

Towards a low carbon transition at LOCEAN

Approach, implementation & prospects
LOCEAN-Climactions - December 2020

<https://colibris-wiki.org/empreinteClocean/>
<https://climactions.ipsl.fr/groupe-de-travail/locean-climactions/>

At the beginning of the process, an awareness

- LOCEAN is a laboratory of oceanography and climatology and is part of the research federation IPSL (Institut Pierre Simon Laplace). The laboratory's research has been contributing to the various IPCC reports for many years.
- Scientific knowledge of the climate emergency and environmental problems has not alone sparked the movement towards transition.
- External events autumn of 2018 served as triggers: resignation of N. Hulot, release of the IPCC's special 1.5°C report, youth strikes and marches for the climate, ...
- At the end of 2018, a think tank, LOCEAN-Climactions, was set up to move from individual initiatives and corridor discussions to a genuine structured collective, bringing together some thirty active members of all statuses.
- There are many reasons to reduce:
 - To place our professional activities on a trajectory compatible with the Paris Agreements, as set out in France in the National Low Carbon Strategy, which must be supported by all players and in all sectors.
 - Making our results consistent with our practices
 - Sending a strong signal to our community
 - Increasing our credibility and the strength of our message to society
- Importance of the collective thinking: support, sharing of tasks, richness of debate, plurality of opinions, ...

An essential decision-making tool: the GHG balance sheet

- In April 2019, Climactions publishes a first estimate of the laboratory's greenhouse gas balance sheet: the importance of scientific anchoring, estimating in order to understand how and where to act.
- Observation: on average, the laboratory is a very high emitter compared to the national average, with emissions unevenly distributed among staff in the mission sector, reflecting very different uses.
- The uncertainties are high but the main positions are identified, reflecting the specific features of the LOCEAN :
 - Travel, in particular partnerships with the South (IRD)
 - Field observations through campaigns at sea
 - Climate modelling (low carbon cost due to the French electricity mix, would be x3 in Germany, x5-6 in Australia)
- Scope of the estimated GHG balance sheet. At this stage :
 - Taken into account: trips on lab. fundings, campaigns at sea, super-calculator consumption, lunches, premises, equipment, analytical means (chemistry labs), emails, waste...
 - Not taken into account: travel paid with other fundings, use of satellite products, lab equipment, meal trays & buffet during meetings, internet,

commuting to and from work

1750 tCO₂e
émises par le LOCEAN en 2018

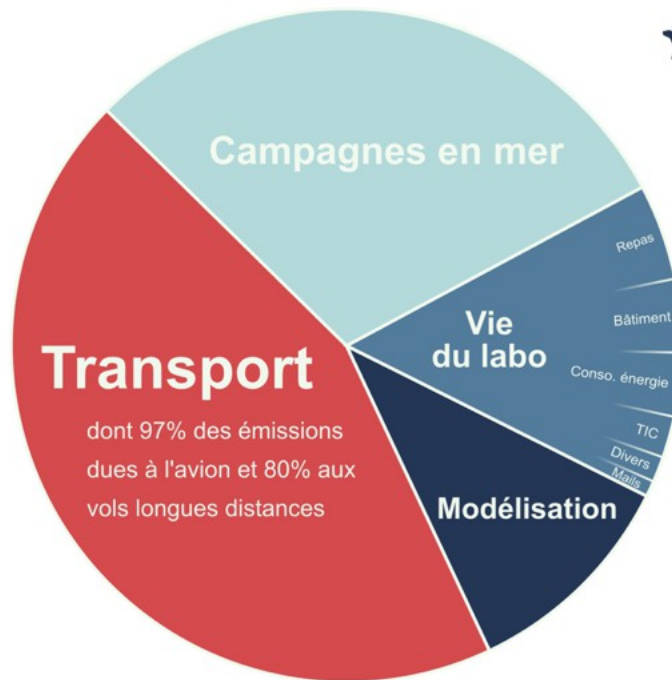
En 2018 :



9,5 tCO₂e / pers.
(activité pro. seulement)

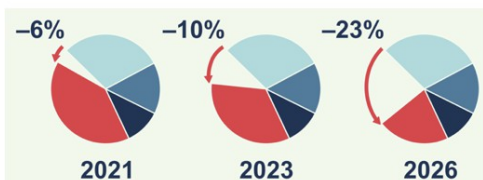


11,2 tCO₂e / pers.
(toutes activités confondues)



A collective elaboration

- November 2019: working seminar (2 days) organised by Climactions (22 volunteers from LOCEAN/IPSL)
- On the basis of the Carbon footprint 2018, 16 proposals have been drawn up for the start of the transition:
 - Proposals to better quantify our carbon footprint
 - Proposals for reduction/transition on items that allow for it
 - Proposals that go beyond the strict framework of the lab (guardians, operators, hosts, etc.).
- Each proposal is quantified (if relevant), which makes it possible to establish one or more reduction scenarios.
The benefits and difficulties of each proposal are evaluated/explained.



A process of reflection that starts at the bottom and moves upwards in the laboratory's bodies.

- An approach based on benevolence, respect for different opinions and dialogue, with no desire to replace the existing tools for decision making and the life of the laboratory.
- Principle of reduction proposed by Climactions and approved by the Laboratory Council (LC) on 28/05/2019
- June 2019: survey within the IPSL federation 1400 people, 38% of respondents. To assess the positioning of staff on climate emergency, the need for transition and test the acceptability of certain changes in practice
- July 2019 : Special GA at the IPSL on these issues, with preparation of several contributions.
- November 2019: working seminar, elaboration of 16 proposals
- December 2019: the LC mandates the management to steer the process of moving from proposals to action in a collegial manner. Creation of a group composed of 7 people representative of the laboratory (GLEC).
- First semester 2020: GLEC conducts surveys and discussions with the laboratory's staff; numerous exchanges between GLEC, the management committee and Climactions.
- The GLEC recommends to the management a consultation of the laboratory on three proposals
- August 2020: the CL approves the vote on the proposals
- September 2020: the steering committee announces and organises the vote

In parallel to the vote, measures taken directly by Management (lab's Director)

- Automatic and mandatory monitoring of the carbon footprint of missions (using an individual carbon calculator developed in-house)
- Quantification of the carbon footprint of IT and scientific equipment
- List of eco-responsible caterers (no events organised with suppliers outside this list)
- Importance of caring and voluntary Management

Three proposals put to the vote at the end of September 2020

Assessing the willingness to reduce

1. The principle of the laboratory's commitment to reduce GHG emissions along a path compatible with the Paris Agreements (i.e. -50% by 2030).

Reducing mission-related emissions

2. Favour the train: LOCEAN members must take the train for any outward journey lasting less than 5 hours.
3. Management of air travel: each LOCEAN agent will be allocated an annual carbon quota for his or her missions, according to the following rules
Individual non-transferable quotas following the trajectory below

2021	2022	2023	2024	2025	2026
10 tCO ₂ e	8 tCO ₂ e	6 tCO ₂ e	4 tCO ₂ e	3 tCO ₂ e	2,5 tCO ₂ e

Carryover allowed from one year to the next within the limit of 4 tCO₂e

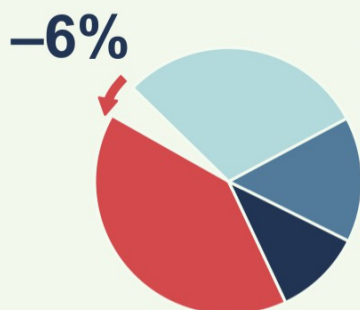
Are out of quota :

- Trips participating in field missions (e.g. campaigns at sea)
- Travel for teaching activities
- Travel for assignments lasting one month or more
- Young researchers benefit from an international over-quota flight every two years.

Effect of proposals put to the vote

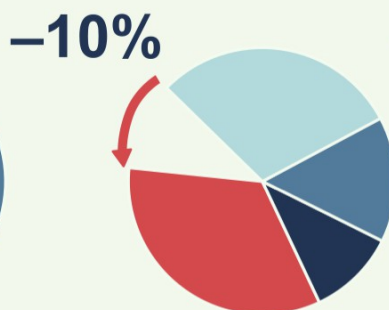
- An effective reduction in emissions (vs. a carbon tax that would place the burden on the least endowed): -50% of the transport sector by 2026 (without taking into account exemptions)
- A progressive trajectory that will affect only a few people in the early years
- A fair reduction: a fairer sharing of carbon responsibilities between staff members
- Exemptions designed to allow staff to carry out their work in peace of mind.

Grâce aux propositions mises au vote, l'empreinte du LOCEAN diminuerait de :



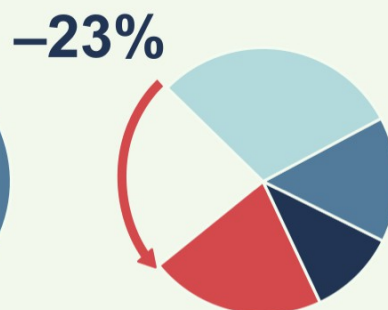
2021

55 AR de Paris à
New-York évités



2023

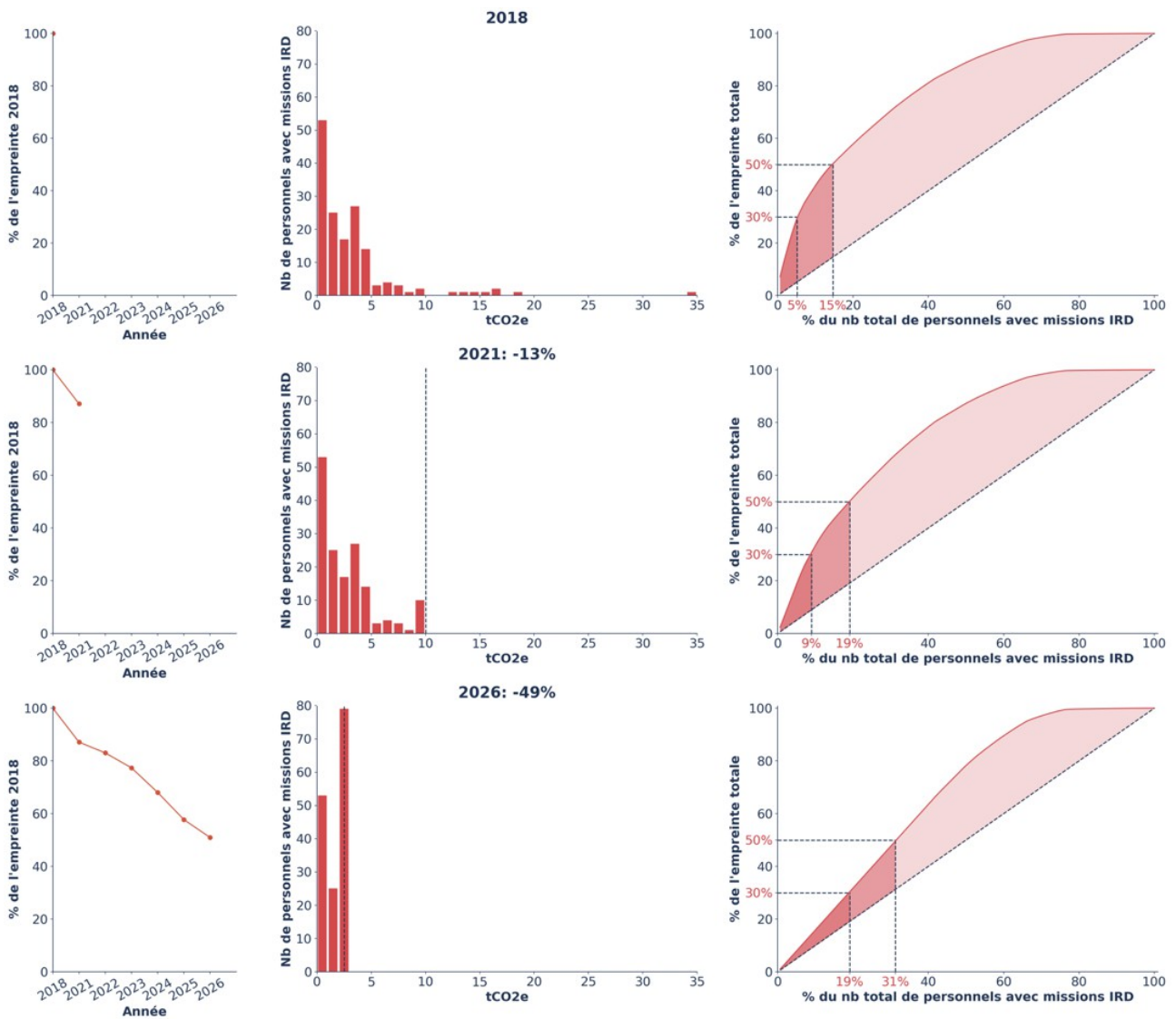
92 AR de Paris à
New-York évités



2026

185 AR de Paris à
New-York évités

Seul le secteur transport est concerné par le vote.
Cependant des leviers d'actions sont aussi disponibles pour
réduire l'empreinte des autres secteurs. Discutons-en !



Voting procedures and results

Terms and conditions

- Electronic vote by secret ballot held on 28 and 29 September 2020
- For each of the 3 proposals, the possible voting options are as follows
 - For
 - Against
 - No answer
- Proposals 2 and 3 require a qualified majority to be adopted (2/3 of the votes cast), the laboratory's broad support, the importance of a joint project, etc.
- Inclusion in an annex to the rules of procedure if the vote is positive
- Planned annual review in LC, with re-evaluation of objectives if necessary.

Results

- The three proposals are adopted by more than 80% of the voters
- Participation rate: 75%.

- Measure 1 (principle of commitment of the laboratory): 93% adopted [=68% of the registrants].
- Measure 2 (favouring the train): 85% adopted [=62% of those registered].
- Measure 3 (individual carbon quota for aviation): 80% adopted [=57% of those registered].

Implementation: carbon calculator

- Need to quantify and monitor the footprint of individual missions
- n-house software development in accordance with the calculation method adopted by « Labos1.5 » : <https://labos1point5.org/>
- Each agent will individually enter his destination and mode of transport, and the software will provide a report to be attached to the mission request.
- Monitoring of the annual quota in the software
- Exemptions must be validated by the management.
- Overtime work for managers limited to a maximum
- Data managed and stored in compliance with the National rules for Privacy of personal data (RGPD) framework

Perspectives

- Measures 2 and 3 voted allow ¼ to reduce the laboratory's total carbon footprint by 2030.
- Reduce emissions by rethinking/reorganising our travel (e.g. conferences and meetings) within a carbon limit, without touching certain things (e.g. field missions).
- Objective set and adopted (measure 1): -50% by 2030
- This leaves half of the work to be done, which affects more sensitive positions that are difficult to reduce, as it calls into question some of the limits of our research activities.
- This must be discussed beyond the LOCEAN, for example :
 - Energy performance of buildings, more accurate monitoring of consumption using the hosting guardianships
 - Reflection on the consumption of research vessels in a national working group (with the French oceanographic fleet, naval architects and scientists); better pooling of observations and data sharing.
 - Reflection on consumption in numerical computing: computing centres, optimisation of simulation sharing, scientific priorities, etc.

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Labos1point5 : French think tank on Reducing the Environmental Footprint of our Research Activities : <https://labos1point5.org/>