CLIMOP

Air passengers' opinions of sustainable aviation

INTRO

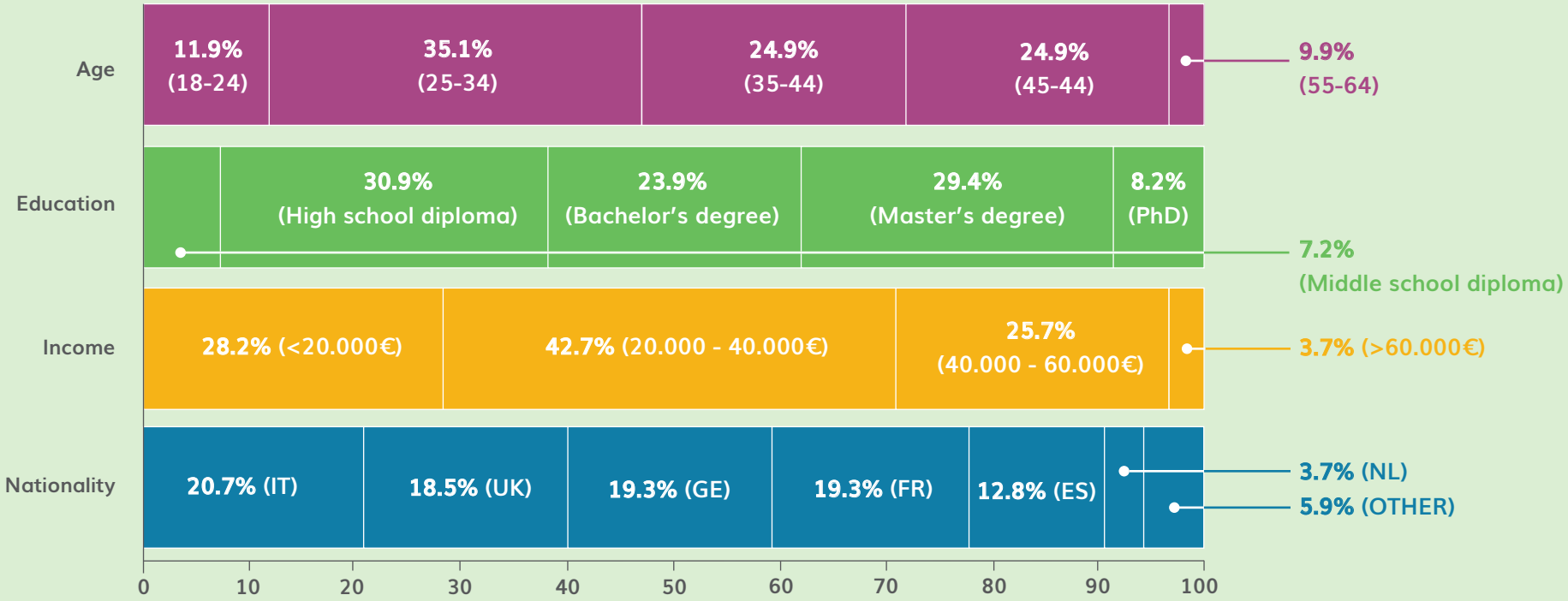
ClimOP is a H2020-funded project which aims at **assessing innovative mitigation strategies to reduce the climate impact of the aviation sector.** Together with the climate impact, the project also takes into consideration how the selected mitigation measures affect different stakeholders.

The first section of this dashboard describes the passengers' cluster towards a set of factors such as their background, travelling habits, perception of climate change, attitude, and awareness of climate issues. **The second section addresses the passengers' opinion** on the ClimOP solutions to increase their market adoption.

AUDIENCE OVERVIEW

The sample

A sample of 406 interviewed air passengers represent a specific segment of European Citizens. The interviewees are on average **between 18 and 44 years old**; hence, the survey results represent the opinions of the people who are more likely to see the effects of the mitigation measures assessed in this survey, **the youngers**. Respondents hold at least **one University diploma**, and their average income is **between 20.000 and 40.000 €/year.** The countries more represented in the survey are Italy, France, Germany, United Kingdom, Spain, and The Netherlands.



Travelling habits

The respondents were asked what the **preferred transport means** are in their daily life and how frequently they fly.

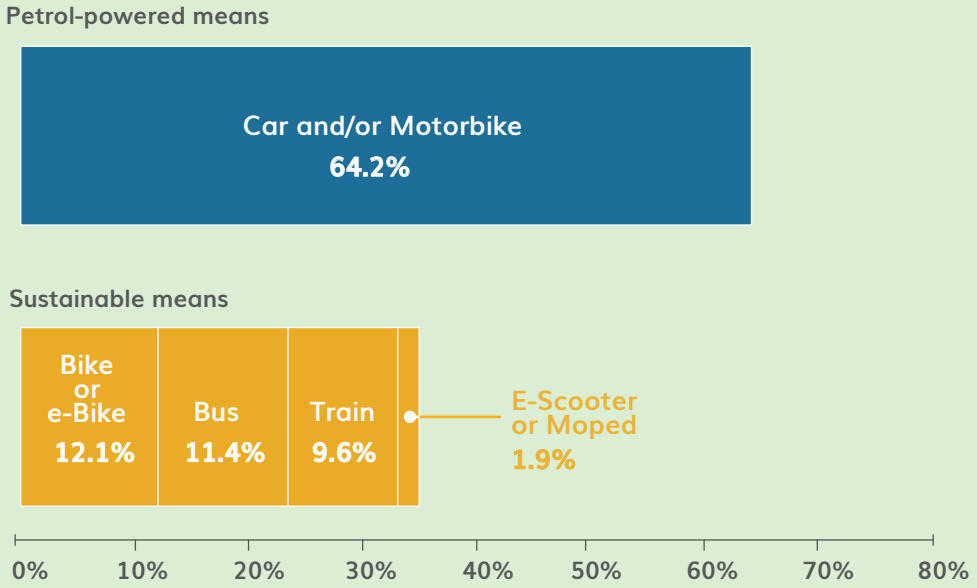
Most of them prefer and use petrol-powered vehicles for daily movements, but more than one third adopt more sustainable transport means such as buses, bikes, and trains.

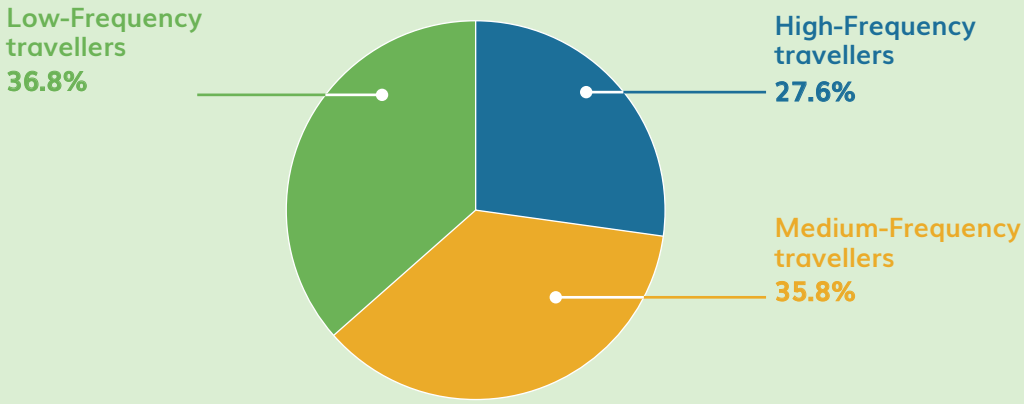
The flight habits were assessed in terms of f**light frequency before the pandemic.**

The results indicate that air passengers can be split into three groups:

- **Low-frequency travellers** (N=149; 36.7%) that fly once a year or less.
- **Medium frequency travellers** (N=145; 35.7%) that fly two to four times per year.
- **High-frequency travellers** (N=112; 27.6%) travelling once a month or more.

Most used mean of transportation



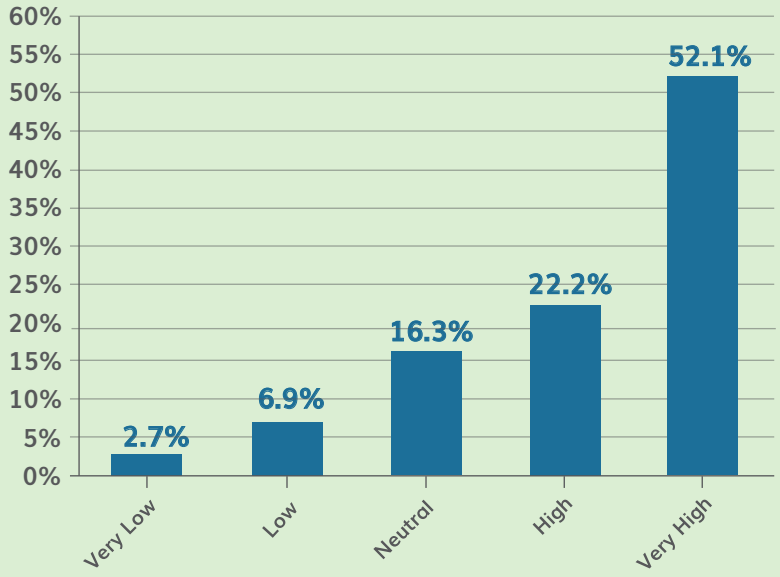


Perception of climate change

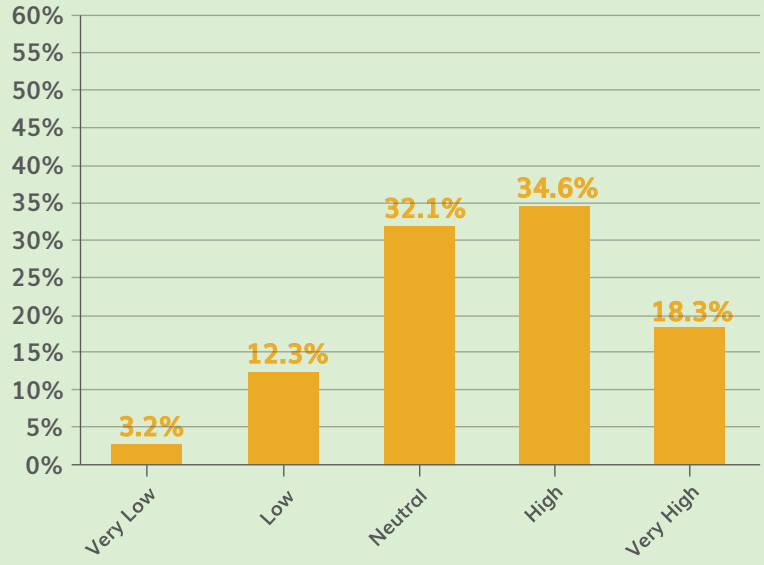
Their perception of climate change is high or very high, whereas they believe the perception of climate change among surrounding people is lower than theirs. The interviewees have strong feelings about the urgency of tackling climate change, while they believe that in general other people are not as concerned as they are and thus perhaps that there is a need to raise awareness of it.

Climate change is an issue

For me



For the people around me

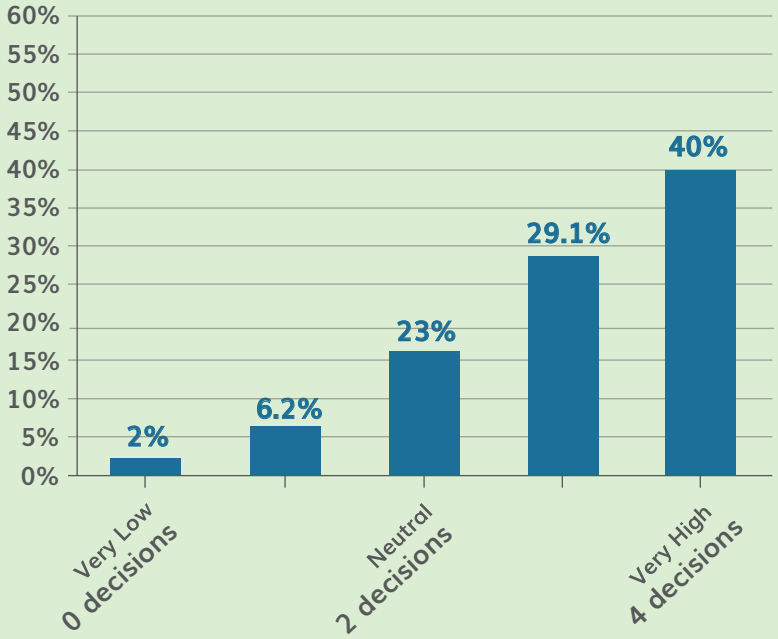


Environmentally friendly attitude

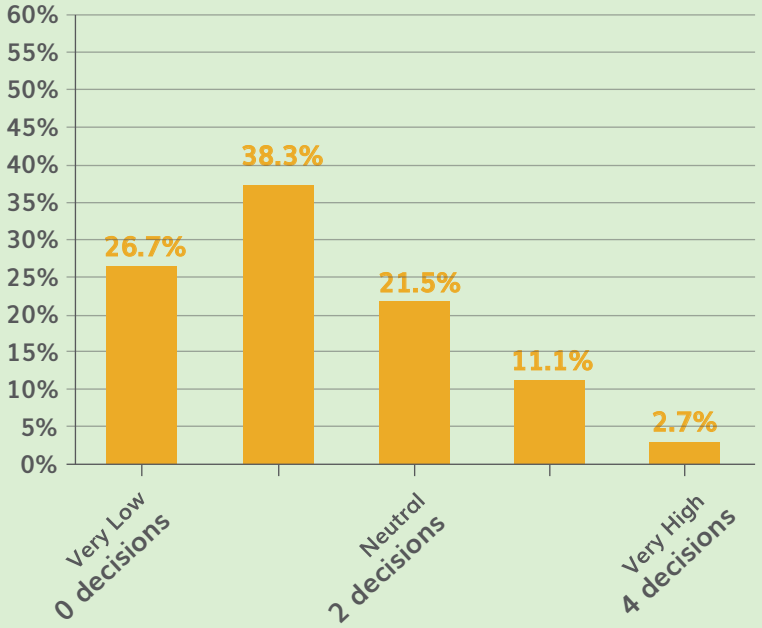
Consistently with the strong perception of climate change as an issue, most respondents answered that **they are highly or very highly in favour of actions to fight climate change.** Nonetheless, two thirds of them take none or only one decision, daily, aimed at preserving the environment (N=263; 64.8%).

In favour to cope with climate change

In favour to cope climate change



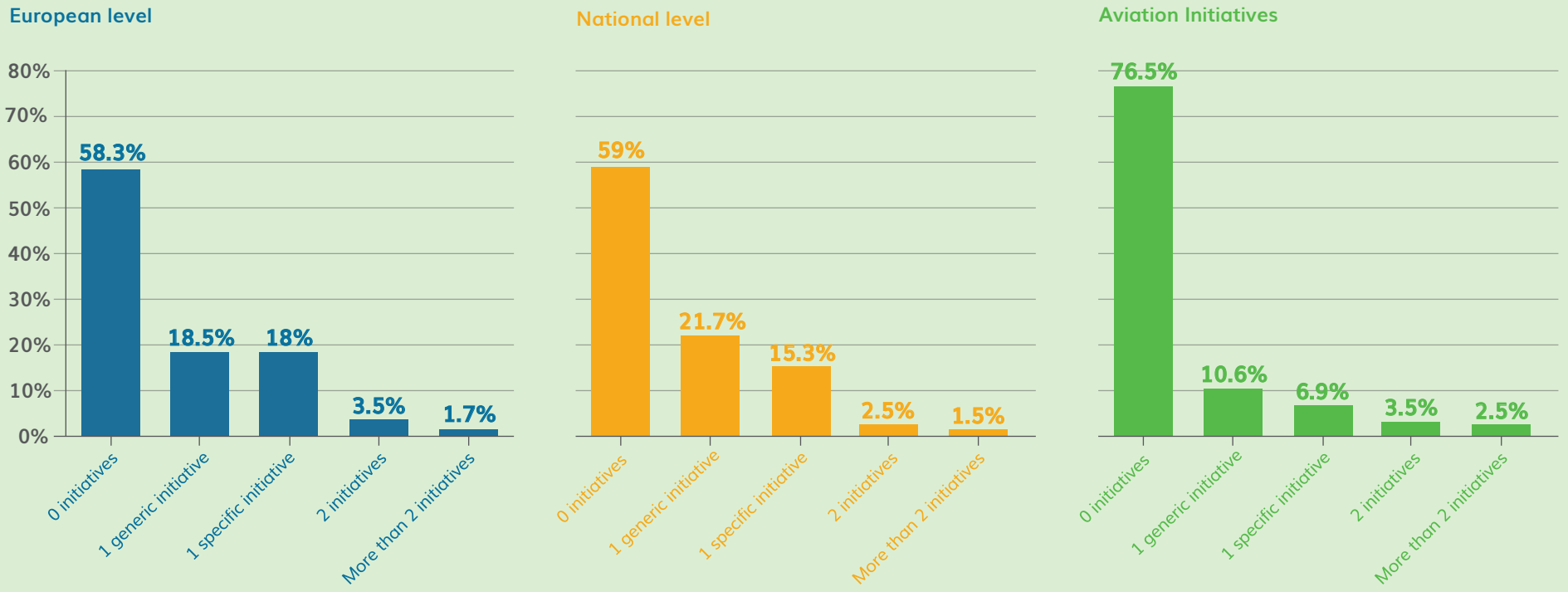
Decisions taken to preserve the environment



Awareness of initiatives to mitigate climate change

Most respondents are not aware of initiatives at any level, neither European, National, or aviation specific. That actions in the aviation domain are less known is not completely unexpected, as the survey was not targeting aviation experts. However, it is rather surprising that more than half of the interviewees are unaware of any mitigation initiatives at any level, especially considering how strongly many respondents feel about climate change. This might suggest that **communication and engagement campaigns need to be more widespread.**

Awareness of environmentally friendly initiatives



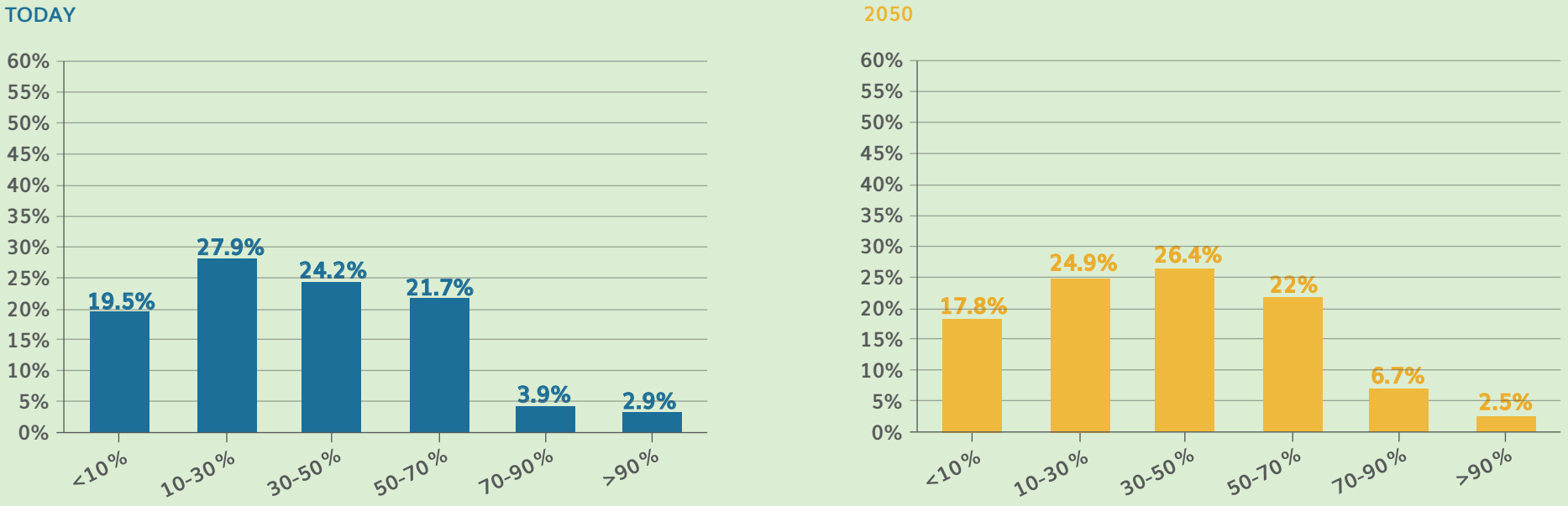
Perception of aviation impact on climate

Two questions were asked to investigate whether the interviewees are aware of the present-day contribution of aviation to climate change, and the projections in 2050.

Today, the aviation share of the anthropogenic effect on climate change is between 2% and 5%, while the forecast shows an increase of air traffic for the next decades of 2% per year.

Only 19.5% (N=79) of respondents were **aware of the actual climate impact of aviation,** while when asked to foresee the future impact of the aviation domain, the subjects state that this domain will probably compose 10-30% (N=101) or 30-50% (N=107) of the total human impact.

Aviation Climate impact

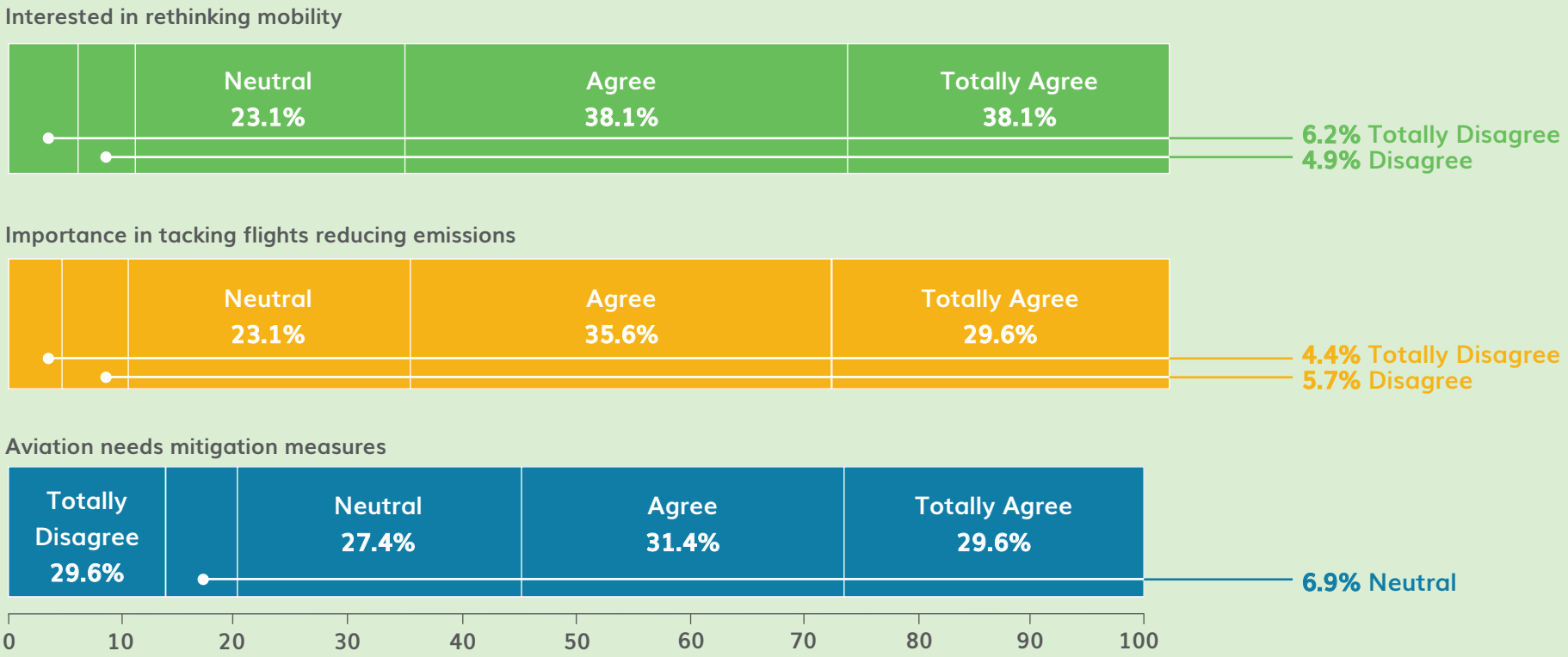


https://www.eurocontrol.int/sites/default/files/2019-07/challenges-of-growth-2018-annex1_0.pdf

The survey then asked to what extent they would be interested in **rethinking their mobility habits** to mitigate climate change, how important would it be to them to take a **flight aimed at reducing emissions** of greenhouse gases, and whether aviation should change and introduce **measures to reduce its climate impact.**
The replies are in line with the general **concern about the aviation** impact on climate change and show that the participants are mostly **in favour of adopting mitigation actions,** both personally and at industry level.

A similar willingness to change is also evident in the following section where the air passengers' acceptance of ClimOP operational improvements was assessed.

Awareness



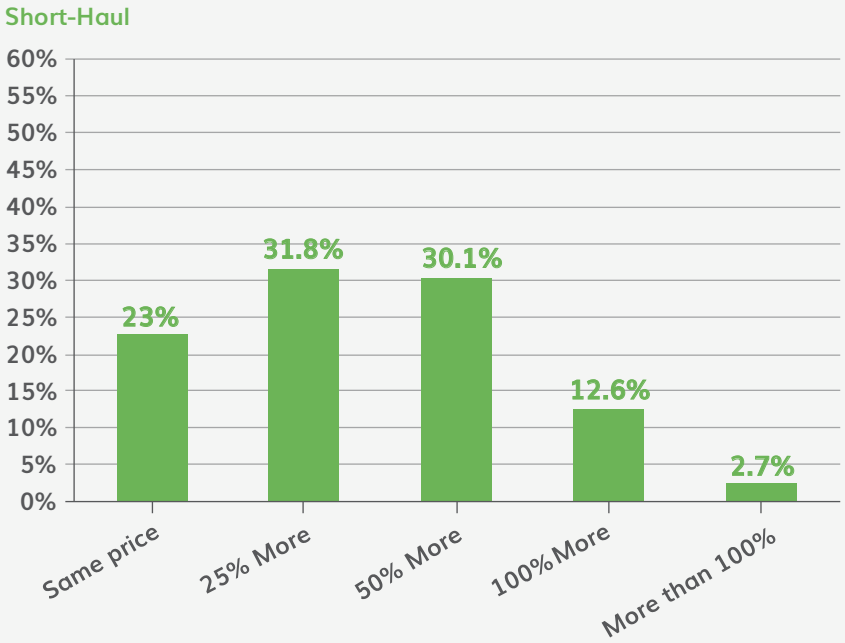
AVIATION OPERATIONAL IMPROVEMENTS

The following questions asked air passengers to evaluate a set of changes that the ClimOP project is aiming to introduce in the aviation sector to cut off its CO2 and non-CO2 emissions.

Paying more

As most of the changes studied within the ClimOP project might impact costs for the involved stakeholders, the first question asked passengers to quantify their **willingness to pay higher fees** knowing that this would allow to reduce emissions. Surprisingly, the majority claimed to be keen to pay 25-50% more for both short-haul and long-haul flights.

Paying more



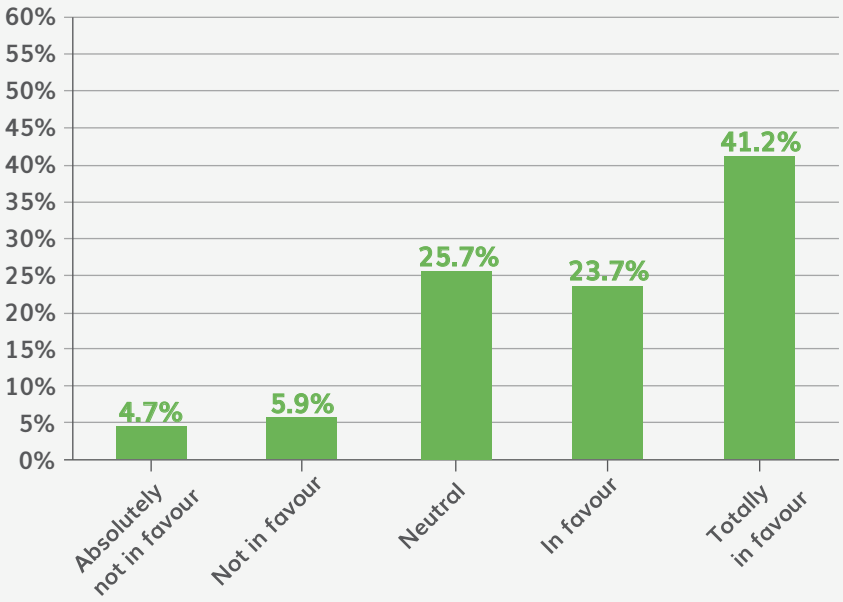
Flying Longer

The second change impacts air passengers' flight experience, specifically **flight times**. Some of ClimOP's operational improvements will likely increase flight times due to slower flights, longer taxiing procedures, or more take-offs and landings.

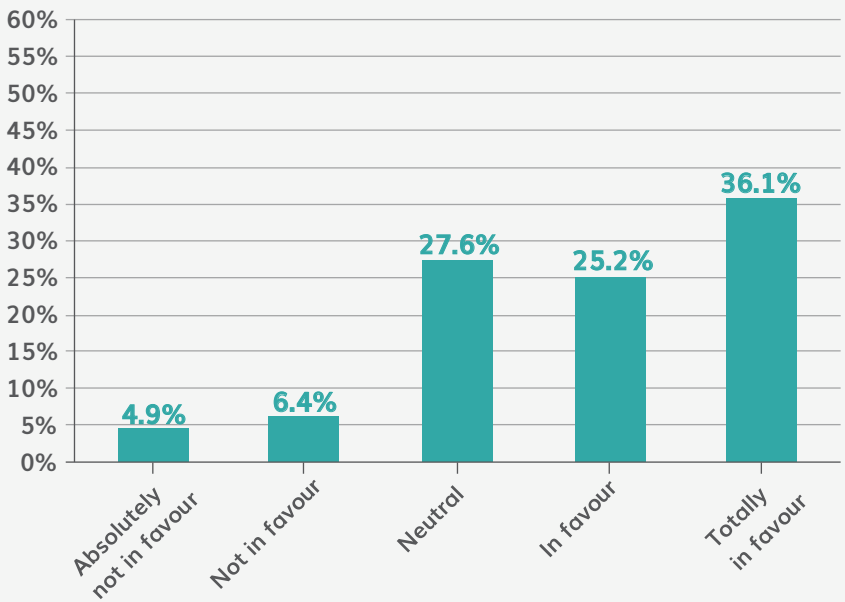
Two-thirds of participants stated to be **in favour of increasing flight time by 20% on short haul** (30 minutes more on a 2.5h flight), and approximately the same amount would accept increasing flight times up **to 16% on long haul flights** (almost 2h more on an 11.5h flight), knowing that this would help climate.

Flying longer flights

Short-haul



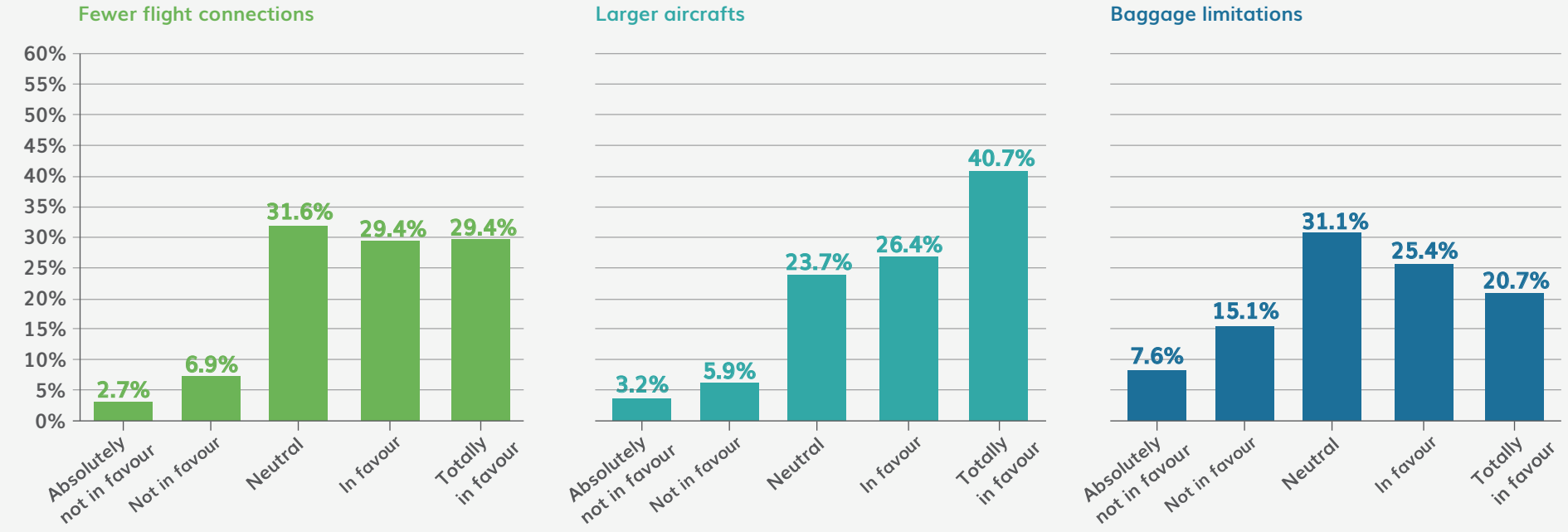
Long-haul



Network Management

ClimOP studied the potential impact on climate of optimising network management. While there are multiple alternative options to define the optimal network, the Consortium studied two possibilities: **less frequent flight connections,** and flying with **larger, fully booked aircraft.** The survey investigated this aspects and also the perception of possibly **stricter baggage limitations** meant to reduce the aircraft weight. The results show that most passengers would accept less frequent flight connections and travelling with larger aircraft fully booked. By contrast, the acceptance of baggage limitations is substantially lower.

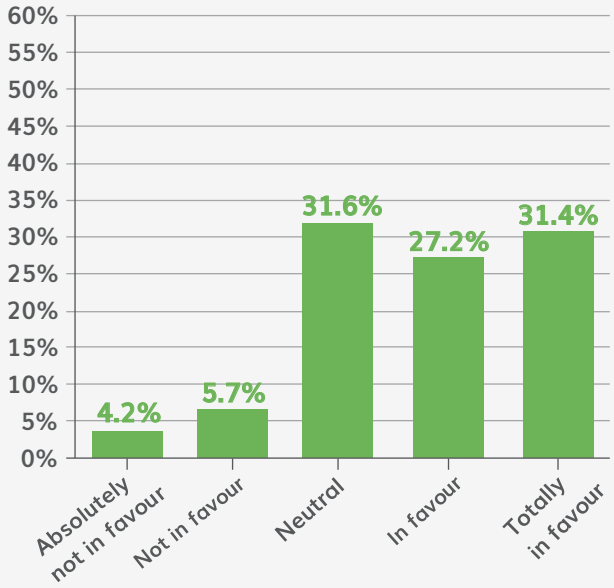
Network related measures



Climate Neutral Airports

As some of the ClimOP solutions impact airport operations, the passengers were asked also to state how much would they be in favour of **choosing to fly from or to an airport,** knowing that it implements greener measures to cut emissions. In this regard, people show to be slightly in favour of travelling from or to a climate-neutral airport.

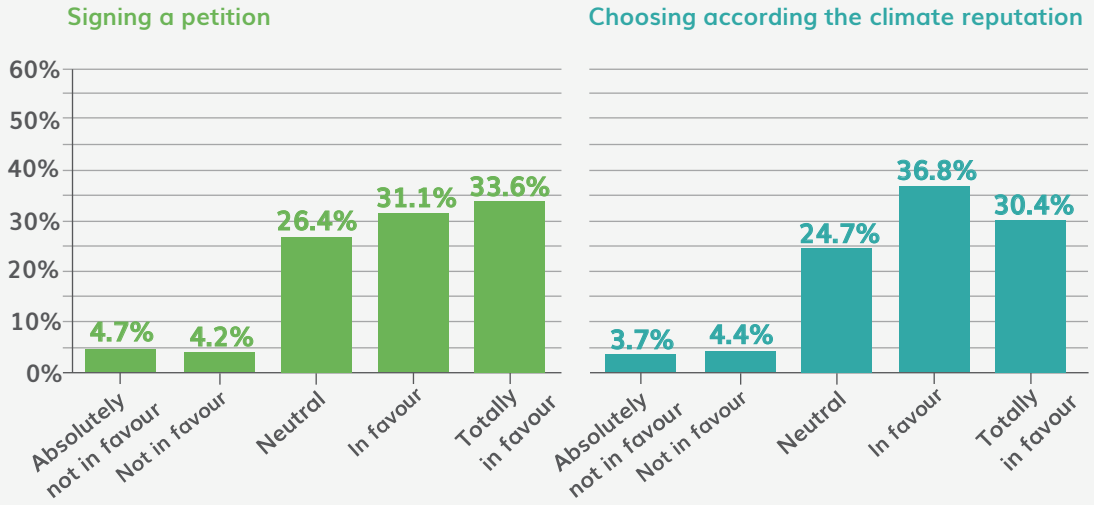
Travel from/to climate neutral airports



Politics

In the last section of the survey, the questions investigated the general attitude towards the adoption of more climate-sustainable aviation operations, to understand whether the respondents would **actively foster the change** or whether they would **adapt to the social influence**. The majority answered they would sign a petition to foster climate-friendly flights and choose their flights according to the "climate reputation".

Promoting climate-friendly flights



Conclusions

The results of the survey show a general interest towards climate change and willingness to act. This appears to be correlated with general **lack of awareness** towards specific initiatives aiming to contrast climate change, particularly those related to aviation. The low awareness might be the reason preventing passengers from taking decisions to counteract climate change.

The passengers interviewed rated quite highly most of the operational improvements investigated in the ClimOP project, showing their acceptance of most of the changes introduced. Because climate change is a sensitive topic, the respondents might have been subject to the social-desirability bias, that is, they possibly tended to answer as they believed will be viewed favourably by others (i.e., over-reporting socially accepted behaviours or under-reporting undesirable ones). Even so, the results suggest that **air passengers are seemingly willing to contribute to the aviation transition to greener operations**. Knowing that their contribution will be beneficial for climate, in fact, most passengers seemed to be in favour of higher ticket fees, increased flight times, less frequent connections, and larger-fully booked aircraft.

Overall, the air passengers' opinion has enriched the analysis for the comparison of the ClimOP operational improvements. This input, together with the impact analysis on the other aviation stakeholders, will help shape the lessons learnt the ClimOP Consortium will present to the public to decarbonise the aviation sector.

CLIMOP

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