

# General Sustainability Information

# Travel Advice

# Before You Travel

Reduce your carbon footprint with those tips and tricks

## If you need to travel

- Take the day or night train if available
- Take the bus if available
- Fly direct and fly economy
- Choose the most efficient aircraft\*
- Book a hotel close to the meeting location
- Choose an eco-friendly hotel
- If necessary, rent electric vehicles
- Use public transport instead of cabs

## If you participate online

- Turn off your camera when not speaking. Cameras on average can consume 10 times more CO<sub>2</sub> when active.



Taking a train is on average 20 x more carbon efficient than taking a flight.  
Ex: on a Munich – Vienna trip, you will save more than 100 kg of CO<sub>2</sub> by taking a train. This is the equivalent of 620 km driven.

**\*Note:** To date, Google Flight is the only reliable CO<sub>2</sub> calculator publicly available. Use it to find the least polluting flight to your destination!

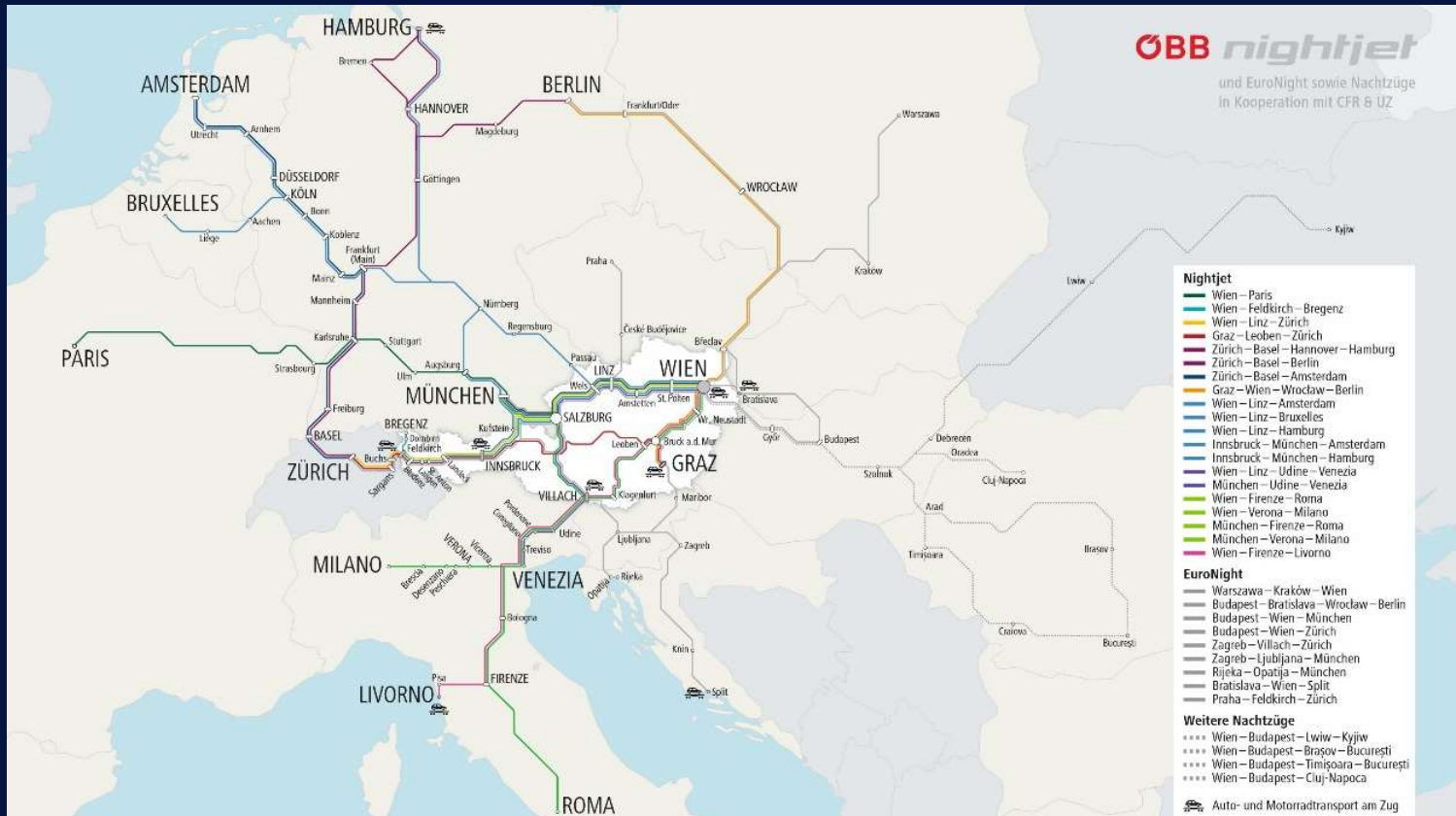
## Choosing The Best Aircraft – Ex: Melbourne-Vienna

- ✓ When flying from Melbourne to Sydney, **Qatar Airways** is clearly the best option, since operating with 2 efficient A350. Worst option is **Emirates** flying with less efficient A380 and B777.
- ✓ Each individual trip with Qatar Airways saves **1,2 tons of CO<sub>2</sub>** vs. the same trip with Emirates (in Economy cabin). This is the equivalent of 7,500 km driven.

**Qatar Airways via Doha: 3,4 tons of CO<sub>2</sub> RT**

**Emirates via Dubai: 4,6 tons of CO<sub>2</sub> RT**

# Finding The Right Train – Many Nightline Options In Europe



<https://www.nightjet.com/en/reiseziele>

see also <https://www.seat61.com> and <https://www.thetrainline.com>

# Impact During Your Trip (And Beyond)

## During Your Trip

During your conference trip, keep these factors in mind:



Use public transport, bike or walk to your destinations



Reduce your consumption of red meat and eat more plant-based foods while traveling



Close the blinds in your hotel room to keep the heat in or out



Go plastic free by bringing your own water bottle and toiletries to avoid using the hotel provisions



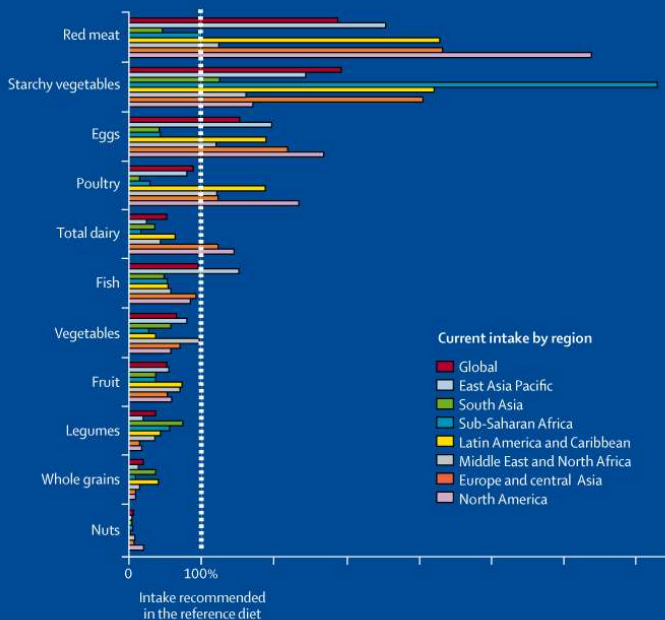
Save water and ask your hotel not to collect towels and sheets everyday for cleaning

### Did you know?

- Beef & lamb production generates 8% of worldwide GHG emissions, i.e., twice more than the aviation industry. Reducing meat and dairy consumption is an important action to reduce the individual carbon footprint.
- If you need to drive, choose an electrical vehicle, that saves 50-80% CO<sub>2</sub> over the full life cycle vs. a petrol vehicle. But do not choose large vehicle (electrical or not). Do not choose hybrid either (often large and less efficient).

# Food Consumption

## The great food transformation



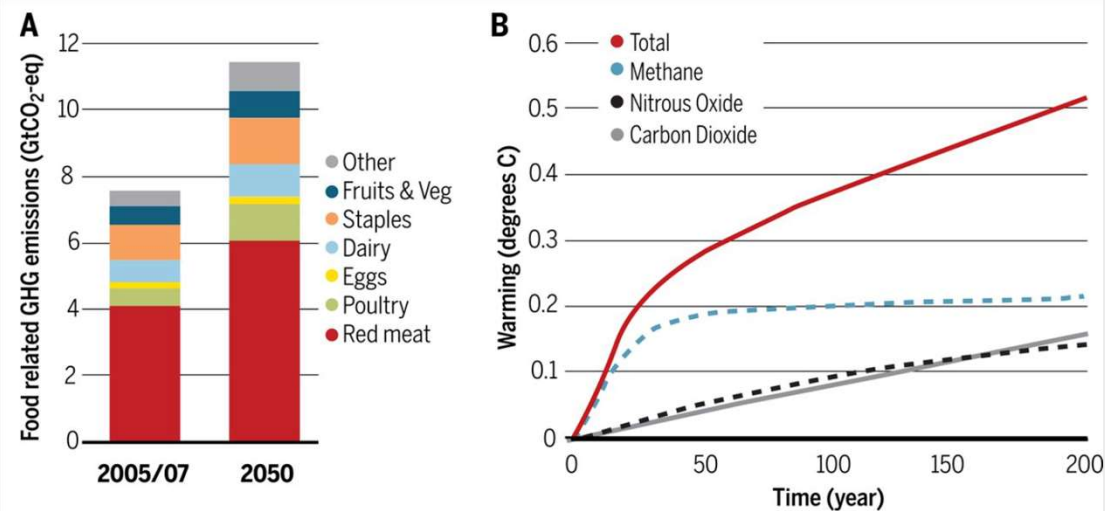
The EAT–Lancet Commission defines a reference diet that **meets nutritional requirements, within planetary boundaries** to minimise damage to Earth’s systems.

Global adoption of the reference diet by 2050 will require worldwide consumption of red meat and sugar to reduce by more than 50%, and consumption of nuts, fruits, vegetables, and legumes to increase by 100%, accommodating significant regional differences and needs.

Read the Commission:  
[www.thelancet.com/commissions/EAT](http://www.thelancet.com/commissions/EAT)

THE LANCET

The best science for better lives



**FIG. 3** Meat and climate change. **(A)** GHG emissions from the production of different food types in 2005–2007 and projections for 2050 (assuming an emissions pathway that would keep global temperatures below 2°C). The y axis is the percentage of total GHG emissions. Animal-sourced foods are the major source of food-system GHGs, and their relative importance is likely to increase in the future (43). **(B)** The three ma-

Did you know?

A vegan diet allows to save between 700 kg and 1.5 tons CO<sub>2</sub> a year.

<https://www.thelancet.com/commissions/EAT>

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# Flying Also Causes Radiative Forcing

BROAD SCIENTIFIC CONSENSUS: AVIATION'S CONTRIBUTION TO GLOBAL WARMING IS HIGHER THAN DIRECT CO<sub>2</sub> EMISSIONS ALONE

Aircraft engines also emit the following gases and particles which impact the climate:

- ✓ Nitrogen oxide (NO<sub>x</sub>)
- ✓ Soot aerosols
- ✓ Stratospheric water (H<sub>2</sub>O)
- ✓ Sulphate aerosols (SO<sub>x</sub>)

Resulting in indirect atmospheric responses: chemical reactions – changes in ozone and methane concentrations, and microphysical processes – contrail and cirrus formation.



THESE EFFECTS ARE MORE DIFFICULT TO QUANTIFY THAN DIRECT CO<sub>2</sub> EMISSIONS (*1 KG JET FUEL EMITS 3,16 KG CO<sub>2</sub>*) and also depend on atmospheric conditions (temperature and humidity), but the effect only has its impact in altitudes above 9.000 m.

**RADIATIVE FORCING INDEX (RFI)** is defined as the ratio of total radiative forcing to that from CO<sub>2</sub> emissions alone.

BECAUSE OF LOW LEVELS OF SCIENTIFIC UNDERSTANDING, THERE IS NO CLEAR RECOMMENDATION ON A SPECIFIC RFI FACTOR TO BE USED.

- ✓ Limited data availability
- ✓ Large uncertainties of model simulations
- ✓ Inaccuracy of measurement
- ✓ Forcings for individual aerosol types may not be additive

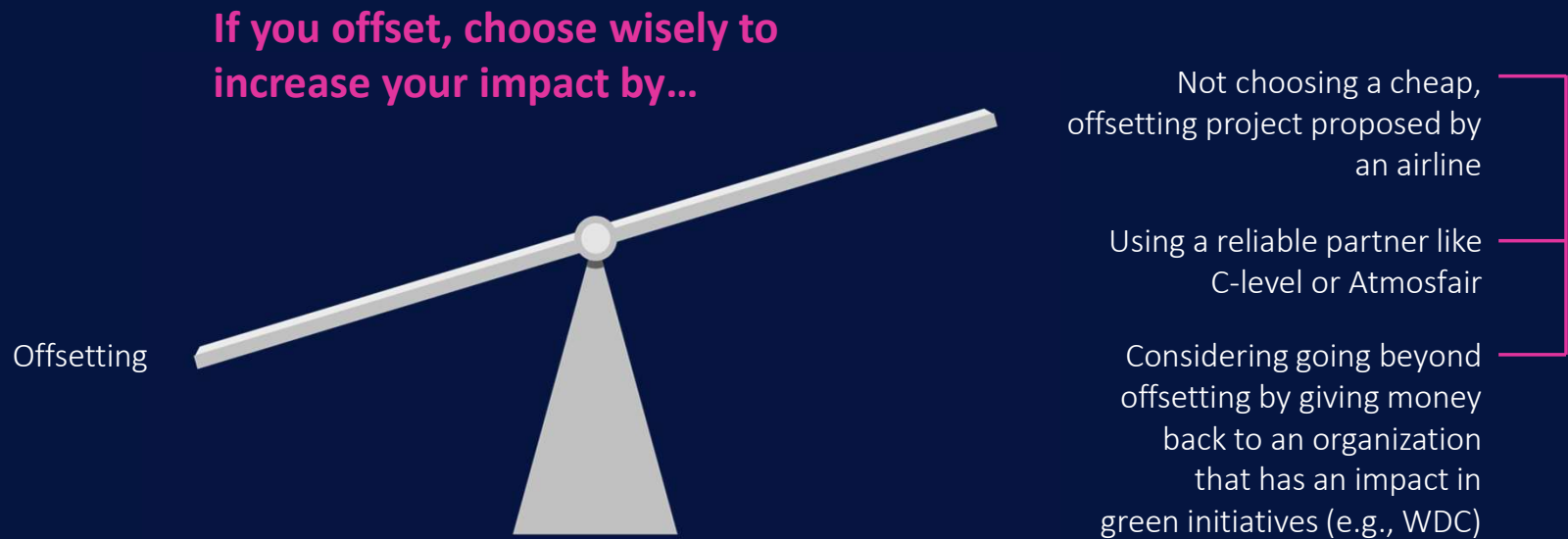
**WE SUGGEST TO USE AN RFI MULTIPLIER OF 2**

# Should You Offset Your Emissions?

## Why CO<sub>2</sub> Offsetting Is Not The Best Option

Offsetting is, by definition, uncertain: a certain CO<sub>2</sub> increase is “exchanged” with an uncertain CO<sub>2</sub> decrease.

Offsetting is often insufficient and should not be a part of the debate between traveling and not traveling.

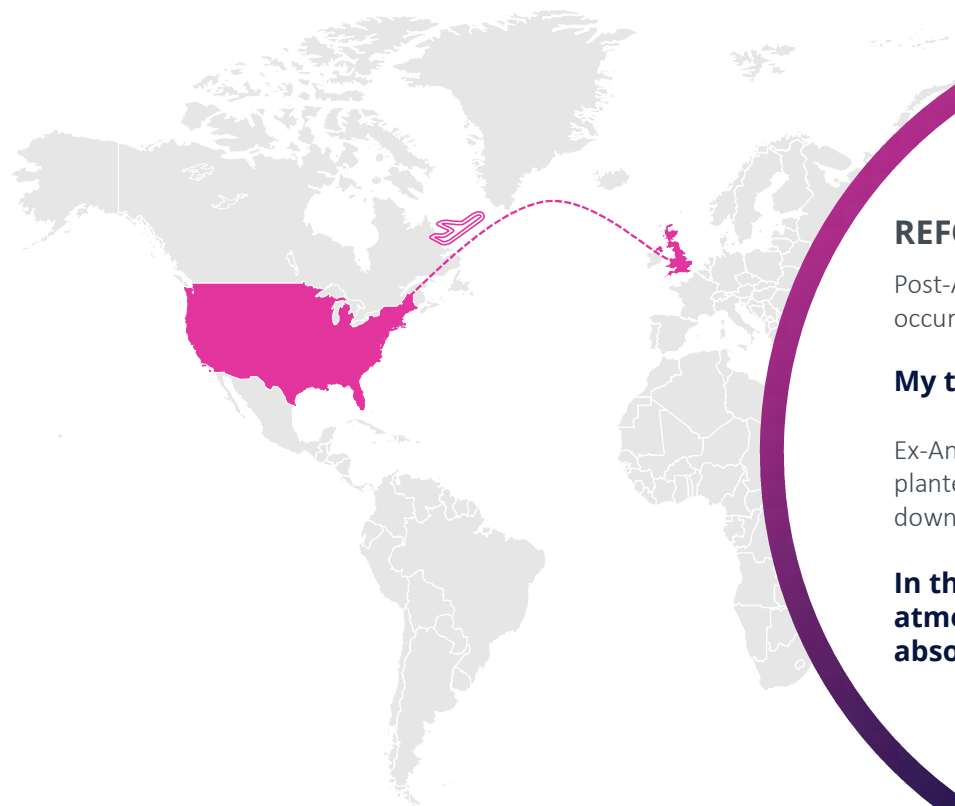


### Tactful tip:

Never trust a supplier that promises you “carbon neutrality”. This concept is now forbidden in some countries (e.g., France). If you travel, you will pollute and cannot be carbon neutral. You can simply mitigate your carbon impact (but not compensate) by choosing reliable offsetting projects.

# Flying JFK To LHR Costs 2 Tons Of CO<sub>2</sub>

Let's offset this flight. We have two options



## ENERGY PROJECTS

For example, building a wind turbine in Africa to replace thermic plant: I will avoid further emissions but not offset mine.

**My two tons of CO<sub>2</sub> are still in the atmosphere.**

## REFORESTATION PROJECTS

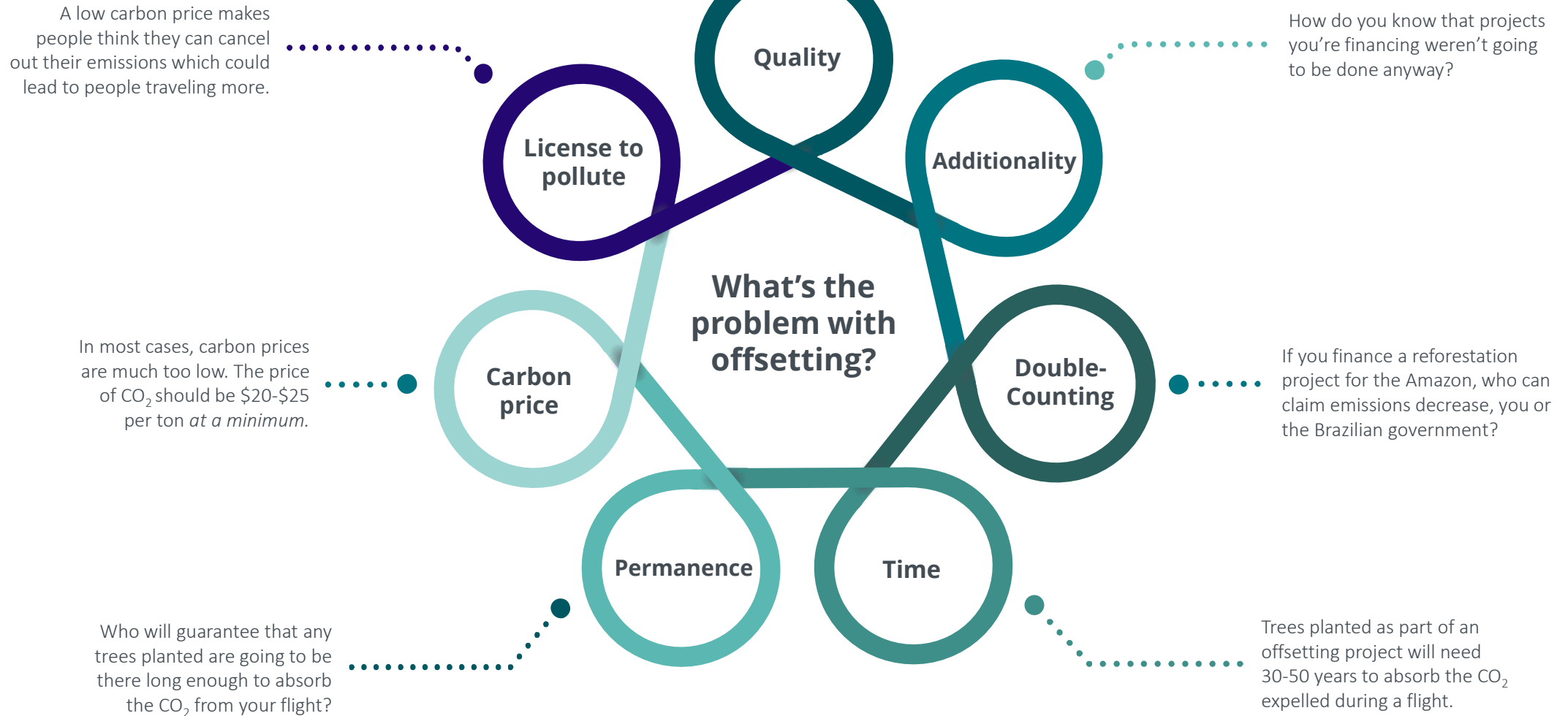
Post-Ante = compensation is certain, it has already occurred before I buy it:

**My two tons of CO<sub>2</sub> are still in the atmosphere.**

Ex-Ante = compensation did not occur yet, but trees will be planted. But what if there is a forest fire? What if it's cut down?

**In the best case, my 2 tons will stay in the atmosphere for 15-20 years before being absorbed.**

A good offsetting project will focus on biodiversity, water conservation, or flood prevention that has the added benefit of a CO<sub>2</sub> decrease.



# Reforestation: Should Carbon Decrease Be The Main Goal?

- In a sustainable forestry projects, carbon sequestration is only a co-benefit. Other key components include:
  - Biodiversity protection or regeneration
  - Water preservation
  - Social and Economic development of local populations
  - Better agricultural practices (e.g., agroforestry)
  - Soil fertilization
  - Flooding prevention
- **Those elements are fundamental but are more difficult to measure than CO<sub>2</sub>. Most carbon credits do not consider this holistic approach, and this focus on CO<sub>2</sub> excludes some local project leads from offsetting funds.**

# Carbon Neutrality

A questionable concept at a company / individual scale

- “Carbon neutrality” is a rigorous scientific concept that applies only to the planet. Neutrality or “Net Zero” is obtained thanks to some offsetting, but only after a massive decrease in emissions (-80%). The concept of carbon neutrality does not exist at a company level. A company can pretend it is “carbon neutral,” but no 3<sup>rd</sup> party can confirm that, as no standard / referential exists.
- The concept, by definition, involves a large amount of offsetting, whose numerous pitfalls make it uncertain: temporality, additionality, externalities, double counting, etc.
- Physics / Mathematics: a concept that cannot be transposed on a global scale cannot be considered as sustainable. As anthropic emissions are far higher than available CO<sub>2</sub> offsets worldwide, this concept cannot be universalized. **In other words, there are not enough carbon sinks worldwide to compensate for all emissions.** To be "carbon neutral" can only remain an "unfair claim" because it is made possible **on the sole condition that others are not.**



Carbon neutrality  
is impossible to  
measure at the  
company level.

## Our Recommendation: Shifting From Offsetting (Compensation) To Contribution

*I am not “carbon neutral”, I contribute to the global effort towards carbon neutrality*

We recommend NOT targeting or communicating around “carbon neutrality.”

A better approach would probably be to communicate separately on emissions decreases on one side, and on offsetting on the other side.

→ **Offsetting can probably be rephrased as “contribution”**

This approach would be:

- ✓ **More precise:** offsetting does not “cancel” other emissions. More credit will then be given to a potential “real” decrease in CO<sub>2</sub> emissions
- ✓ **More positive:** offsetting “cancels” emissions (as sins confession in the past) whereas “contribution” values good actions
- ✓ **Better in terms of image:** as no reference / standard exist to define carbon neutrality, the risk of being criticized for greenwashing disappears with the concept of contribution.
- ✓ **More efficient:** projects less focused on CO<sub>2</sub> have proven to be more impactful



# A Balanced Carbon Offsetting Contribution Portfolio

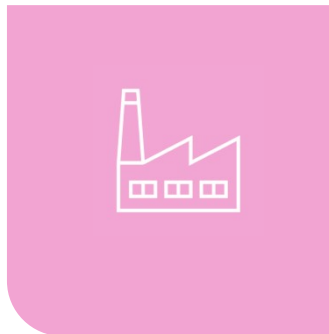
## Nature-based solution, e.g., reforestation (absorption)

High-quality projects. Holistic approach with CO<sub>2</sub> absorption as co-benefit. Strong focus on biodiversity and local communities  
\$30 to \$60 per ton of CO<sub>2</sub>



## Technological solutions (avoidance and absorption)

Sustainable aviation fuel, direct CO<sub>2</sub> capture  
\$400 to \$600 per ton of CO<sub>2</sub>



## Energy projects (avoidance)

Finance ecological transition in developing countries  
\$25 to \$30 per ton of CO<sub>2</sub>

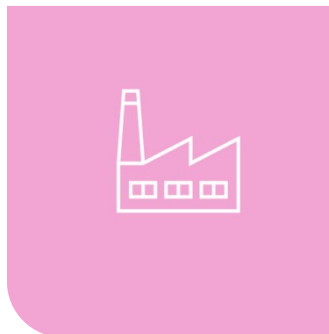


## Innovative nature-based solutions (avoidance)

Ex: protecting biodiversity (whales),  
finance insect industry to replace  
soja exportation, etc.  
Price TBD

→ Do not target carbon neutrality but invest in projects that make a difference

## Which Offsetting Partners Do We Recommend ?



→ Do not target carbon neutrality but invest in projects that make a difference