

A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, some of which are larger and have concentric circles around them, suggesting a central or more significant node. The lines are thin and grey, creating a dense, interconnected structure. The background is split into a white top half and a dark blue bottom half.

Britainthinks

— Insight & Strategy —

CAA | Environmental Information Provision

Wednesday, 7th April 2021

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1 Background and methodology

Background context

- As the industry regulator, the CAA have a role in providing relevant information on aviation to help consumers with decision-making.
- Having identified a consumer demand for information on the environmental impacts of flying, the CAA launched a research project to explore the feasibility and utility of sharing carbon information with consumers.
- In addition to ongoing work into consumer opinions on paying to offset flight emissions, the CAA commissioned BritainThinks to conduct deliberative research with consumers to explore attitudes to aviation environmental information and what consumers want in more depth.

Objectives

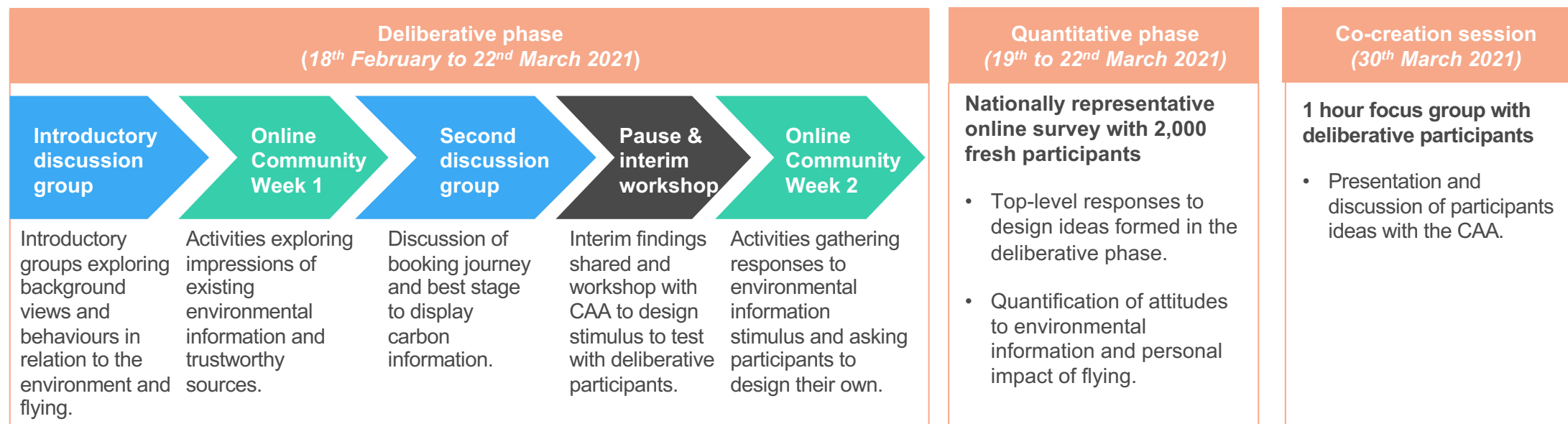
The overarching objective for this piece of research was **to explore the feasibility and utility of sharing carbon information on the environmental impacts of aviation with consumers**. Specific aims were to explore consumers':

- 1 Understandings of aviation and its impacts on the environment, and who is responsible for mitigating negative impacts.
- 2 Changes in opinion on the environment and/or flying due to Covid-19.
- 3 Awareness of existing information on the environmental impact of aviation, and what type of information is desired.
- 4 Expectations for where to access aviation environmental information.
- 5 Trust in information on the environmental impacts of flying and what would make this information more trustworthy.

Methodology

Our deliberative research included 38 participants who engaged online in two 90-minute focus groups and on an online community platform.

This was followed by a quantitative survey with 2,000 members of the public to quantify findings, and a co-creation session with the most engaged deliberative participants in order for the CAA to hear their views first-hand.



Deliberative sample

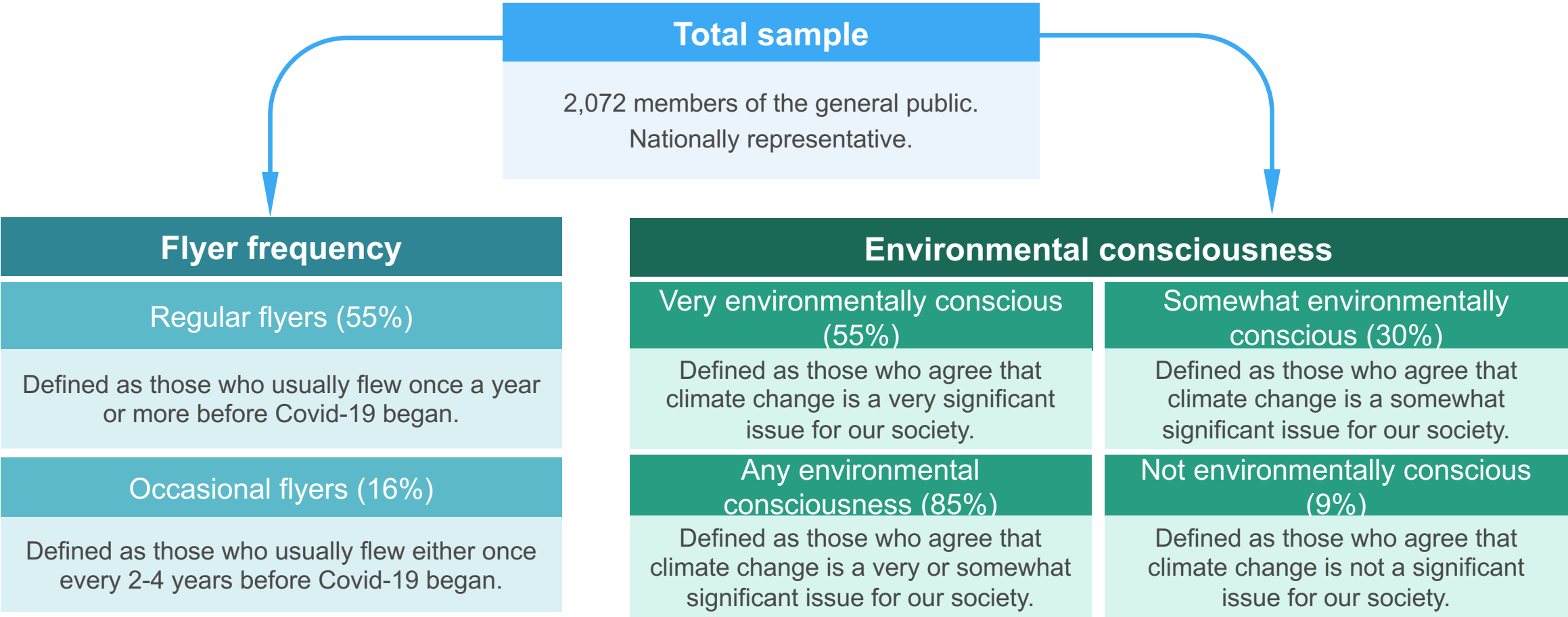
In total, 38 participants completed the deliberative research.

Participants were recruited using professional market research recruiters using tailored screening materials to ensure we achieved a sample that reflects the diversity of the UK.

The sample excluded those who do not think climate change is a significant issue, as well as those not open to taking action, in regards to the environmental impact of their flights. This enabled the research to focus more tightly on what would be most useful to those already receptive to environmental information, with the quantitative research including a mixed audience.

Criteria	Sub-quota	Total
Gender	Female	19
	Male	19
Age	18-24	9
	25-44	10
	45-64	10
	65+	9
SEG	AB	10
	C1C2	19
	DE	9
Location	South England	10
	North England	8
	Midlands	8
	Scotland	6
	Northern Ireland	4
	Wales	3
Flight frequency	Regular (Once a year or more)	18
	Occasional (Once every few year or less)	20

In this report we refer to 7 key audiences



Q.2 Now we'd like you to think about flying. Before covid-19 began in March 2020 , how often did you usually fly for leisure, visiting friends or family and/or business? Base: all n=2072 (Regular flyers n = 1140; Occasional flyers n=336)
Q.13 Which of the following best applies to how you feel about climate change? Base = all n = 2072 (Very environmentally conscious n= 1146; Somewhat environmentally conscious n= 614; Any environmental consciousness n=1760; Not environmentally conscious n=196)

Language used in this report

In order to distinguish between the different groups of people who took part in the different stages of this research, we have used different terms to refer to study participants in this report:



Dialogue participants / respondents refers to those 38 people who took part in the deliberative stage of the research. Findings from these participants are indicative of wider views, but from a small sample and therefore not fully representative or generalisable.



Consumers refers to findings from the nationally representative quantitative survey with 2,072 people. The larger and more diverse sample means we can have greater confidence that these findings apply more broadly.

2 Key findings

Key findings

1. Concern about the environment is the new norm, however, for many consumers this doesn't translate into reality – and there is a wide spectrum of environmental behaviours.
2. Most participants were looking for shortcuts to identify more sustainable choices in their day-to-day lives (such as logos and symbols) – with a much smaller number engaged in deeper fact finding and trade-offs.
3. Only a few participants were actively considering the environment in their own decisions about flying. Whilst most had a broad perception of the aviation sector being 'bad' for the environment, many participants lacked a meaningful understanding of their individual impact and so weren't motivated to consider it.
4. Participants also tend to be in a different mindset compared to other purchase decisions when booking leisure flights. The process involves more emotion, such as excitement and anticipation, which displaces environmental considerations.

Key findings

6. Even though most participants hadn't sought out emissions information, they thought that this kind of information should be universally provided across all sectors.

7. Throughout the process, participants identified various 'rules' for information design, including the need for standardisation, ensuring it's easily accessible as part of the booking journey, ensuring it's easy to understand for a layperson and that it has some level of third party vetting.

8. Participants tended to see this information as having two core purposes:

- To *inform* the public about the relative impacts of flying;
- To hold airlines accountable for aviation impacts and encourage them to reduce emissions.

9. Emissions information might change behaviour amongst those already motivated and might nudge others to consider environmental impacts. However, flying behaviours are strongly ingrained so any immediate effect from information alone is likely to be small.

‘Green ratings’ was the clear winner out of the three designs we tested

The screenshot displays a flight search results page with a 'Green rating' filter on the left. The filter is set to '5/5', '4/5', and '3/5 or below'. The results are as follows:

Flight	Green Rating	Price
SINGAPORE AIRLINES: LHR to SIN (Direct, 12h 55)	4/5	£675
SINGAPORE AIRLINES: SIN to LHR (Direct, 14h 20)	4/5	£675
QATAR AIRWAYS: LHR to SIN (1 stop DOH, 17h)	2/5	£529
QATAR AIRWAYS: SIN to LHR (1 stop DOH, 18h)	2/5	£529
BRITISH AIRWAYS: LHR to SIN (Direct, 12h 55)	3/5	£712
BRITISH AIRWAYS: SIN to LHR (Direct, 14h 10)	3/5	£712

The green ratings are explained in detail for each flight:

- 4/5 Rating:** This flight has a green rating of 4/5. This is based on it being a **direct** flight, using **Sustainable Aviation Fuel**, and being in a **newer aircraft**. For more info, [click here](#).
- 2/5 Rating:** This flight has a green rating of 2/5. This is based on it being a **stopover** flight, using **normal fuel**, and being in a **newer aircraft**. For more info, [click here](#).
- 3/5 Rating:** This flight has a green rating of 3/5. This is based on it being a **direct** flight, using **normal fuel**, and being in an **older aircraft**. For more info, [click here](#).

The green ratings for these flights are independently regulated by the Civil Aviation Authority. [Click here](#) to find out more.

What worked well

- ✓ Easy to understand at a glance
- ✓ Information is pre-digested into a rating (doesn't require consumer effort to trade-off different metrics)
- ✓ Easy to visualise it being part of the booking journey (accessible)
- ✓ Additional detail on what influences impact is available for those who want it

3 The consumer context

Broader environmental consciousness

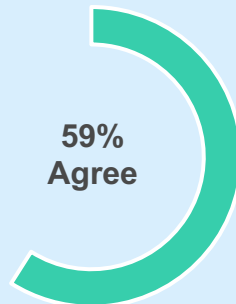
Most consumers believe that the environment is important, but this doesn't always translate into their behaviours

Belief

“The environment is a very/somewhat significant issue for our society”

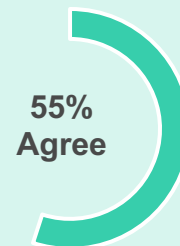


“I have a good understanding of what the environmental impacts of flying are”



Behaviour

“When shopping I look out for environmental information on packaging and product pages”



“I am less likely to purchase a product or service if it is clear it is not environmentally friendly”



“I would pay more for flight tickets to reduce the environmental impact of flying”



“When I’m buying things it almost always come down to price. It helps if it’s eco-friendly, but for most people unless you have endless money, price will always be there really. When you buy something, there’s always so much information. I bought a dash cam 2 weeks ago, and not once did I look at anything regarding the environment.”

(43, Female, West Midlands)

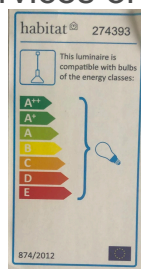
This suggests that unless a consumer has a strong commitment to the environment, there are many barriers to acting on their beliefs, as even those who claim to feel strongly don't mirror this sentiment in their behaviours.

Q1. Thinking about when you buy products and/or services at the moment, how far would you agree or disagree with the following statements? Q.4 Thinking about travelling by air, how far do you agree or disagree with the following statements? Q.13 Which of the following best applies to how you feel about climate change? n=2072, base: all.

Participants discussed a spectrum of behaviours to manage their environmental impact

A majority rely on shortcuts

- They rely on symbols on the front of packs to minimise effort and interpretation.
- This tends to be limited to everyday items from the supermarket where air miles and recycling have been normalised, and with white goods where efficiency ratings have become very familiar.
- Participants do limited research on the environmental impacts of services or their wider lifestyle choices.



Aware of green washing, indications of more critical behaviour

- They consider whether all the packaging of the product is recyclable, and how widely recyclable it is.
- They buy fast fashion due to price consciousness, but focusing on “conscious” ranges to somewhat offset the impact.
- Some notice and call out discrepancies in beliefs and actions.

“I feel quite strongly really, and my sister-in-law is telling me not to be using teabags because they’re not biodegradable. And then flies to America and flies to Australia. I don’t mind it, but people should go on with their beliefs and not tell people it’s because of the environment.”
(70, Male, North England)

A minority that make conscious trade-offs

- They seek to buy from brands that clearly stand for good, and are able to identify greenwashing e.g. recognising fake leaping bunny certifications.
- Such participants expressed an acceptance of their responsibility as consumers to inform themselves about ingredients, origins and processes.

“My son who’s vegan, has been influencing me. He lives in New Zealand and it’s a long way to travel to just see a person. It’s very harmful for the environment. Veganism made me think about it and cut down my meat and dairy consumption.”
(55, Female, Northern Ireland)

NB: we will later be exploring stated vs. revealed behaviours and attitudes

Case studies: Consumers who claim to be environmentally conscious vary widely

Nicola*, 55, Northern Ireland

Nicola* has a strong interest in the environment, and feels she knows a fair amount about it having had discussions with her family on the subject and watched documentaries on human impacts on the environment.

She has previously conducted research into her purchases, looking to reduce the amount of packaging and plastic she buys, as well as certifications to ensure her purchases are environmentally friendly.

She feels companies have a duty to educate consumers on environmentally friendly choices, as information can be difficult to find.

“In that respect, labels and information panels are vital in sharing key environmental information about products. It’s important we educate ourselves not only about what we are using, consuming and producing but also changing long established habits, so we can sustain our planet for future generations.”

Paul*, 49, England

Paul* also feels climate change is a significant issue, and came into the research saying he considers the environment and sustainability when making purchases.

However, he only noticed many products in his weekly shop were not recyclable or sustainable after being prompted to look at his purchases as part of the research. Furthermore, he takes environmental symbols at face-value, assuming the product is eco-friendly without critically engaging with his purchases (e.g., taking the ‘Dolphin safe’ certification to mean his can of tuna is sustainable and recyclable).

He thinks environmental information needs to be concise and simple in order to encourage people to engage with it.

“I’ve noticed that a number of items that I purchase from my local supermarket are NOT recyclable. It’s quite concerning the amount of packaging that I’ve checked on this morning’s shop is not suitable.”

Often when participants are making sustainable choices, it's for other reasons



Saving money

Cars with fuel efficiency - in order to save money, newer car will last longer

"For me it's the food miles. I'm always trying to look for something that is local or from the UK. Like when buying a pan of strawberries and they're from Spain, it's about looking for those grown in Britain".

(55, Male, Scotland)



Supporting local

Buying local – reduced airmiles but benefit is supporting local economy

"With household products, I use Method cleaners now. I don't know if I thought about the environment when purchasing it or whether I just thought it must be good because it's natural".

(65, Female, South England)



Buying natural

Buying more environmentally friendly products but because they're more natural and healthier



Following trends

For younger generations, being environmentally friendly is becoming trendy

"It's the new generation which has grown up with that idea of choosing the more environmentally friendly option."

(32, Male, South England)



Saving wildlife

Not buying disposable face masks – to protect ducks; however, is also environmentally friendly



Abiding by law

Changing behaviours according to legislation e.g. anticipating having to drive electric cars

"Regarding cars we're looking for electric or hybrid. We're looking for low emissions cars because of low tax."

(65, Female, Northern Ireland)

Aviation and the environment

Participants give many reasons for why they don't make more environmental considerations

Stated barriers to environmental behaviours

Confusion

around what's sustainable, and what they should be doing

"I find it very confusing, e.g. plastic margarine or yoghurt tubs, that have the recycling logo on them, however your local authority says that they actually don't recycle them."

(40, Female, Scotland)

Feeling overwhelmed

by the amount of information out there about the products they buy

"I suppose we all go to Google and we look at what is the most popular, but sometimes we need to scroll down. Those are paid for ads, so you need to balance that out with what the truth really is."

(55, Female, Northern Ireland)

Deprioritisation

Covid has put things on the backburner e.g. using single use plastic for hygiene reasons

"The last few years, I have been more environmentally conscious with buying cosmetics and cleaning products, however covid has kind of put it on the backburner, everything has become disposable again."

(43, Female, Midlands)

Suspicious

of claims to offset carbon – not sure how, might be profiting

"I am just a bit confused there, I understand paying the airline an extra amount of money regarding the carbon footprint for the flight, but who gets that money and what do they do with it?"

(72, Male, North England)

Feeling disadvantaged

Environmentalism feels inaccessible and privileged

"If you're affluent you can prioritise them, but if you worked so hard to go to on a holiday, you're not going to prioritise that. If you buy other environmental stuff like organic, it can be more costly."

(65, Female, South England)

They know that it is very important to behave more responsibly, and so their lack of action prompts them to explain/ give excuses about what is holding them back.

Some barriers are subconscious, and are less likely to be self-reported reasons for not being more responsible

Revealed/subconscious barriers to environmental behaviours

Lack of understanding

"I wonder if there's much difference from an hour and a half flight from Birmingham to France with 200 other people and driving there and back. It probably doesn't save much carbon [to drive], but nobody tells you, there's no information on that."

(70, Male, North England)

Lack of individual accountability

"It should be on the Government and airlines who are causing the issues, they need to take the steps to change that and then we take our lead. I don't think it's fair to put all of the responsibility onto the customer."

(23, Male, South England)

Having other priorities

"As a student I don't have much money... Even though I understand climate change is a very important issue, personally when I'm buying things I look at prices."

(20, Female, Midlands)

Distraction from the consequences

"When you go up in the air – you're up in the clouds, it takes you out of what you smell and feel everyday, so it's hard to think about it as the environment."

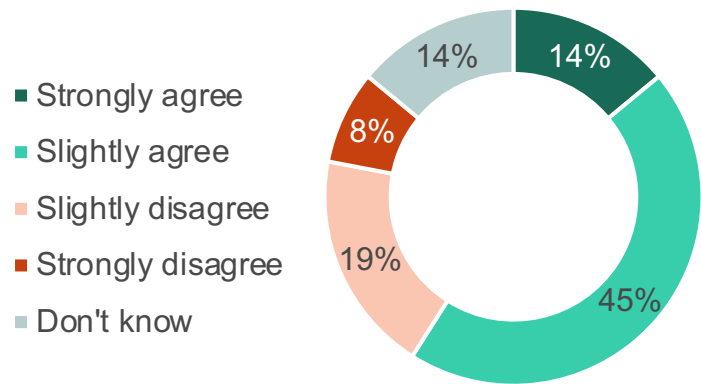
(40, Female, Scotland)

Environmental information could enable consumers to behave in a way that is consistent with their beliefs, or to help them realise that they aren't in fact doing everything they could be.

Consumers appear to overstate their understanding and consideration of the environmental impact of flying

Consumers claim to have a good understanding of the environmental impacts of flying...

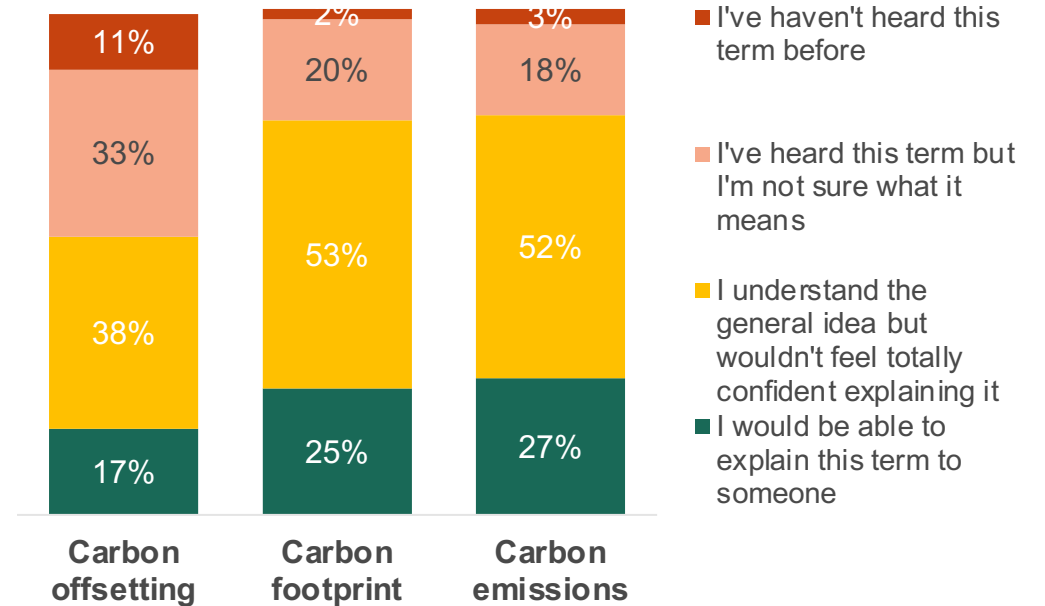
“I have a good understanding of what the environmental impacts of flying are”



Only the most environmentally conscious consumers are more familiar with the environmental impacts of flying, with 70% agreeing they have a good understanding, though only 1 in 5 strongly agree.

... but few would be confident enough to explain the meaning of key terms.

Understanding of environmental impact terms

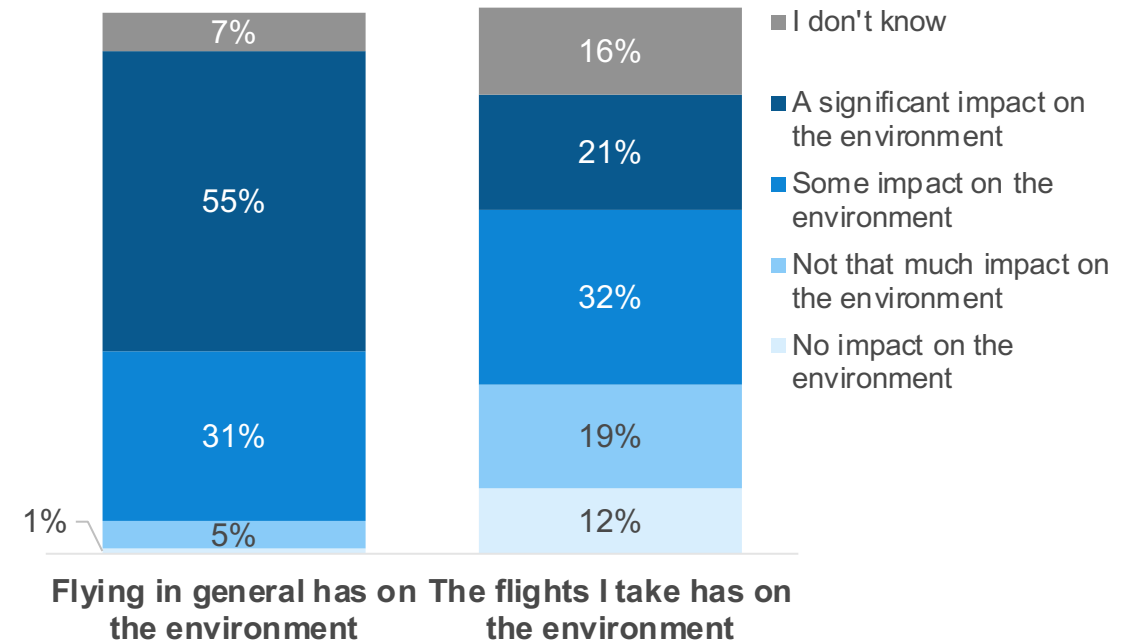


Q.4 Thinking about travelling by air, how far do you agree or disagree with the following statements? Q.15 There are some terms that are often used when describing the environmental impact of the things we buy or use. For each of these terms, please state how well you understand what it means. n=2072, base: all.

When prompted, there was an assumption that flying is generally 'bad' for the environment, although limited understanding of individual impact

- While flying was understood as 'bad', dialogue participants had limited awareness of the specific environmental impacts of flying.
 - This is despite **59%** agreeing that they understand the environmental impacts of flying.
 - Issues raised include packaging and plastic waste, fuel use and carbon emissions, though few had a clear sense of the significance of emissions on the environment.
- As such, participants often downplayed their ability to mitigate or negative impacts as they were understood to be inevitable.
- Holidays once or twice a year limited their sense of obligation to make more environmentally conscious choices, as it felt like a small impact relative to others.
 - It was largely felt to be business travellers who had this responsibility.

How much impact do you think...



The pandemic has made many participants desperate to go on holiday – to enjoy fun and freedom with family and friends

- The pandemic has broadened some participants' awareness of global issues and their role.
 - They have a greater appreciation for the interconnectivity of the planet's issues, and the role that they can play to prevent future problems.
- However, dialogue participants were all eager to go abroad, and largely felt their greatly reduced emissions over the past year gave them a 'free pass' to travel once they were able to, with many having already mentally planned their next trip abroad.
 - Any planned changes in travel centred on hygiene concerns post-Covid, rather than a change in concern for the environment.
 - However, the pandemic had caused a small number of participants to reflect on how far they need a foreign holiday each year.

51%

of regular flyers intend to fly this year, assuming covid-19 travel restrictions are lifted according to current plans

Q.4 Thinking about travelling by air, how far do you agree or disagree with the following statements? n=1140, base: regular flyers.

"Prior to the pandemic, we would have operated in our own little worlds, thinking about the individual as opposed to the global issues. And I do think that that has come to the forefront a little bit more during the pandemic. It has that butterfly effect, you know, small things you do here reach far and wide."

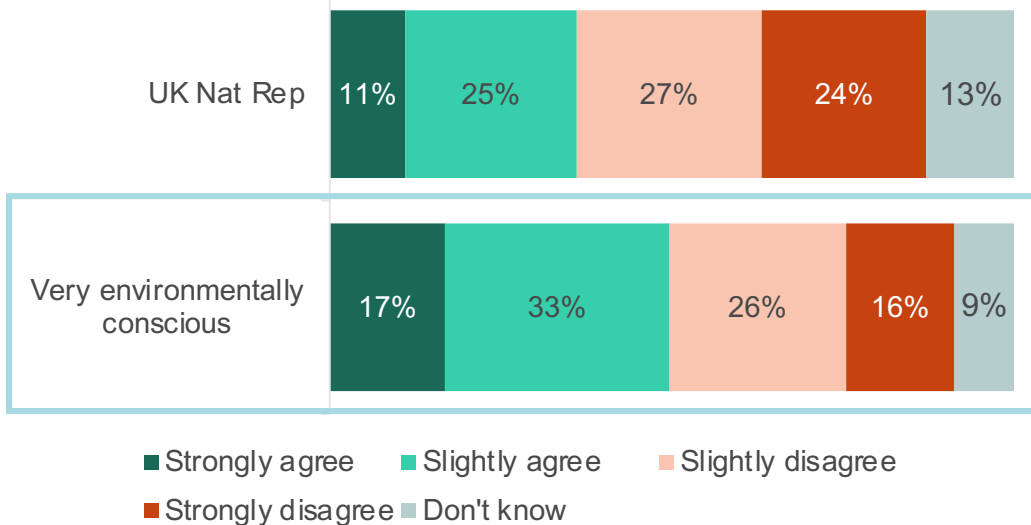
(44, Male, Northern Ireland)

"People are looking at holidays and flights as a kind of a release from work and life itself. They want to get away and forget about all their worries. I think a lot of people's thoughts are 'I just want to get away, I just want to enjoy myself'. I don't think a lot of people will be thinking about the environment, they will be thinking about their own mental wellbeing."

(36, Male, North England)

A minority of the public think about the environmental impact of flying

“When deciding whether to travel by air, I think about the impact of flying on the environment”



Whilst very environmentally conscious consumers are more likely to be thinking about impact of flying when planning a trip, even amongst this group half are not.

This was also observed qualitatively:

- The excitement of booking a trip restricts research to elements of the experience, not the method of travel.
- The luxury of a holiday creates a different mindset which means that there are often few considerations beyond their budget and comfort.
 - It's possible that these factors have been normalised as the only ones that “matter” by being the only ones consistently listed on flight booking platforms.

“I don't really pay too much attention to environmental impacts to be honest. Its more about the factor of being quite young and not being absolutely loaded. So when I do try to have a holiday or something I look for the one that's most cost efficient. Doesn't really cross my mind to look at the environment.”
(19, Male, Wales)

Q.4 Thinking about travelling by air, how far do you agree or disagree with the following statements? n=2072, base: all.

4 Carbon information: stated preferences

Participants feel that environmental information is not readily available or visible

- With few considering the specific environmental impacts of flying prior to the research, most dialogue participants had not previously looked for or come across environmental information on their flights.
- Most said that they don't find it easy to find or compare environmental flight information, and few had previously offset their flights.
- Before the research, our participants relied on assumed knowledge of an airline's environmental credentials.
 - BA, for example, was assumed to have decent credentials, but due to overall brand perceptions and that it performs well in other areas.
 - Similarly, environmentally conscious behaviours were not associated with airlines like easyJet due to the low cost.

"I don't think there is any information there. If I am flying to Cape Town with British Airways, I have got no clue what my carbon footprint is for that. I don't think it would make any difference either way, I would still want the flight."

(70, Male, North England)

"People have a mindset that it's not the first thing to think about, so when the little thing pops up – it's such a new thing so people don't think about it until they see it. Companies need to put that word in more."

(24, Male, Northern Ireland)

Only 21%

agree that "When researching air travel, it is easy to find environmental information and to make comparisons between the options."

Q.4 Thinking about travelling by air, how far do you agree or disagree with the following statements? n=2072, base: all.

Participants imagine information to play one of three key roles

To inform and promote accountability

in both consumers and airlines to behave more responsibly.

"I found out that Europe is one of the best, for lower emissions... It was TUI actually. I'm more likely to book with them in the future. I shouldn't have to do my own research for that. Let's hammer the message that when you fly do it sustainably."

(32, Male, Wales)

To shift cultural norms

Making it ordinary and habitual to consider environmental info by normalising its inclusion.

"Before traffic light systems you didn't know how bad sugar etc. was for you. I don't see why flights wouldn't be able to do it. Promote people to think about it. That would help to create a culture change to be aware."

(40, Female, Scotland)

To influence choice

Incentivising positive choices through highlighting the positive impact, and helping consumers to achieve goals.

"Maybe when you go and book holidays you could compare which flights are more economic, or incentives for people to choose more environmentally friendly options, like a card to earn points."

(23, Male, South England)

Participants agree on what makes information effective

- Dialogue participants spontaneously wanted to see information that met these criteria:

Standardisation

across the industry to create realistic and tangible goals for airlines and consumers.

Easy to read

Immediately interpretable through familiar symbols and semiotic cues.

Easily accessible

Appearing on front of pack (or equivalent) to minimise effort.

Vetted by government/ third party

To create trust and reliability.

Participants imagine information impacting behaviour in a few key ways

Following government or industry guidelines

Participants discussed relying on guidance to understand the most responsible actions e.g. daily diet allowances.

"I think there is just too much for us as individuals to understand, and it's international as well, so we need someone like the Government to tell us what we can do."

(43, Female, Midlands)

Voting with their wallet

Participants demonstrated some awareness of their purchasing power to influence the aviation industry.

"If I knew that a company is not very environmentally friendly then you need to make the choice to not to use that company. You need to vote with your feet...vote with your wallet. We need to vote with the way we purchase, and not to support those companies."

(65, Female, North England)

Paying to offset

Or making small changes elsewhere in their lives to offset the impact of flying.

"If you continue to fly and there's no other option – what can you do to try to offset, whether it's other choices that you make or cost? If there are a number of different options to try to offset the carbon footprint, that would be useful to know."

(55, Female, Northern Ireland)

Reducing travel

Some participants questioned the necessity for business travel, and for multiple foreign holidays per year. NB: This mainly applies to business and other people (not myself)

"You need to question: do I need to go to London? Can I find an alternative? Do I need to go on holiday 4x a year? It was the word responsibility that jumped at me."

(40, Female, Scotland)

5 Carbon information: feedback

We developed three prototype information formats

- After two rounds of dialogue sessions, we held a design workshop with the CAA and members of the CAA consumer panel to develop three prototype information formats to test.
- This information was developed based on participants' input on the type of information that would help them to make environmentally informed decisions during the flight booking process.
- Dialogue participants were asked in an online community to review three mock ups of information, and to give feedback on the clarity, usefulness and trustworthiness of the information, as well as any other feedback on how it is presented.
- The two most popular versions were taken forward for testing in the quantitative survey.

Qualitative testing in an online community setting

Stimulus:

1. 'Airline League Table'
2. 'Green rating' (v1 & v2)
3. 'CO₂ emissions in context'



Quantitative testing in a nat. rep. survey

Stimulus:

1. 'Airline League Table'
2. 'Green rating'

(narrowed down to 2 based on likelihood of use)

Qualitatively, participants preferred information that was immediately interpretable

'Green rating'

The green ratings for these flights are independently regulated by the Civil Aviation Authority. [Click here](#) to find out more.

'CO₂ emissions in context'

'Airline league table'

Airline	Total CO2 emissions	Efficiency	Offsetting programme	Net Zero Carbon target	Sustainability Rating
easyJet	5.3 million tonnes	71.48 g/CO ₂ per passenger per km	Yes all flights	2050	★★★★★
BRITISH AIRWAYS	18.2 million tonnes	101.7 g/CO ₂ per passenger per km	Yes domestic flights only	2050	★★★★★
RYANAIR	11.7 million tonnes	69 g/CO ₂ per passenger per km	No customers can choose to offset their emissions	2050	★★★★★
joint	22.4 million tonnes	100.6 g/CO ₂ per passenger per km	No invests in waste reduction programmes	No set date	★★★★★
Emirates	4.9 million tonnes	78.9 g/CO ₂ per passenger per km	No customers can choose to offset their emissions	No set date	★★★★★
virginatlantic	27.7 million tonnes	98.4 g/CO ₂ per passenger per km	Yes European corporate fares only	Not set date	★★★★★
Lufthansa	27.7 million tonnes	98.4 g/CO ₂ per passenger per km	Yes European corporate fares only	Not set date	★★★★★

For more information on how these scores are calculated, [click](#).

1
 Figures are calculated based on the following measures:

- Total CO2 emissions
- Efficiency
- Offsetting
- Net Zero Carbon targets
- Aircrafts in fleet
- Investments in sustainable technologies
- Use of biofuels

The sustainability ratings are independently regulated by the Civil Aviation Authority. [Click here](#) to see the sources of this information.

What worked well

This information performed very well as it is highly accessible (in where it appears, the level of detail, and because it provides an immediate overview, with no need for participants to assess the data.

Participants appreciated understanding CO₂ emissions in the context of their habits and lifestyle, and the infographic style is appealing.

Again, this information is helpful and usable through the judgement given of each airline. Participants were reassured that such information would hold airlines accountable, and is independently verified.

What worked less well

Participants suggested few improvements.

Participants wanted to know exactly how each comparison was calculated, and still didn't have a clear idea of how to conceive of this amount of carbon.

For many, this felt like too much information that they weren't qualified to make sense of. The type of information presented wasn't clear for each column.

'Green rating': detailed feedback

‘Green rating’ has the greatest potential to be taken into consideration, and is felt to be very important to have available

81%

agree that it’s important that this kind of information is available for people to look at (especially **18-24 year olds** (85%), **ABs** (85%), **Wales** (88%), **Scotland** (86%) and the “**very environmentally conscious**” (91%))

The screenshot shows a flight search interface with a 'Green rating' filter. It lists three flight options:

- Singapore Airlines:** LHR to SIN, 10:55 to 07:50⁺¹, Direct, £675. Green rating: 4/5 (4 stars). Description: "This flight has a green rating of 4/5. This is based on it being a direct flight, using Sustainable Aviation Fuel, and being in a newer aircraft. For more info, click here."
- Qatar Airways:** LHR to SIN, 13:55 to 14:55⁺¹, 1 stop DOH, £529. Green rating: 2/5 (2 stars). Description: "This flight has a green rating of 2/5. This is based on it being a stopover flight, using normal fuel, and being in a newer aircraft. For more info, click here."
- British Airways:** LHR to SIN, 20:35 to 17:30⁺¹, Direct, £712. Green rating: 3/5 (3 stars). Description: "This flight has a green rating of 3/5. This is based on it being a direct flight, using normal fuel, and being in an older aircraft. For more info, click here."

At the bottom of the screenshot, it states: "The green ratings for these flights are independently regulated by the Civil Aviation Authority. [Click here](#) to find out more."

64%

might factor this kind of information into my decisions about flying / travelling (especially **women** (68% vs 60% of men), **ABs** (71% vs 56% of DEs) and **18-24 year olds** (76% vs 57% of 65+))

6.17

Mean score out of 10 on **trustworthiness**

81%

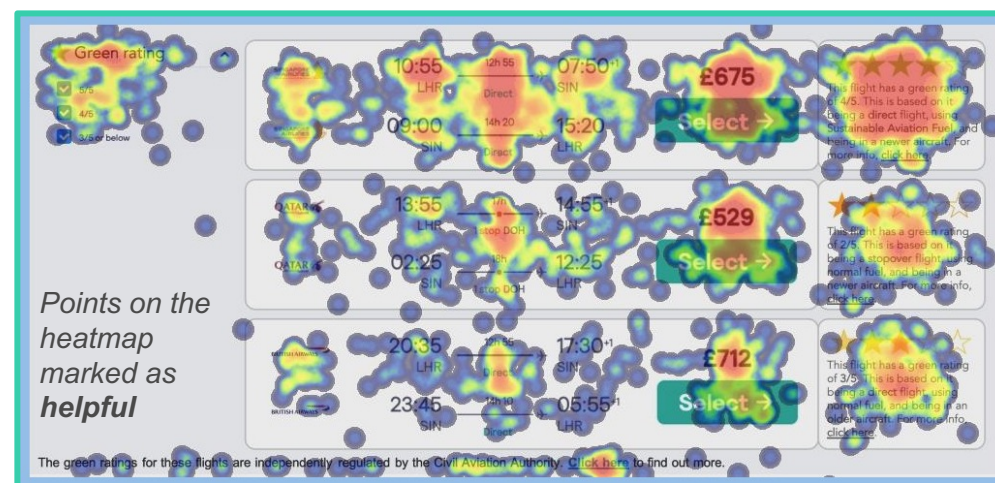
agree that airlines have a duty to report this kind of information (especially the “**very environmentally conscious**” (90%))

Q.10 How far do you agree or disagree with the following statements? Q.11 How trustworthy do you think this information is? Please use a scale of 0 to 10 where '0' is not trustworthy at all and '10' is completely trustworthy. Q.12 Thinking about both types of environmental information you've seen, who would you trust to... n=2072, base: all.

‘Green rating’ was preferred as it gave clear information that doesn’t require interpretation

Analysis by key audiences:

Those who claim to not be environmentally conscious still indicated that the rating information is helpful – but they are ultimately drawn more to price.



“Green rating shows just enough information you need to be able to pick up flights in the way that we are used to.”

(53, Female, North England)

What worked well

- Liked explanation of how score had been reached (indirectly teaches them) –without the explanation it wouldn’t be intuitive why different flight options might have different impacts.
- Immediately clear where and when this information would be used and how. It doesn’t require consumers to change the way they shop for flights.
- For many, this represents just the right amount of information.
- Stars provides a judgement (no extra work required to make the judgement themselves).

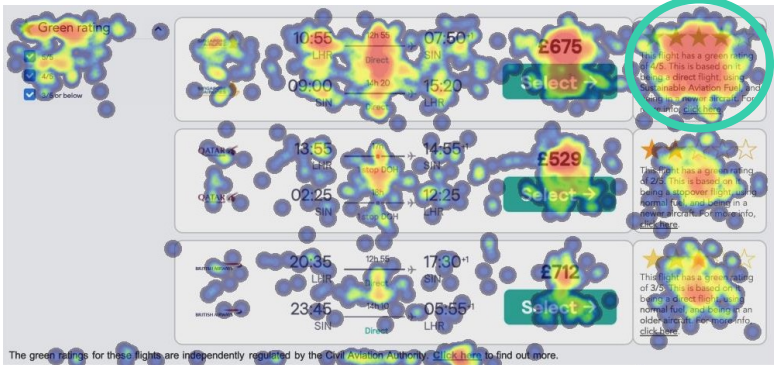
What worked less well

- This rating system could be simplified for some – relying on either colour coding or stars.

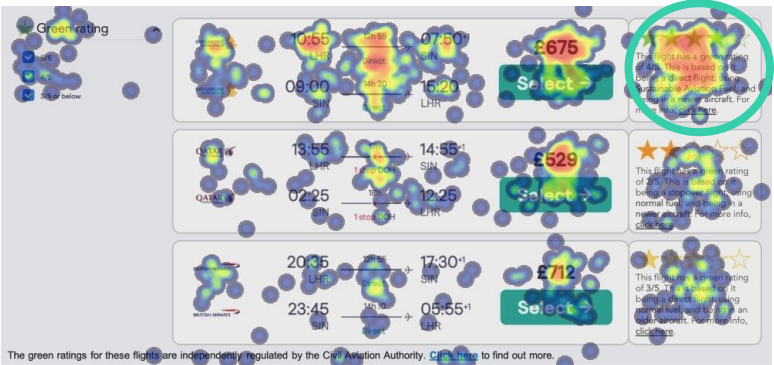
'Green rating' was most helpful for environmentally conscious consumers

- This information is more helpful to those already conscious and less to those who claim that the environment isn't a concern.
- This is because it would help those who are already primed to consider information to make a different choice, but is likely to be ignored by those who aren't – it would therefore have limited impact in changing views.

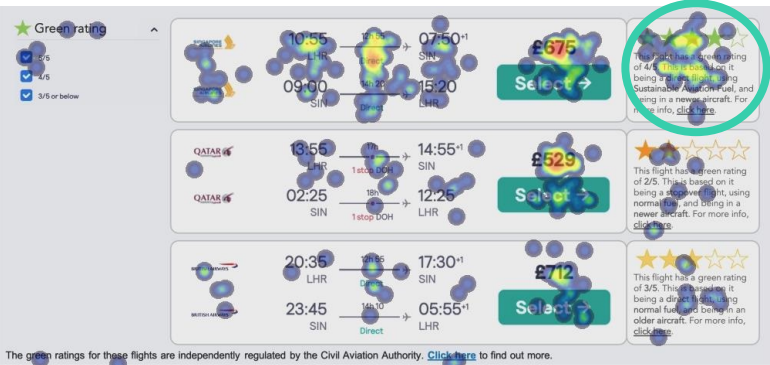
Usefulness of the environmental information



Very environmentally conscious (n=1146)



Somewhat environmentally conscious (n=614)



Not environmentally conscious (n=196)

S2. Please click on the specific parts of the image that are helpful.

'Green ratings' has the best potential to inform the broadest range of consumers

Green rating

- 5/5
- 4/5
- 3/5 or below

	10:55 LHR	12h 55 Direct	07:50 ⁺¹ SIN	£675		This flight has a green rating of 4/5 . This is based on it being a direct flight, using Sustainable Aviation Fuel , and being in a newer aircraft . For more info, click here .
	09:00 SIN	14h 20 Direct	15:20 LHR	Select →		
	13:55 LHR	17h 1 stop DOH	14:55 ⁺¹ SIN	£529		This flight has a green rating of 2/5 . This is based on it being a stopover flight, using normal fuel , and being in a newer aircraft . For more info, click here .
	02:25 SIN	18h 1 stop DOH	12:25 LHR	Select →		
	20:35 LHR	12h 55 Direct	17:30 ⁺¹ SIN	£712		This flight has a green rating of 3/5 . This is based on it being a direct flight, using normal fuel , and being in an older aircraft . For more info, click here .
	23:45 SIN	14h 10 Direct	05:55 ⁺¹ LHR	Select →		

The green ratings for these flights are independently regulated by the Civil Aviation Authority. [Click here](#) to find out more.

Perceived purpose:

- To provide immediately accessible information which could encourage airlines to drive more accountability.
- To inform consumers without asking them to behave differently or to proactively inform themselves.
- To help consumers choose one flight over another.
- To anticipate the growing demand for this type of information as consumers become more conscious.
- To drive awareness and consideration first (before it starts influencing behaviour) and normalisation.

"It will hopefully help to persuade people to opt for more efficient flights. However, I also believe that a flight shouldn't be able to fly unless it's at over 95% capacity. With the least efficient flights being removed if there is no need for them. Also the grading system should have an annual decrease of say 2% so that there is a constant push towards more efficiency."

(32, Male, South England)

Behavioural outcome:

- To be taken into consideration once consumers' have filtered their options according to airline, time and cost.
- Therefore, in the short term it is more likely to influence short haul flights which have more options.
- Just over half of consumers (56%) would actively look for this information, but 81% believe that airlines have a duty to report this kind of information.

‘Airline league table’: detailed feedback

'Airline league table' was helpful for those who are comfortable with this type of information

78%

agree that it's important that this kind of information is available for people to look at (especially **18-24 year olds** (82% vs 74% of 65+), **ABs** (83% vs 75% of C2DEs), and the "very environmentally conscious" (90%))

Airline	Total CO2 emissions	Efficiency	Offsetting programme	Net Zero Carbon target	Sustainability Rating
easyJet	5.3 million tonnes	71.48 g/CO ₂ per passenger per km	Yes all flights	2050	★★★★★
BRITISH AIRWAYS	18.2 million tonnes	101.7 g/CO ₂ per passenger per km	Yes domestic flights only	2050	★★★★★
RYANAIR	11.7 million tonnes	69 g/CO ₂ per passenger per km	No customers can choose to offset their emissions	2050	★★★★★
Emirates	22.4 million tonnes	100.6 g/CO ₂ per passenger per km	No invests in waste reduction programmes	No set date	★★★★★
virgin atlantic	4.9 million tonnes	78.9 g/CO ₂ per passenger per km	No customers can choose to offset their emissions	No set date	★★★★★
Lufthansa	27.7 million tonnes	98.4 g/CO ₂ per passenger per km	Yes European corporate fares only	Not set date	★★★★★

For more information on how these scores are calculated, click [here](#)

i Figures are calculated based on the following measures:

- Total CO2 emissions
- Efficiency
- Offsetting
- Net Zero Carbon targets
- Aircrafts in fleet
- Investments in sustainable technologies
- Use of biofuels

The sustainability ratings are independently regulated by the Civil Aviation Authority. [Click here](#) to see the sources of this information.

57%

might factor this kind of information into my decisions about flying / travelling (especially **women** (60% vs 54% of men), **ABs** (64% vs 51% of DEs) and **18-24 year olds** (70% vs 49% of 65+))

60%

expect to see this on a travel booking website, and **58%** on an airline website

5.8

Mean score out of 10 on **clarity**

6.26

Mean score out of 10 on **trustworthiness**

57%

agree that this kind of information might influence which airlines they fly with in the future (especially **18-24 year olds** (71%), **ABs** (64%) and **Londoners** (64%) and the "very environmentally conscious" (73%))

80%

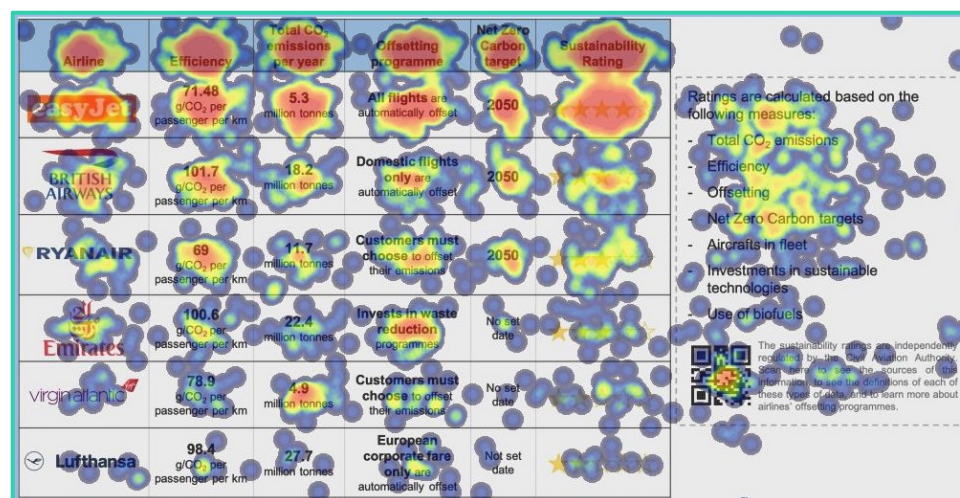
agree that airlines have a duty to report this kind of information (especially the "very environmentally conscious" (90%))

Q.6 Where would it be helpful or interesting for this information to appear? Q.7 How far do you agree or disagree with the following statements? Q.8 How trustworthy do you think this information is? Q.9 How clear and easy to understand is the environmental information included here? n=2072, base: all.

'Airline league table' was helpful for those who are comfortable with this type of information

Analysis by key audiences:

Those who claim to be environmentally conscious are more likely to pick up on gaps in the data. Those who are not environmentally conscious find the rating more helpful than unhelpful.









What worked well

- Efficiency column is most comparable.
- This is a bit of a wake up call about some airlines (e.g. BA) who they expected to be better.
- Star rating is the most helpful element – it makes a judgement for them.
- Liked by people who like tables and data – good evidence for how the judgment is reached.
- Good that it is regulated – by an independent body (not the airline).

What worked less well

- Lacks clear explanation of what each column represents.
- Not intuitive for those who aren't comfortable with this type of data, and would require proactive searching.
- Confusing that offsetting programme doesn't explain if the onus is on the company or the consumer.

‘Airline league table’ has good potential to inform interested consumers, but not to influence

Airline	Total CO2 emissions	Efficiency	Offsetting programme	Net Zero Carbon target	Sustainability Rating
 easyJet	5.3 million tonnes	71.48 g/CO ₂ per passenger per km	Yes all flights	2050	★★★★★
 BRITISH AIRWAYS	18.2 million tonnes	101.7 g/CO ₂ per passenger per km	Yes domestic flights only	2050	★★★★★
 RYANAIR	11.7 million tonnes	69 g/CO ₂ per passenger per km	No customers can choose to offset their emissions	2050	★★★★★
 Emirates	22.4 million tonnes	100.6 g/CO ₂ per passenger per km	No invests in waste reduction programmes	No set date	★★★★★
 virgin atlantic	4.9 million tonnes	78.9 g/CO ₂ per passenger per km	No customers can choose to offset their emissions	No set date	★★★★★
 Lufthansa	27.7 million tonnes	98.4 g/CO ₂ per passenger per km	Yes European corporate fares only	Not set date	★★★★★

For more information on how these scores are calculated, click [here](#)

1 Figures are calculated based on the following measures:

- Total CO2 emissions
- Efficiency
- Offsetting
- Net Zero Carbon targets
- Aircrafts in fleet
- Investments in sustainable technologies
- Use of biofuels

The sustainability ratings are independently regulated by the Civil Aviation Authority. [Click here](#) to see the sources of this information.

“I would look at all information available and make a balanced decision on which airline to book with. But even though Lufthansa rate poorly, if they were the only airline to offer a flight to my destination at the right time, I would have to book with them.”

(72, Male, North England)

Perceived purpose:

- To encourage airlines to be more responsible through openly publishing their data where it can be compared with their competitors.
- To appear on impartial websites such as Which? or government sites, or used by airlines in advertising to demonstrate their credentials.
- To inform consumers who had made assumptions about airlines’ environmental credentials based on their perception of the brand.
- To allow consumers to pick one airline over another and think critically about the companies they spend their money on.
- Some felt it could be incorporated into the booking journey to strengthen the potential for the above.

Perceived outcome:

- Participants felt less likely to go out of their way to look for this information, but felt that it might colour their perceptions of airlines next time they book.
- The information is not sufficiently contextualised to support a particular decision, rather it informs more generally.

CO₂ in context: detailed feedback

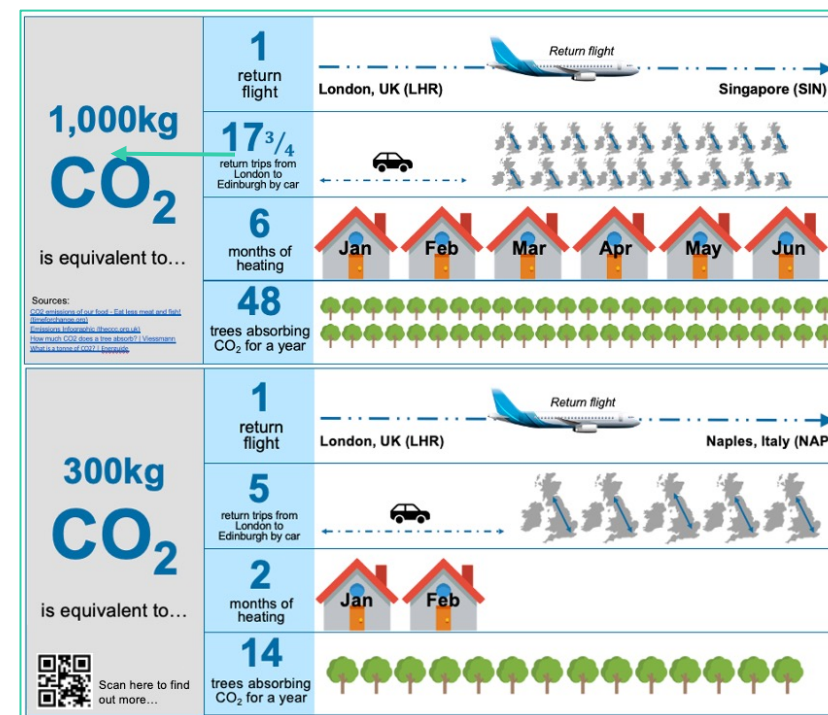
'CO₂ in context' is useful and highly needed, but needs to be carefully executed

What worked well

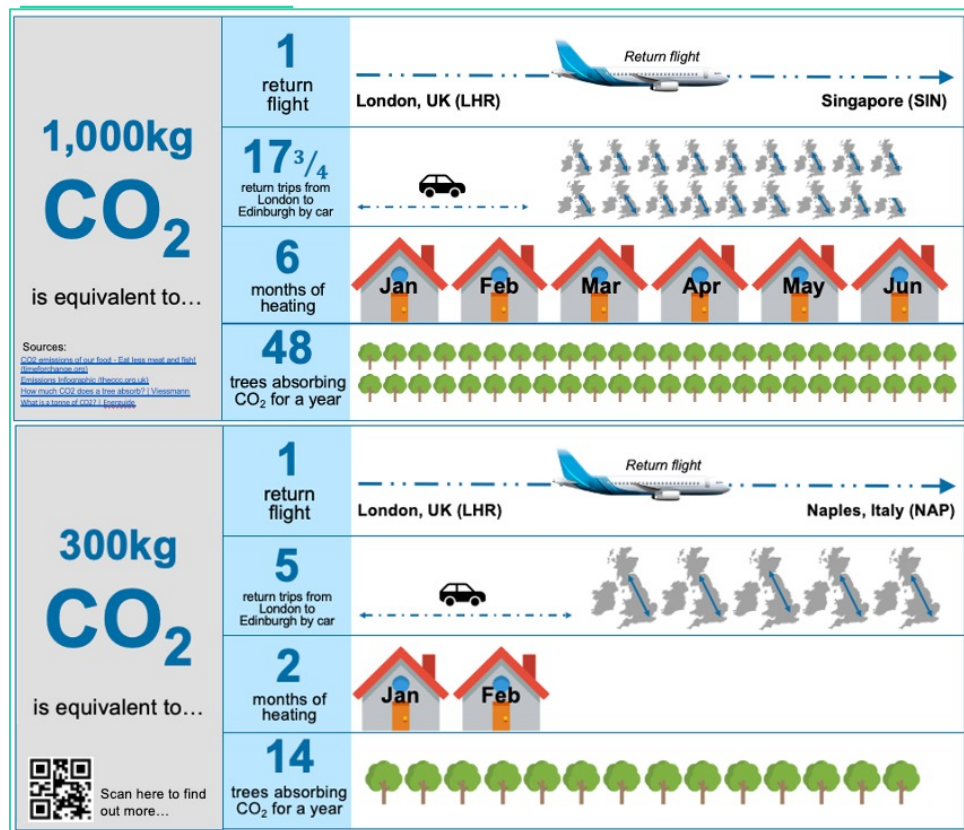
- Liked the QR code as a route to find out more.
- Infographic style is easy to understand and intuitive to interpret through combining images and numbers.
- Provides impact in the context of everyday activities, giving a picture of how they can compensate elsewhere in their lifestyles.

What worked less well

- Some suggest having the option to tailor this information to a particular journey to make it more relevant to their trip, or a more relatable destination.
- The amounts of carbon presented are difficult to comprehend.
- The absorption of carbon via trees is not understood by many.
- Some feel that this information lacks positive incentivisation.
- Presenting this kind of general information led some participants to question small details such as the type of car in this context and number of passengers, the number of hours per day the heating is on etc. This may indicate a disinterest or discomfort with what they're being told.
- For some, this information had the opposite effect of making them think that their environmental impact wasn't as bad as they thought.



'CO₂ in context' has potential to educate consumers on their broader lifestyle choices



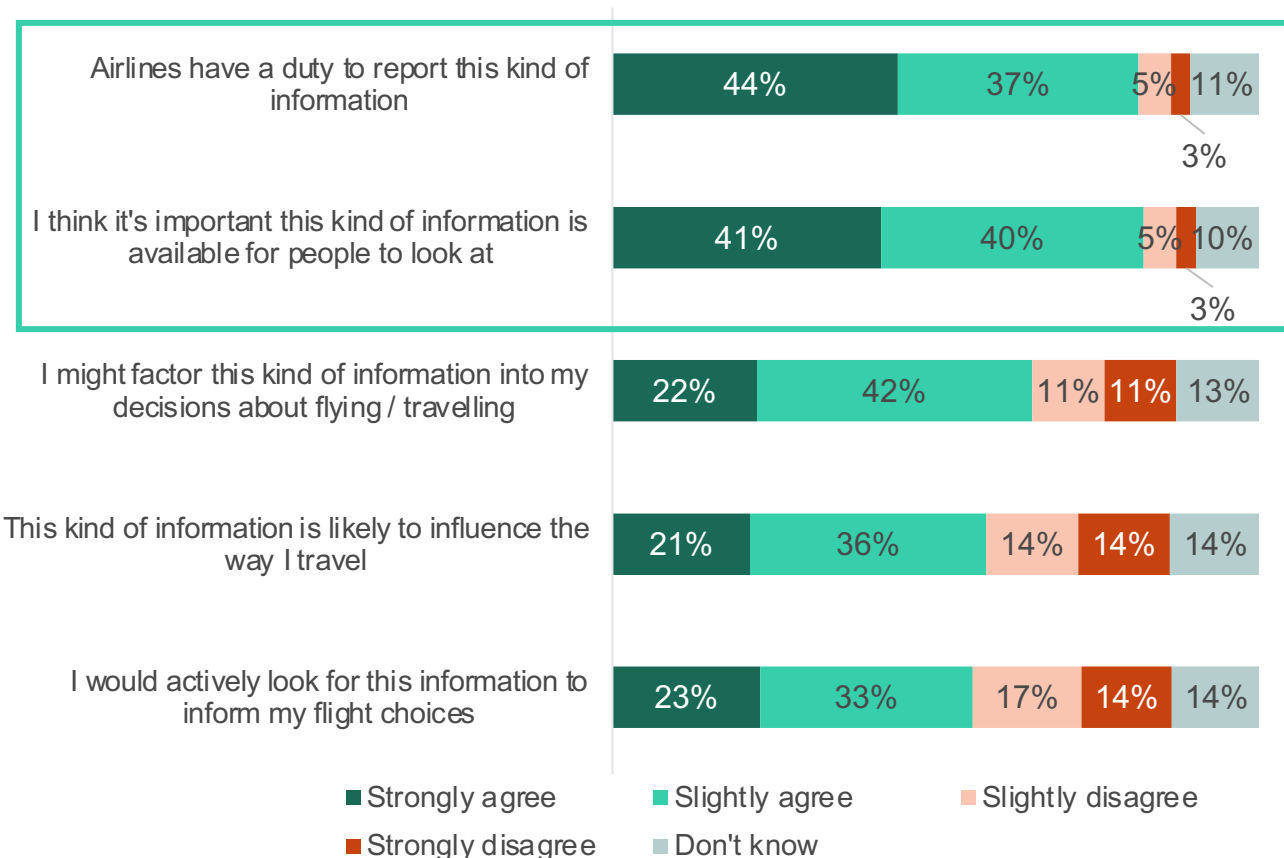
Perceived purpose:

- To hold consumers accountable by contextualising their flights as a choice among other lifestyle behaviours.
- To provoke consumers into thinking about their carbon footprint.
- Providing entry level information into our individual impact in a simplified and digestible way.

Perceived outcome:

- Greater awareness of the environmental impact of our lifestyles.
- It is not connected to an immediate decision, and therefore less likely to influence a particular choice.
- The feeling is that this information is not designed to influence decisions, and is more likely to impact how they view flying compared with other modes of transport, as opposed to *flying better*.
- For a minority, because this information isn't attempting to influence through positive language and incentivisation, it could create a sense of guilt – since flying is seen as necessary there seems to be no immediate opportunity to make a better choice.

Even if they're not likely to use it, the majority think that this kind of information should be available



- Given consumers' levels of knowledge and motivation, they are likely to use such information as the very first step towards being a more responsible consumer.
- At the most basic level, consumers want environmental information to become available and normalised, with the freedom to choose whether to act on it or not.
- At the moment that their other priorities are accounted for, they can use this information to choose between final options.
- For now, it's simply important to see.

"The CAA should have some guidelines on what they're achieving. The government should hold some responsibility that airlines are achieving these levels. We probably have the most responsibility because we're the ones paying for it."
 (45, Male, South England)

*This chart is in response to the 'Green rating' stimulus
 Q.10 How far do you agree or disagree with the following statements? n=2072, base: all.

Information needs to be accessible and put directly in front of consumers, and specific to individual flights

Participants ask for information to be shown where they already are, to be expressed in terms of their existing knowledge and habits.

Where and when?

- It needs to appear whilst booking a flight as most won't seek it out proactively – this is because they have other priorities (such as cost and time) and the environment is not a front-of-mind concern when booking a trip.
- Participants described very different routes into booking though (e.g. preferred airline, Skyscanner, Google), and so a range of channels across this journey would need to be considered.

What and why?

- Participants express a desire for entry level information, (e.g. many are not clear on what carbon emissions are).
- The information should help them choose between their final options, after they've considered their key criteria (usually price and time).
- Information should be positively reinforcing to demonstrate the benefit of their choice over another flight, rather than making them feel guilty about flying.
- It should make a judgement that interprets and gives meaning to the environmental information.

Independent regulation is vital for trustworthiness

The CAA is felt to be trustworthy because it doesn't profit from the information it provides.

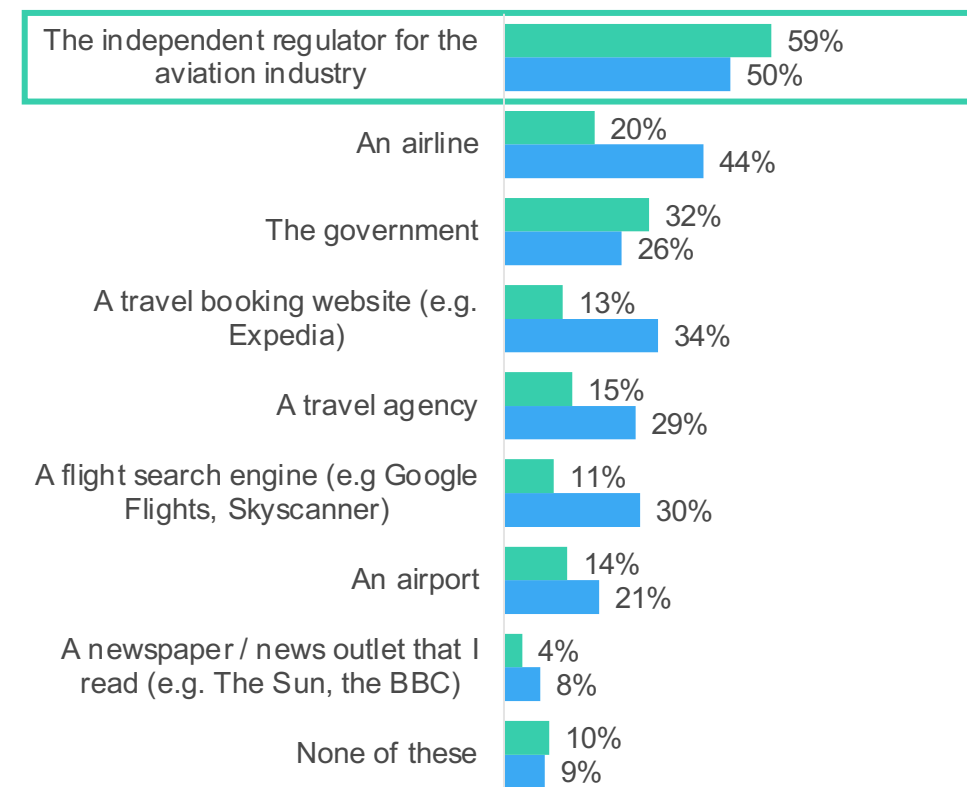
Elevating trust

- In order for information to be trustworthy, participants explained that airlines and organisations need to be held to same standards.
- Publishing information encourages trust, as there is an assumption to some degree that someone would correct misinformation.
- Trust comes from making pledges or commitments.
- Participants don't trust airlines as businesses to give an unbiased account of their practices – which is why there is little trust in airlines overseeing or verifying information.

"I don't think I'd trust Skyscanner, they're just making their money quickly. For me I'd trust the CAA because I would see the policy in place, what future plans would this company have and how are they going to improve their systems on their planes? They're just capitalists, and many airports are not privately owned...A regulatory body is what I'd trust."

(42, Male, Scotland)

Thinking about both types of environmental information you've seen, who would you trust to...



■ Oversee or verify the information ■ Provide the information

Q.12 Thinking about both types of environmental information you've seen, who would you trust to... n=2072, base: all.

Participants' ideal information presented in the co-creation session

Hovering over the rating was suggested as a low-effort way to deliver a bite-sized explanation of the calculation

Information presented on flight comparison site:

The screenshot shows two flight cards. Each card displays a 5-star rating, an 'Environmental Impact' label, and an information icon. The first flight is operated by Aer Lingus/American Airlines for £672, and the second is partly operated by Aer Lingus for £682. Both flights are from BHD to LAX with a 1-stop in LHR.

"I really liked the idea you came up with with the stars and Skyscanner. I just thought, it looked like you had to press a button to find out more, and I think especially nowadays, no one really has time to read, they're just wanting to book quickly. I thought it could be more of a hover so the info pops up on your screen, rather than going onto a new page or tab."

(24, Male, Northern Ireland)

After hovering the mouse over the 'i' button, the following pops up:

Why this flight got 4 out of 5 stars.

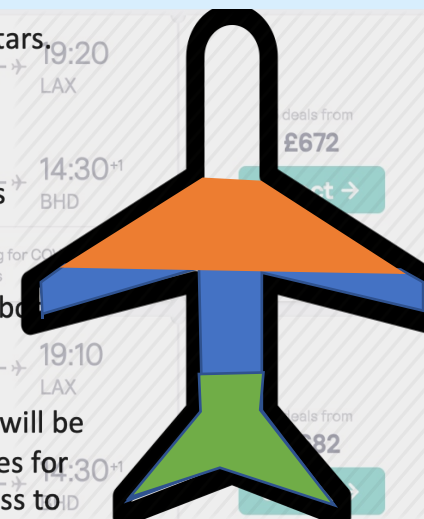
Aircraft : Boeing 757

■ This aircraft gives off 40% less CO2 emissions than average

■ This airline offsets 20% of carbon emissions by planting trees

■ 60% of plastic used onboard will be used to make new water bottles for countries who don't have access to clean water

Source – website here



Environmental Impact



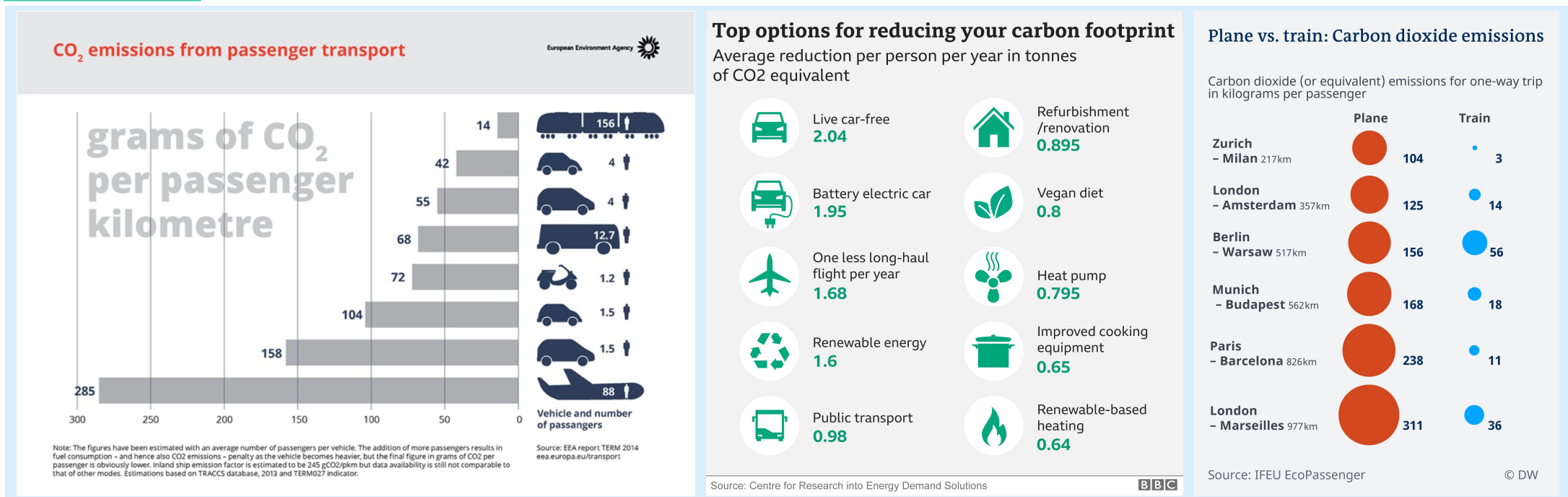
Hover over for I more information



Hover over for I more information

- ✓ Doesn't require any additional effort to find out more.
- ✓ Gives a variety of types of information and levels of detail to cater to a wide variety of consumers.

Many ideas focused on ensuring easy and quick comparability – often via visual infographics



“People can’t be bothered to do their own research, so presenting the information in an appealing way might influence their behaviour in the future. It’s important to highlight the average CO₂ footprint as lots of people might not be aware, so putting that out there a bit more and showing ways they can reduce their emissions will help.”

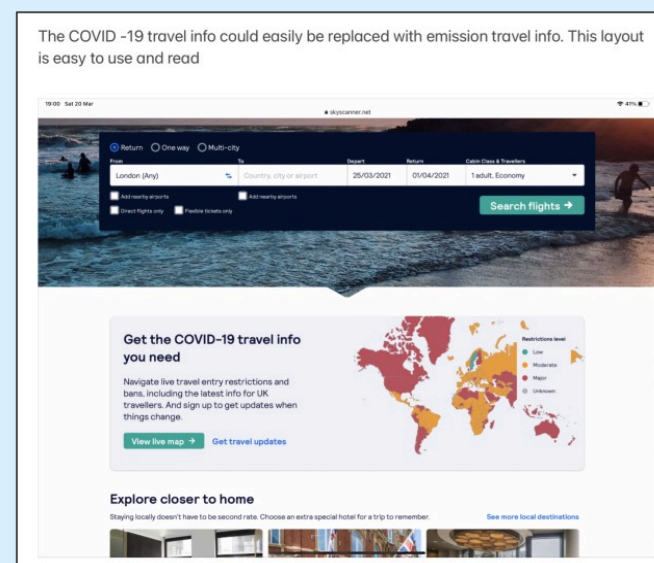
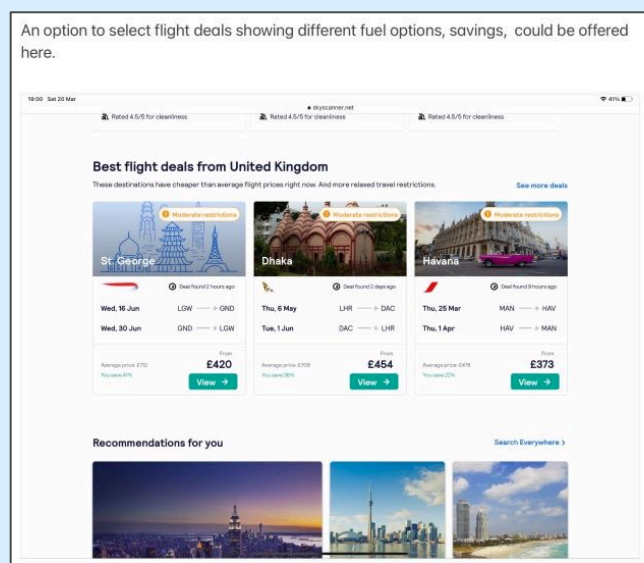
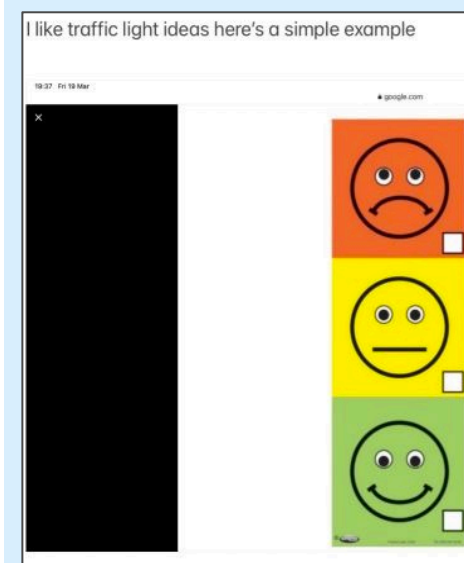
(22, Female, London)

“Comparisons between planes and trains – it wasn’t something I was aware of before this research. If that was more readily available, it would help people make more environmentally friendly choices.”

(22, Female, London)

- ✓ Comparable to other types of transport and other areas of our lives.
- ✓ Informs on consumers’ carbon footprints.
- ✓ Positive framing.

As well as using colours and symbols to communicate ratings at a glance



“If we had a traffic light system, it alerts you to the environmental factors that are poor and those that are good. For people who are setting out to achieve something, the quicker and easier it is for you to get that info, especially for a behaviour change or mindset change, those who aren’t minded to look for information on the environment, who just do what they normally do, a traffic light system will enable them to start to learn about how they can assist the environment and start from somewhere.”

(51, Female, London)

- ✓ Traffic light system enables the rating of various environmental factors at once.
- ✓ Immediately intuitive information that doesn’t require additional effort.
- ✓ An entry level form of information to get people started on the journey of learning.

By the end of the deliberative process, some also identified a need for holistic consideration of all elements of travel

Introducing the four pillars of sustainability; Human, Social, Economic and Environmental.



"I would like something that takes into account all of the aspects of sustainability... not focusing on one 'trendy' topic such as the environment."

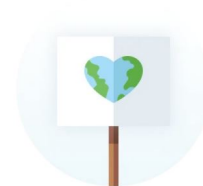
For example, we can offset carbon, but can we improve conditions for wildlife who are disrupted or harmed by the noise and environmental impact of air travel?"

(25, Female, London)



Exclude the planet's biggest polluters

Your money won't be invested in companies that own proven or probable reserves in coal, oil or gas.



Make socially responsible investments

Persistent violators of the [UN Global Compact](#) - as well as tobacco and arms companies - are excluded from the fund.

"I like the pioneering perspective – in these times companies who stand out or 'upset' their respective industries make big waves and in turn receive lifelong customers of people looking for change and wanting to create a more sustainable or eco friendly world."

"It would be weird for us to keep on holidaying and travelling the world if the travel aspect was harming the planet."

(25, Female, London)

- ✓ Allowing consumers to make better choices without focusing on only one element and "ignoring" all others.
- ✓ Acknowledging all areas of sustainability in aviation, including tourism impacts on local regions.
- ✓ Allowing airlines to be more accountable in a way that can also benefit them through attracting new customers, as disruptors and pioneers.

6 Conclusions

Discussion and ideas across the research drove participants to think about their flying behaviours

- For most, this was the first time they had considered their own flying behaviours in terms of environmental impact.
- In particular, novel considerations that emerged through the research were:

Travel as a component of their own carbon footprint

How flying compares to other modes of transport

Consumer responsibility for flight choices

Their lack of knowledge and lack of current information

"It has definitely heightened my knowledge and insight into the environmental issues around the aviation industry and taught me a lot about carbon offsetting, made me think more about my contribution to environmental impact."

(55, Female, Northern Ireland)

"I have learned about myself, that I think I'm quite ignorant to how much attention I pay to the environment... I'm learning things from this research. I would never have considered the environment when buying products like that [a pair of trainers, mattress]."

(65, Female, South England)

However, two core tensions remained that have implications for information provision and behaviour change

The social norm of flying for leisure

Those who fly regularly or occasionally largely see their behaviour as typical and reasonable (*'everyone flies for holiday once a year'*) and so:

- They are unlikely to feel there is a rationale/need for their own behaviour to change
- They are unlikely to be actively weighing up different modes when going abroad (but beginning their booking journey having decided to fly by default)

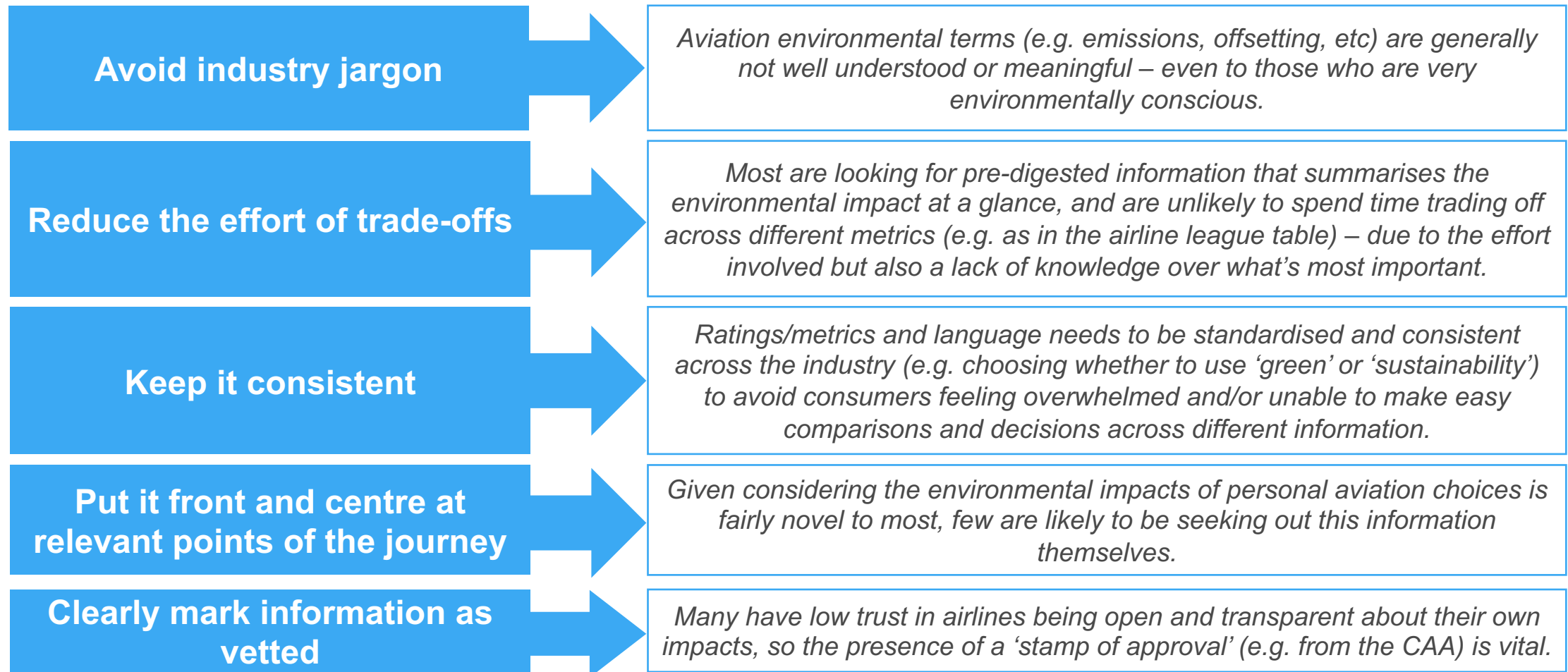
Desire for justification of existing behaviour > deep engagement with travel choices

Participants' preference was largely for a simple rating system at the booking stage. However, this was not consistent with their stated desire to understand the relative impact of flying.

Whilst the rating system could nudge some to making marginally more sustainable choices (across airlines and flights), it risks reaffirming views that individual flying impacts are not significant (and embed resistance to changing travel behaviours).

Principles for developing aviation information

There is a broad spectrum of how responsive consumers will be to this information, but key considerations for design are:



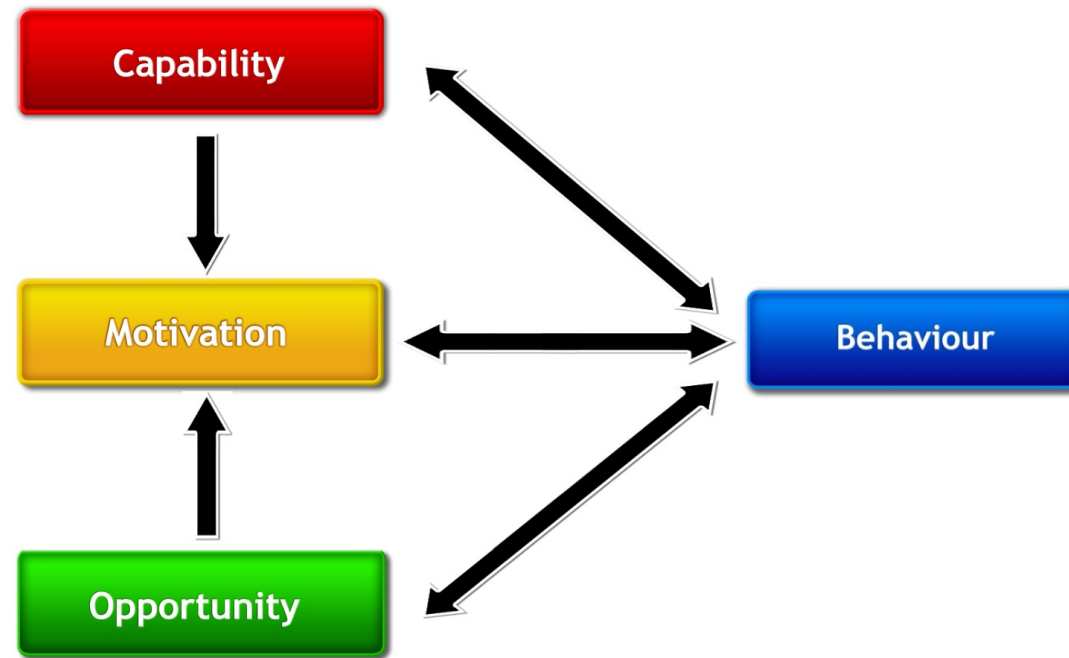
Using COM-B to understand
mechanisms the likely impact of
emissions information on consumer
behaviour

The COM-B model provides a pragmatic way of understanding the context of behaviour change

Psychological and/ or
physical ability to enact the
behaviour

Reflective and automatic
mechanisms that activate or
inhibit behaviour

Physical and social
environment that enables the
behaviour



Information provision could provide an opportunity for the behaviour, but is unlikely to motivate most consumers alone

Desired behaviour: consumers picking more sustainable flight options			
	What do consumers need to enact the behaviour?	Do they currently have this?	Would aviation emissions information provide this?
Capability	Knowledge of what constitutes a more and less sustainable flight	X	To some degree, although the preferred simple 'ratings' style information will have limited educational impact
Motivation	A desire to reduce the impact of their flying choices for: <ul style="list-style-type: none"> • An extrinsic reward (e.g. points, savings, etc); and/or • An intrinsic reward (e.g. because they judge it to be the right thing to do) 	X Most consumers are not thinking about their individual impacts	X Unlikely to provide enough of an intrinsic rationale alone for most; could look to provide an extrinsic reward (such as points)
		✓ A small number of the most environmentally engaged are seeking ways to reduce impact	✓ For these consumers, a more sustainable option is likely to be intrinsically motivating
Opportunity	Physical: Having the information/option available to select more environmentally-friendly flights during the booking process	X	✓
	Social: Social normalisation and discussion of individual flight impacts – bringing this consideration into the decision making process	X	To some degree, although the preferred 'ratings' system may not be detailed enough to drive deeper engagement and consideration

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