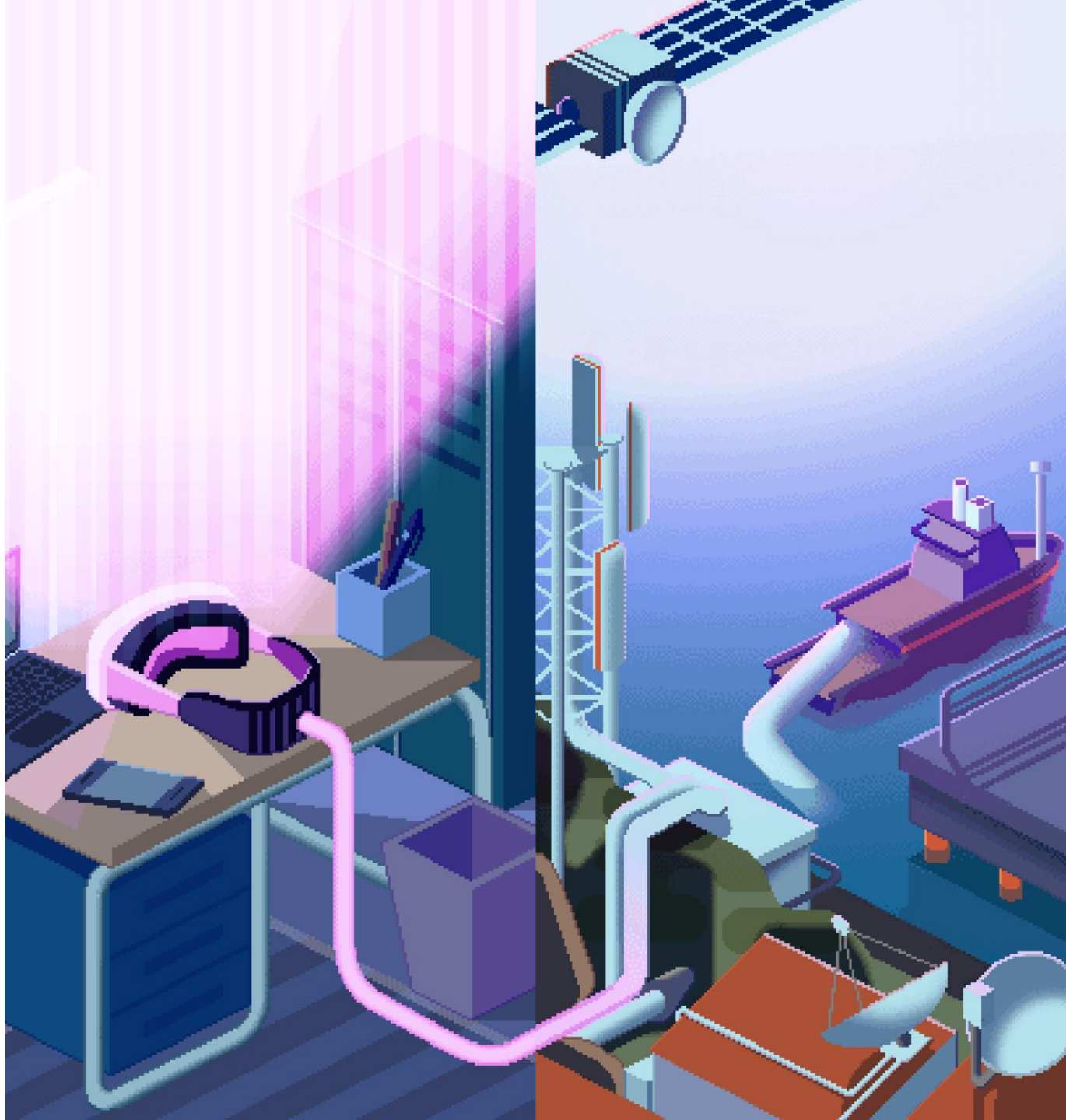
THE SHIFT PROJECT

Positioning our technological choices towards digital sobriety

EAERE Conference – Policy Session on hybrid conferences

July 3rd, 2024



Positioning our technological choices towards digital sobriety

SUMMARY

The Shift Project : The carbon transition think tank

A **think tank** advocating **the shift to a post-carbon economy.**

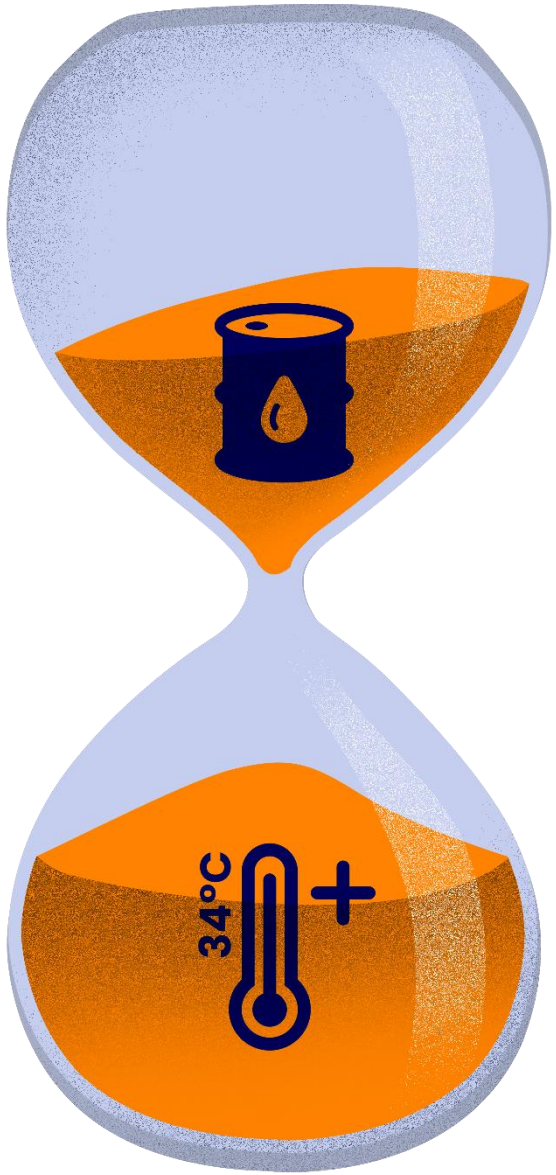
Since 2010, a non-profit organisation **committed to serving the general interest** through **scientific objectivity.**

We are dedicated to **informing** and **influencing** the debate on **energy transition in Europe.**

The Shift Project : The dual carbon constraint

CLIMATE

On one side, climate change requires us to **reduce our greenhouse gas emissions** to reduce its intensity.



ENERGY

On the other side, the inevitable contraction in oil supplies means that we need to anticipate it, and therefore **reduce oil consumption** before it falls sharply.

The Shift Project : How we operate

Informing

Working groups *mobilising a network of* ***hundreds of experts***

A ***physical vision of the economy*** *and* ***pragmatic and operationnal*** *proposals*

Robust and quantitative analysis*, with rigour and transparency*

Influencing

Communication *and* ***lobbying*** *campains towards* ***political and economic*** *decision makers.*

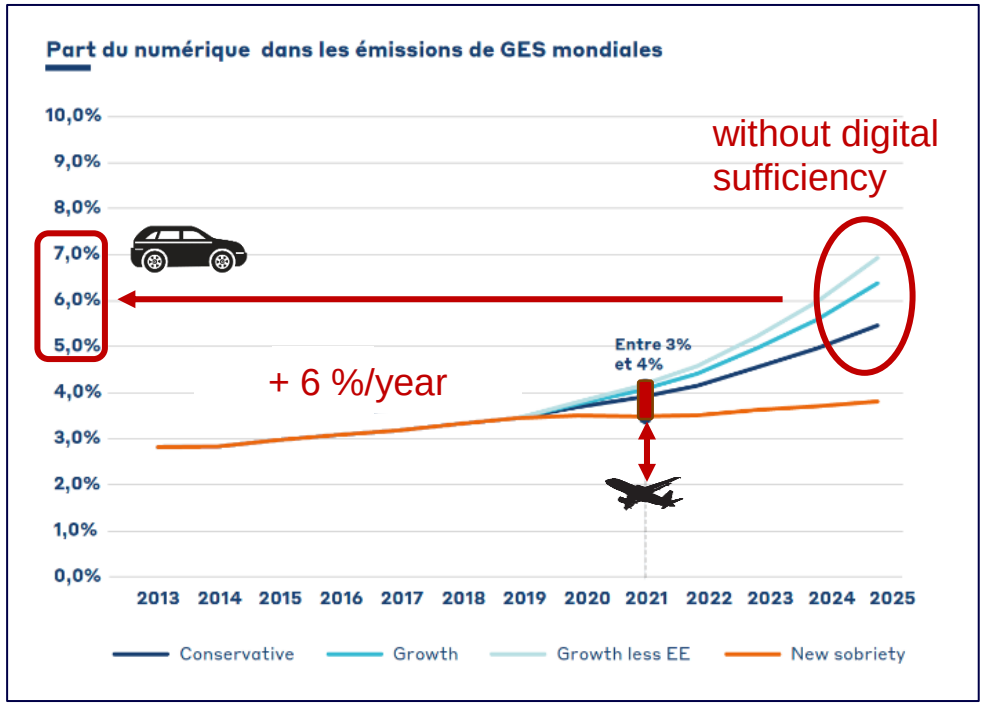
Events *and discussions between stakeholders*

Partnerships *: professional organisations, academic world, international stakeholders*

Digital sector : The energy-climate footprint

FOOTPRINT

- World level : **> 2 $GtCO_2e$** in 2021 *(The Shift Project, 2021)*
- France: **17 $MtCO_2e$** in 2020 *(ADEME-Arcep, 2023)*
- **Unsustainable** : On the way to 25 $MtCO_2e$ in 2030, and to 10 $MtCO_2e$ up to to 64 $MtCO_2e$ in 2050 (France)



Source : The Shift Project, 2021

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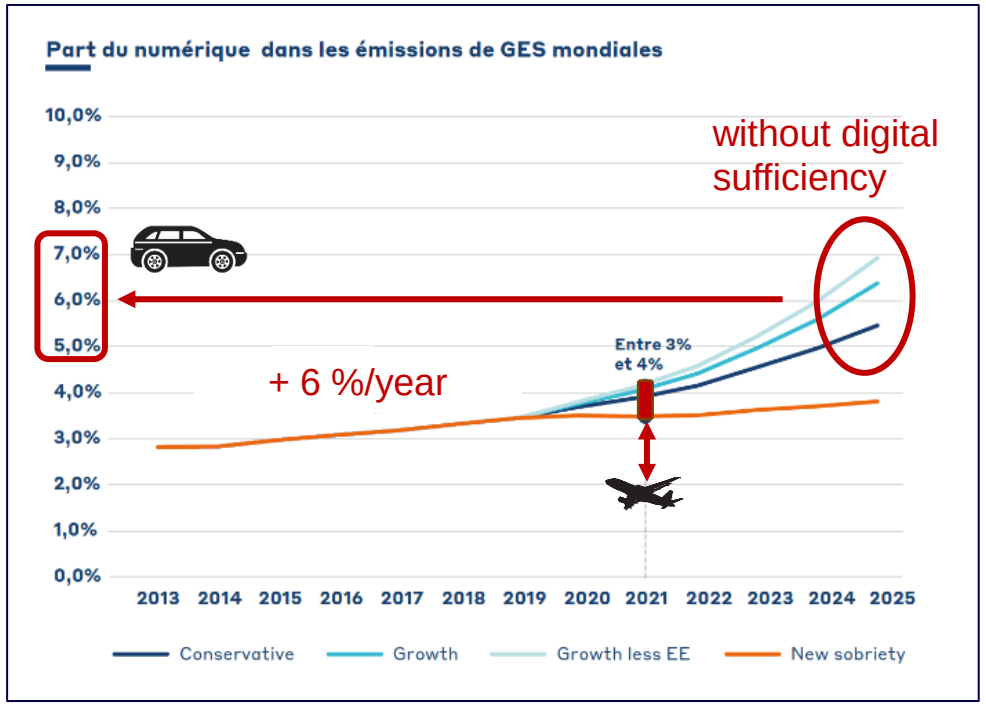

Source : The Shift Project, 2021

DISTRIBUTION

- Distribution of impacts between use / production :
  - World level : ~ 60% / 40%
  - French level : ~ 20% / 80%

WHY THIS INTRODUCTION ?

My 2024 work : ***Energy-Climate : What virtual worlds for a sustainable real world, The Shift Project, 2024***

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- Surprising statements in paper (ex : Zhao, 2024)

The growing metaverse sector can reduce greenhouse gas emissions by 10 Gt CO_2e in the united states by 2050†

Ning Zhao[a] and Fengqi You [b] ★[abc]

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→ Bring methodology to consider "use cases" that take into account the contexts of use and the conditions of relevance

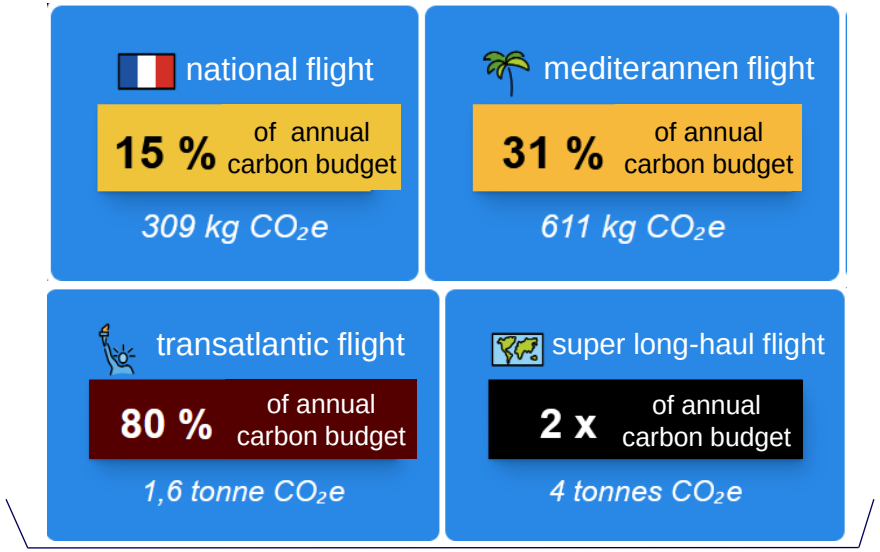
Avoided emissions ?

Direct and induced emissions
~ 50 $MtCO_2e$/year

- : Switch to remote exchanges for physical interactions that continue despite the possibility of videoconferencing?

Towards GHG emissions reduction methodologies

DEFINE AVOIDED EMISSIONS



Direct and induced emissions

+

https://futur.eco/simulateur/transport/avion/impact

Towards GHG emissions reduction methodologies

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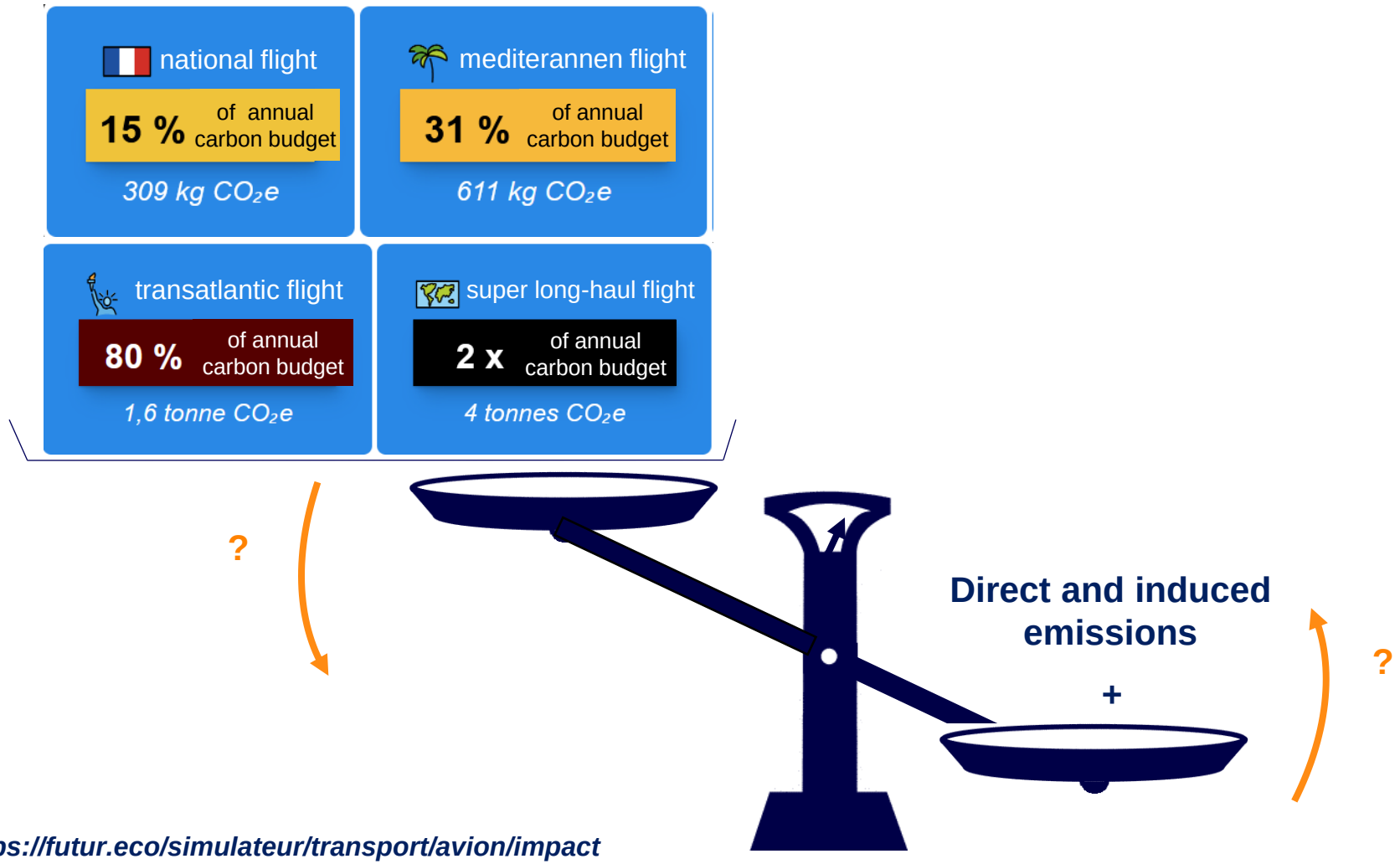

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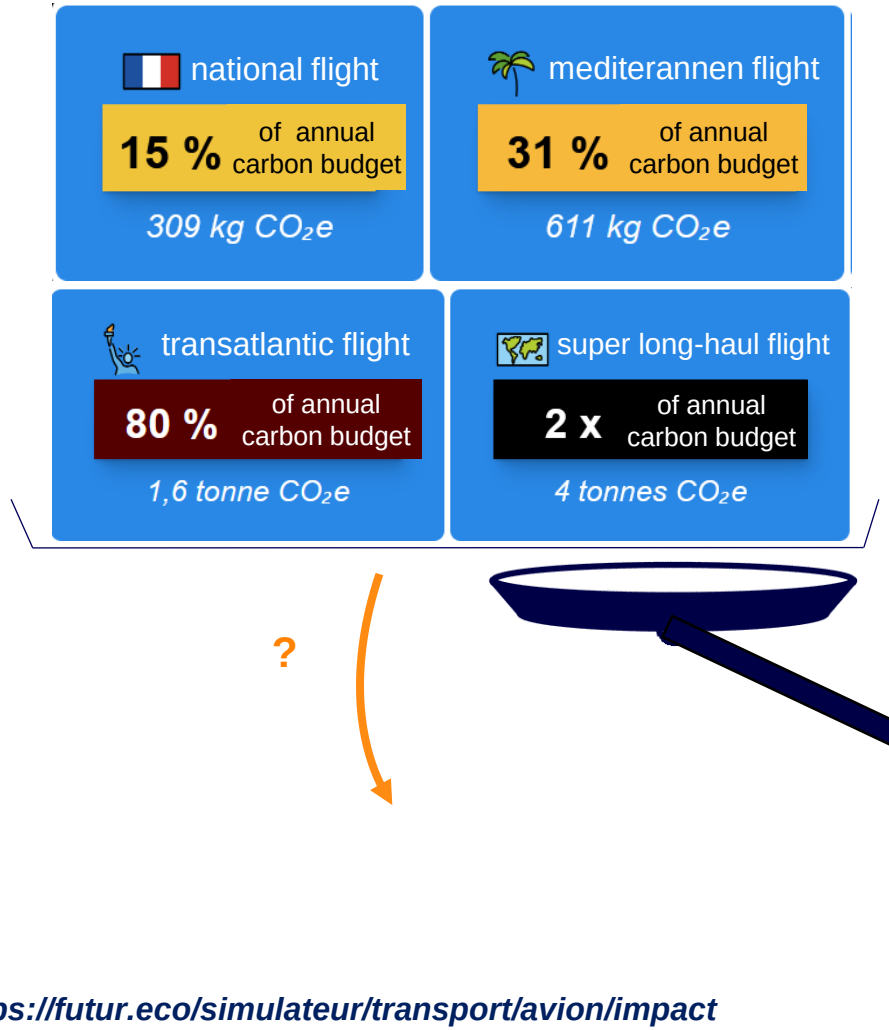

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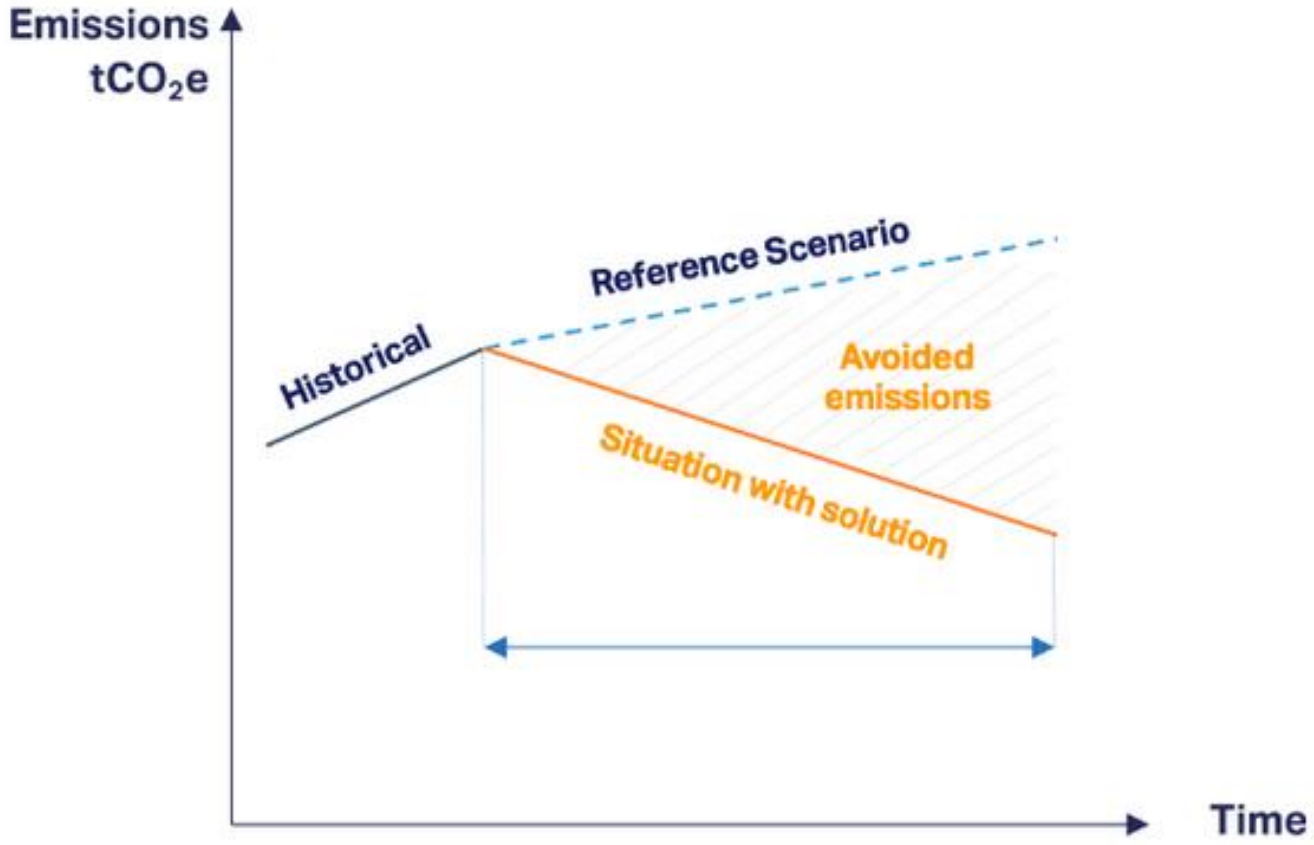
The net GHG gain will depend on **adoption** :

- What could be stakeholders and external partners marginal **preference** for hybrid conference ?
- Do we need an **organizational policy** to encourage it ?
- What can be achieved with the deployment of a **change management programme** ?

→ **Measure and monitor** GHG emissions **over the medium and long term**, to ensure that the overall balance remains favorable despite possible new effects.

DEFINE AVOIDED EMISSIONS



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Towards GHG emissions reduction methodologies

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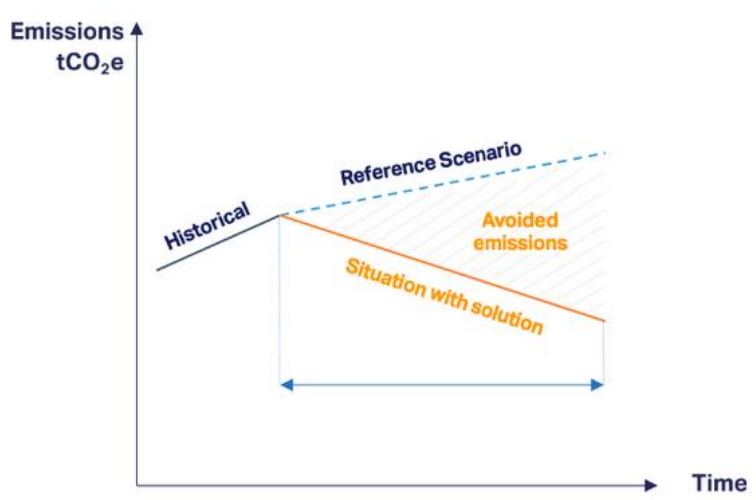

1 – Setting the perimeter
- Time and geographic frame
- Carbon perimeter
- Specificity
- Functional unit

2a – Assessing emissions in the solution scenario
- Identifying and modeling 1st, 2nd and higher order effects
- Computing the solution scenario emissions

2b – Assessing emissions in the baseline scenario
- Defining the most precise baseline possible with the data at hand
- Computing the baseline scenario emissions

3 – Computing avoided emissions (AE)
- Computing difference between solution scenario emissions and baseline scenario emissions

Figure 3 – Steps of an avoided emissions assessment

NZI for IT, 2024

Towards emission reduction methodologies

IDENTIFY PERIMETER

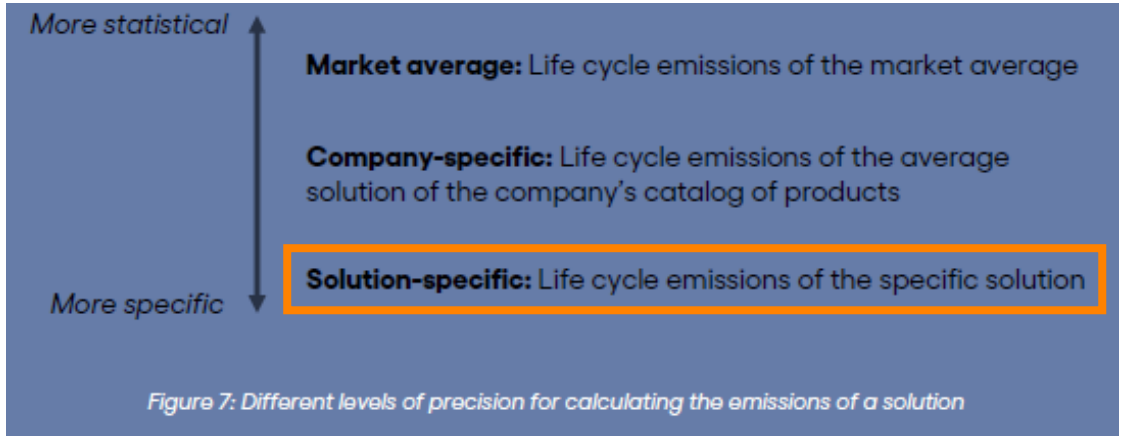

Figure 7: Different levels of precision for calculating the emissions of a solution

IDENTIFY REBOUND EFFECTS

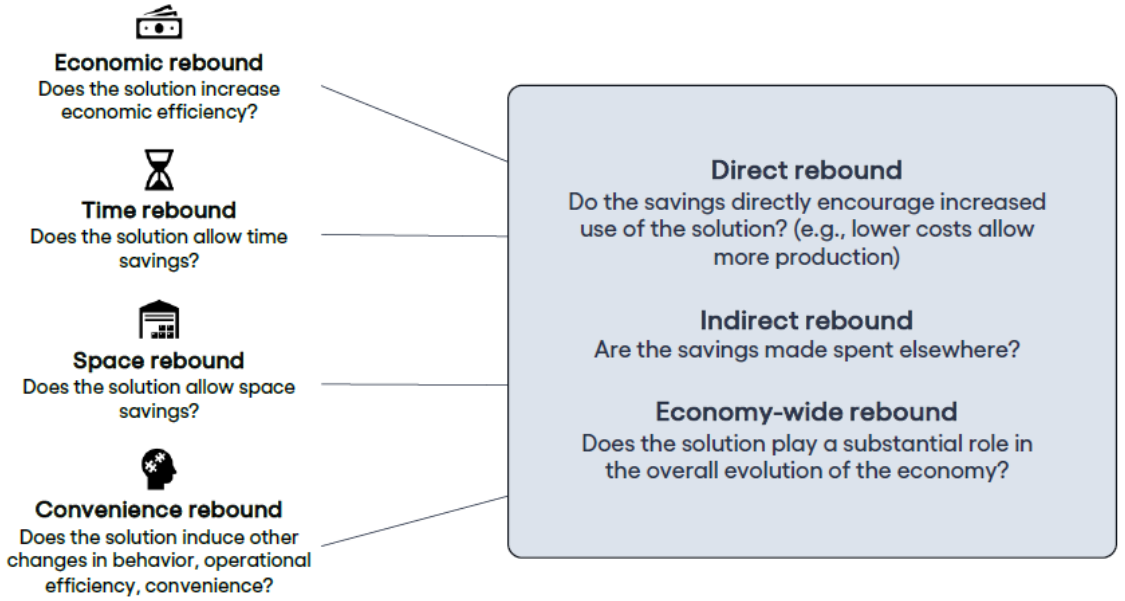

Figure 8 – Illustration of the different types of rebound to consider when assessing avoided emissions

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Conclusions

Recommandations

- Analysis to be assessed through **«use cases»** that take into account usage **contexts** and **conditions of relevance**
- The assessment must be **systematic, quantified, exhaustive** (taking into account all phases of the life cycle and constructing a net carbon footprint) and **technologically segmented** (breaking down impacts by functionality or technological axis)
- Strategies to curb rebound effects can include monitoring and adaptation to ensure long-term success
- We have 4 families of action levers : measurement and transparency, optimisation and design, collective reorganization towards sobriety, training and skills

Thank you for your attention

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