate in a net-zero society.
3. Develop products and services that help others reduce their emissions.
4. Increase positive impact outside own value chain by collaborating with and contributing to climate projects.



C. Reduce footprint

Execute objectives and transform the business by following the path that has been set.

Apply the principles of a management system following the Plan-Do-Check-Act approach, supported by the right structure, processes and governance to ensure continuous feedback cycles and improvement.



D. Financing climate action

Looking beyond its own core activities to determine its role in broader, global efforts to combat climate change.

Establish partnerships and contribute to supporting positive climate initiatives to tackle climate change in an efficient, collaborative, and supportive manner.



E. Communicate and lead

Create a strong and transparent communication plan to increase stakeholder involvement and brand value.

Openly display achievements and weaknesses to increase confidence.

Achieve the CO₂ Neutral label in 10 steps

1. Determine the subject and scope
2. Quantify and analyze emissions against a recognized standard
3. Develop an emissions reduction plan and a contribution strategy
4. Set at least one internal reduction target and contribution target (link to SBTi) (<https://www.wri.org/initiatives/science-based-targets>)
5. Establish a management plan and governance structure, including a policy statement from senior management or a commitment letter from the CEO
6. Implement the action plan and reduce emissions
7. Offset the remaining emissions with certified carbon credits
8. Communicate publicly, transparently, and unambiguously
9. Annual follow-up and evaluation to demonstrate the effectiveness of the reduction measures and take corrective action where necessary
10. Validation by Vinçotte, an independent third party (1st year for every first label obtention, then every 3 years)

Why the CO₂ Neutral Label?

Do you want to contribute to an important social challenge such as climate change and do you want to make that commitment clear and recognizable? Working as a subject on decisive and transparent climate action with the CO₂ Neutral label has many advantages:

Ecological responsibility: The CO₂ Neutral label is a recognition of the subjects' climate efforts, it indicates the subject takes responsibility for its impact. The CO₂ Neutral label clearly indicates which aspect of the subject is currently carbon neutral.

Credibility: The CO₂ Neutral label is validated by Vinçotte, an independent third party. The independent validation represents a quality guarantee. The double verification (first by CO2logic and then by Vinçotte) ensures the subject has followed the conditions for label obtention and that its climate strategies and efforts are being communicated accurately and transparently to limit risks of greenwashing.

Stronger reputation: : Respect for the environment and climate action are important motivations for stimulating values, which potential customers, staff and other stakeholders attach value to.

Stronger market position: By limiting emissions you can anticipate future policy and regulations. With the CO₂ Neutral label you can distinguish yourself from others as a company and increase competitiveness. The label can be used in online and offline communication.

Cost reduction: By calculating the CO₂ footprint and reducing emissions, unnecessary costs can be saved in time. In the process, unnecessary financial costs can be identified due to dependence on fossil fuels, energy inefficiency, waste, paper, and water.

Transparency of the CO₂ Neutral Label

To make the climate obligations of the CO₂ Neutral label more transparent, a QR code is provided with each label. This QR code opens a link with important information about the climate journey of the subject obtaining the label so that users, customers, and stakeholders receive in-depth information about the subject's progress in reducing emissions. The following information can be found via the QR code:

- Name of subject obtaining the label, type and level
- Status of the label
- Official top management commitment of subject's stating the ambition (downloadable)
- The perimeter and scope of the CO₂ footprint
- Detail of the scope included and the total tCO₂ calculated
- Methodology used for calculations
- The ambition, targets and measures to reach the objectives of the reduction plan
- Details about the financed climate projects
- Vinçotte validation statement (downloadable)

Once a subject is aware of CO₂ emissions, the most important phase on the road to CO₂ neutrality follows: the actual reduction of CO₂ emissions. How to reduce CO₂ largely depends on a subject's activities and the hot spots that have been identified. Options for reducing CO₂ emissions include switching to green energy contracts, greening the vehicle fleet, encouraging the use of public transport or a bicycle as a means of transport, switching to LED lighting, changing the gas used for cooling, etc. Sometimes the benefit also lies in adapting very company-specific production processes. The ambitions to reduce CO₂ are included in a reduction plan. The reduction targets must be based on scientific insights, which is why the reduction targets are tested against the Science Based Target initiative (SBTi).

Becoming CO₂ neutral by simply reducing emissions is often difficult in practice. It is very likely that CO₂ compensation will play an important role in achieving CO₂ neutrality however, their primary function is not to replace or substitute the efforts that subjects must undertake to minimize their carbon footprint and achieve their specific targets.

Indeed, simply offsetting the emissions caused by a company's activity, a product or a service without any CO₂ reduction is not ambitious enough to obtain the CO₂ Neutral label. The goal of the label is to encourage companies to reduce maximum emissions so that compensation is no longer necessary in the long term.

“ Drukkerij Van Der Poorten takes a certain pride in themselves, a good feeling that they are doing business in a socially responsible manner.

The commercial result is a bit more difficult. Externally, awareness still needs to grow about CO₂ neutral paper.”

Filip Van Wezemaal @ Drukkerij Van Der Poorten

COMPENSATION THROUGH CLIMATE PROJECTS

According to the latest IPCC report, removing emissions is an important part of climate action and carbon removals are necessary to achieve global climate goals. This can be done using nature-based solutions, such as reforestation, or through technology-based solutions, such as direct carbon capture. To achieve the necessary scale and speed of climate action, focusing on own reductions is not sufficient.

Offsetting is a cornerstone in achieving CO₂ neutrality. If, after reduction, the remaining emissions are very difficult to avoid or only at a very high cost, it is more efficient to support climate projects elsewhere where this emission reduction is feasible at a reasonable price. After all, CO₂ knows no national borders. CO₂ emitted or avoided anywhere on earth has consequences for global warming. Examples of such climate projects are preventing deforestation, renewable energy projects such as solar parks, wind farms & biogas, sustainable forest projects, to mention just a few.

Within the framework of the CO₂ Neutral label, only certified climate projects are eligible for compensation of emissions that meet the highest standards and that have been independently certified. These are, for example, the Gold Standard and the VCS (Verified Carbon Standard) certified climate projects.

One of the most important criteria that a climate project must meet within these standards is “additionality”. This means that it must be demonstrable that the climate project would not be realized without external financing through the sale of the avoided CO₂ emissions. A climate project that is profitable will therefore not be eligible. Other criteria that climate projects must meet are real and measurable reductions, no carbon leakage, permanent reductions, certified and socio-economic benefits (see Graph 5).

The purpose of these standards is to ultimately guarantee that climate projects are robust, but also that they go further than just reducing greenhouse gas emissions. After all, climate change is not a one-dimensional challenge. Efforts to reduce greenhouse gas emissions should also help the world develop in a sustainable way. This is about facilitating access to clean energy, water, good health, healthy food, a safe environment, and a thriving ecosystem. Climate projects are assessed against the 17 different Sustainable Development Goals (SDGs) drawn up by the United Nations in 2015. This means that climate and development projects must be comprehensive and have a major impact. This way, every euro invested yields an optimal return.

“In the beginning it was more of a prestige project, while it has now become part of our policy strategy and policy implementation.

It is important to demonstrate to clients and staff that we are environmentally conscious.”

Olivier Van Eesbeecq Head of ICT & Facilities @ Stibbe



Graph 5: The multidisciplinary facets of a certified climate project
Source: goldstandard.org



Validation by independent third party

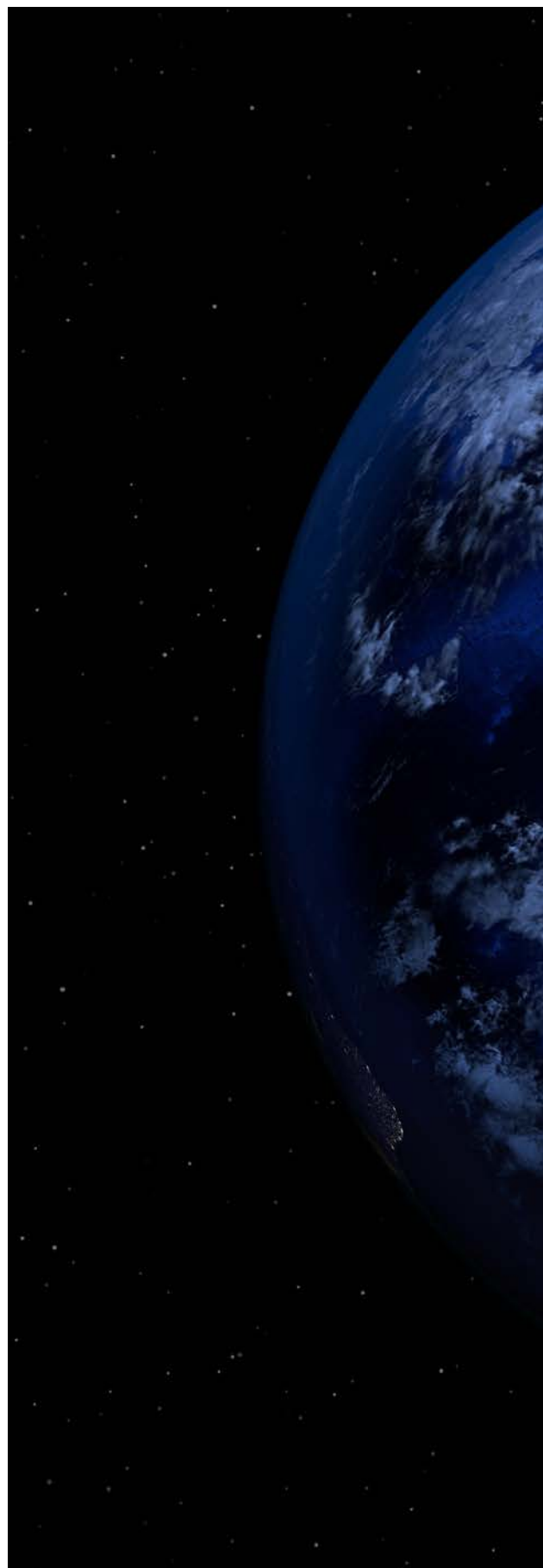
CO2logic developed the label in 2007 and since 2015 Vinçotte and CO2logic have been working together on the CO₂ Neutral label for independent "third party control". CO2logic carries out annual CO₂ footprint calculations, helps develop reduction measures and offers the option of compensating remaining CO₂ emissions.

Vinçotte is responsible for the validation of each awarded CO₂ Neutral label. This involves checking whether the CO₂ footprint calculations have been carried out in accordance with a recognized standard, if measures are being implemented to reduce CO₂ and whether remaining CO₂ emissions have been compensated through a certified climate project.

To carry out this validation, Vinçotte has drawn up a validation protocol that clearly states how the entire process works and what is checked.

Finally, it is also verified that there is correct communication about the label, as the label always states for which aspect CO₂ neutrality has been achieved.

The label also contains a reference to the invoice for the compensation of the remaining emissions as well as the year. A certificate is also presented when the label is awarded and contains a summary of the information already provided on the dedicated landing page as well as the period of validity.







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