# What's the Deal with Carbon Offsets?

Derik Broekhoff, Stockholm Environment Institute February 16, 2023

## http://www.offsetguide.org

## Securing Climate Benefit: A Guide to Using Carbon Offsets

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## The context...



Since 18%/yr mitigation is impossible, the only way to achieve this budget is with very large "negative" emissions: pulling CO<sub>2</sub> out of the atmosphere. "The urgency is clear: incremental steps to address greenhouse gas (GHG) emissions will not be enough. Companies and organizations will need to use every tool at their disposal to achieve emission reduction goals.

**Carbon offsets** are one such tool that – if used responsibly – can accelerate action to avert dangerous climate change."

## What is a carbon offset?

- A carbon offset is a reduction in greenhouse gas emissions or an increase in carbon storage (e.g., through land restoration or the planting of trees) – used to *compensate* for emissions that occur elsewhere
- A **carbon credit** is a transferrable instrument certified by governments or independent certification bodies to represent an emission reduction of one metric ton of CO<sub>2</sub> (or its equivalent)
- The purchaser of a carbon credit can "retire" it to claim the underlying reduction towards their own GHG reduction goals

## Carbon offset projects

- In most cases, carbon offsets come from discrete projects
- Projects can involve a wide range of activities:
  - Renewable energy or energy efficiency (ranging from wind energy to clean cookstoves)
  - Destruction or avoidance of methane (from landfills, coal mines, livestock operations, rice cultivation, etc.)
  - Industrial gas destruction (N<sub>2</sub>O, HFCs, ozonedepleting substances, etc.)
  - Forestry (reforestation, avoided deforestation)
- ...and can often produce multiple benefits, including employment opportunities; enhanced air or water quality; biodiversity and habitat conservation; improved energy access; etc.



## Common criticisms of carbon offsets

### • Carbon offset "quality"...

- "Carbon credits do not represent valid GHG mitigation; if they are used as a substitute for real climate action, they only make climate change worse."
- "Carbon offset projects have adverse impacts on local communities and may make other environmental problems worse."

#### • How carbon offsets are used...

- "Carbon offsets allow polluters to go on polluting, and 'lock in' the pollution"
- "Carbon offsets create an incentive to avoid regulating carbon emissions"
- "Carbon offsets are not a long-term solution"

## Carbon offset quality

- The central idea behind a carbon offset is that it can **substitute** for GHG emission reductions that you would have made on your own
- For this to be true, the world must be at least as well off when you use a carbon credit as it would have been if you had reduced your own carbon footprint
- The quality of a carbon credit refers to the level of confidence that this will be true!
- A high-quality offset is said to have **environmental integrity**



## What makes a high-quality carbon offset

#### ...not harming anyone?

Is this hydroelectric dam displacing people and destroying ecosystems?



#### ...Additional?

Or would an upgrade have happened anyway?





#### ...not overestimated?

Or is it a product of bad accounting?

#### ...not double counted?

How many people are claiming the reductions from this project?



#### ...permanent



Or will someone be logging my offsets ten years from now?

## Don't carbon offset programs ensure quality?

- <u>Carbon offset programs</u> (some regulatory, some voluntary) were created to provide assurance and standardization for carbon credits
- But at the end of the day, they have a **binary decision** to make:



- Quality, on the other hand, is **not binary!** 
  - A program may issue credits for every reduction that scores above a certain threshold (on additionality, quantification, permanence, etc.)
  - But when you buy a credit, is that score good enough?



Think of offsets as a "squishy" kind of compensation

## How to <u>use</u> offsets

- Marketers of carbon offset credits often portray them as a way to "reduce your carbon footprint"
- But don't confuse <u>offsetting</u> with <u>reducing</u>
- Carbon offsets amount to a "push and pull" approach to climate change mitigation
- If you can, stick to just "pulling" (reducing your emissions, and paying others to as well)

## Flight Carbon Offset <a> terrapass</a>

#### \$8.00 - \$80.00

We get it — sometimes travel is inevitable. But flying doesn't need to come with a big carbon footprint. While 1,000 miles of air travel generates approximately 500 lbs of carbon emissions per passenger, you can neutralize that footprint by purchasing carbon offsets from Terrapass.

#### Dutch Watchdog Rules KLM's 'Carbon Zero' Ad Is Misleading

By <u>Diederik Baazil</u> April 8, 2022, 10:11 AM PDT LIVE ON BLOOMBERG
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## The solution?



## The ICVCM

Integrity

- Goal is to <u>scale up</u> investment in climate change mitigation (arose from Mark Carney's "Task Force on Scaling Voluntary Carbon Markets")
- Two challenges:

The "Scale vs. Integrity Frontier"







## The VCMI



- Follows emerging consensus on the need to follow a "mitigation hierarchy"
  - Avoid new emissions
  - **Reduce** existing emissions (e.g., in line with "science-based" targets)
  - Offset only what cannot be eliminated



## Other issues: Removing vs. Reducing

- Carbon offset projects can either <u>reduce</u> greenhouse gas emissions or <u>remove</u> carbon from the atmosphere
- Some argue removals are the only "valid" type of offset
- But <u>either</u> contributes to climate goals



## Other issues: double counting

- Under the 2015 Paris Agreement, every country in the world has pledged to reduce greenhouse gas emissions
- This means many carbon credits <u>double</u> <u>count</u> reductions and removals already pledged by governments
- It may be time to think of carbon credits as voluntary <u>contributions</u> toward national & international greenhouse gas reduction goals – not emission "offsets"



#### Double counting and the Paris Agreement rulebook

Poor emissions accounting could undermine carbon markets

Lambert Schneider', Mascheng Duan', Robert Stavins', Kelley Kizzier', Derik Broekhoff, 'Ranka Jotzo', Harald Winkler', Michael Lazarus', Andrew Howard', Christina Hood' The 24th international climate conferant ence in Katowice, Poland, in Decemher 2018 was a maior achievement in error

the multilateral response to climate

change. More than 190 countries man-

a comprehensive rulebook that puts flesh on the bones of the 2015 Paris Agreement. The rules require, for the first time, that all countries provide (retailed information on their climate change mitigation targets and regularly report on their progress in implementing and achieving them. However, one important chapter is still missing: rules for international carbon markets discussed under Article 6 of the Paris Agreement. Competing views on how to avoid "double counting"–counting the same emission reduction more than ones

to achieve climate mitigation targets—were a major raadblock to reaching consensus. Completing the missing chapter on Article 6 will be one of the key tasks when countries reconvene at the 25th international climate conference in Santiago, Chile, in December of this year. We highlight why resolving double counting is critical for achieving the goals of the Paris Agreement and identify essential ingredients for a robust outcome that ensures environmental effectiveness and facilitates cost-effective mitigation.

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## Conclusions

- Climate change is urgent
- Carbon offsets are *one* tool that if used responsibly can help accelerate action climate change
- But the concept of "offsetting" can be problematic
- Treat carbon credits less as "offsets" and more like contributions to climate action...
- "Penance, not absolution!"
- Further info:
  - https://www.givinggreen.earth/
  - <u>http://www.offsetguide.org</u>

