

Full Annotated Questionnaire

NOTE: All results show percentages among all respondents, unless otherwise labeled.

Q1: What do you think is the biggest challenge facing the aviation industry currently?

Coded open ended responses

| | Total (=325) |
|---|----------------|
| Rising cost/ Inflation (Healthcare, Labor, procurement, Energy, Equipments, oil, gas) | 20% |
| Supply issues (Raw materials, distribution, equipments, energy, delays) | 8% |
| Business expansion/ Sustainable growth | 7% |
| Lack of staff/ Manpower/talented staff | 6% |
| Need better technology/ advanced technology Decarbonizing/carbon reduction Budget/Funding | 5% 4% 4% |
| Covid/Corona virus/Covid 19 restrictions/impact of Covid | 4% |
| Political issues/ Instability/ Geopolitical issues Proper infrastructure | 3% 3% |
| Climate change (Global warming) | 3% |
| Environmental Issues (Pollution, Environment protection, Govt compliance) | 3% |
| Energy Shortage (Fuel, Coal, electricity) | 3% |
| Other regulatory challenge mentions | 2% |
| Digital/ Technical innovation/ Lack of Innovations | 2% |
| Market competitions/ Too much competition (Foreign, local) | 2% |
| Need to increase renewable energy/Development of new energy (Wind, electric,) | 2% |
| Sustainable energy usage | 2% |
| Staff recruitment / Employment | 2% |
| Timely delivery/Ontime delivery | 2% |
| Adaption of new technology/ Mastering the technology | 1% |
| Adaption of artificial intelligence/ AI Solution | 1% |
| Proper planning/ Policies / Lack of clear goals | 1% |

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| | 1 |
|---|------|
| Other service challenges mentions | 1% |
| Other miscellaneous mentions | 1% |
| Other price and investment challenge mentions | 1% |
| Rapid/too fast technology development | 1% |
| Lack of IT resources / management | 1% |
| Communication/lack of communication | 1% |
| Safety/ Security (General security, unsp) | 1% |
| More production/ Increase capacity | 1% |
| Staff training/lack of training | 1% |
| Time management | 1% |
| Availability of products/ equipments/ spares | 1% |
| Lack of resource (Coal, Energy, equipments) | 1% |
| Low cost | 1% |
| Net Zero | 1% |
| Delays in contracts | 1% |
| Issues with salary / pay structure/ wages | 1% |
| Need better R&D system | 1% |
| | 1 /0 |
| Less experience / knowledge of Al | 1% |
| Slow technology development | 1% |
| Other technology challenge mentions | 1% |
| Greenhouse gas emission | 1% |
| Decreasing market demand (less customers) | 1% |
| Industrial development (Aviation, production) | 1% |
| Other energy challenge mentions | 1% |
| Other staffing challenge mentions | 1% |
| Other management challenge mentions | 1% |
| Lack of cooperation | 1% |
| Lack of transport service | 1% |
| Future development/ Better development | 1% |
| Globalization issues | 1% |
| Unemployment/ less jobs | 1% |
| Russia-Ukraine war/ Global wars | 1% |





Q2: Which of the following would you say is the biggest challenge facing the aviation industry currently?

| | Total |
|---------------------------------|--------|
| | (=325) |
| Meeting sustainability goals | 30% |
| Ongoing supply chain challenges | 19% |
| Labor issues | 11% |
| Infrastructure challenges | 10% |
| Geopolitical tensions | 7% |
| Regulatory oversight/approval | 6% |
| On time delivery | 5% |
| Meeting consumer demand | 5% |
| COVID | 3% |
| Other (please specify) | 2% |

Q3a: Do you believe the sustainability strategies being implemented in the aviation industry are:

| | Total (=325) |
|--------------------|-----------------|
| On the right track | 83% |
| On the wrong track | 17% |

Q3b. Do you feel the sustainability strategies being implemented in the aviation industry are happening at [ROTATE: too slow, too fast] or the right pace?

| | Total (=325) |
|-------------------|-----------------|
| Too slow | 51% |
| Too fast | 8% |
| At the right pace | 41% |

Q4: How much do you [ROTATE: agree or disagree] with the following statement

a) The focus on sustainability has fundamentally changed the way the aviation industry operates

| | Total (=325) |
|----------------------------|-----------------|
| Strongly disagree | 1% |
| Somewhat disagree | 9% |
| Neither agree nor disagree | 13% |
| Somewhat agree | 42% |
| Strongly agree | 34% |





Q4: How much do you [ROTATE: agree or disagree] with the following statement (Continued)

b) Companies in the aviation industry have a long way to go to reach their sustainability goals

| | Total (=325) |
|----------------------------|-----------------|
| Strongly disagree | 2% |
| Somewhat disagree | 6% |
| Neither agree nor disagree | 13% |
| Somewhat agree | 43% |
| Strongly agree | 36% |

c) The aviation industry is united in its focus on implementing sustainability solutions - [pipe: hQ4b]

| | Total (=325) |
|----------------------------|-----------------|
| Strongly disagree | 3% |
| Somewhat disagree | 14% |
| Neither agree nor disagree | 17% |
| Somewhat agree | 39% |
| Strongly agree | 28% |

Q5: Does your company currently have a sustainability strategy?

| | Total |
|--------|--------|
| | (=325) |
| Yes | 88% |
| No | 8% |
| Unsure | 4% |

[ASKED IF Q5 = YES] Q6: Do you anticipate that rising inflation and the risk of recession will change your sustainability investment in the next 3 years?

| | Total (=287) |
|--------------------------------------|-----------------|
| We will pull back sustainability | |
| investments given inflation and | |
| potential recession | 22% |
| We will ramp up sustainability | |
| investments despite rising inflation | |
| and potential recession | 46% |
| Any sustainability investment | |
| changes will not be due to rising | |
| inflation and potential recession | 28% |
| Don't know | 3% |





[ASK IF Q5 = YES] Q7r - How, if at all, has your company's sustainability strategy impacted the way your company...

a) Operates

| | Total (=287) |
|----------------------------------|-----------------|
| Major impact | 33% |
| Moderate impact | 41% |
| Minor impact | 21% |
| No impact | 6% |
| Major impact, or Moderate impact | |
| (summary) | 74% |

b) Is investing

| | Total (=287) |
|----------------------------------|-----------------|
| Major impact | 32% |
| Moderate impact | 41% |
| Minor impact | 23% |
| No impact | 4% |
| Major impact, or Moderate impact | |
| (summary) | 73% |

c) Is hiring

| | Total (=287) |
|----------------------------------|-----------------|
| Major impact | 24% |
| Moderate impact | 37% |
| Minor impact | 26% |
| No impact | 13% |
| Major impact, or Moderate impact | |
| (summary) | 62% |

Q8 - How conducive are each of the following countries to supporting the aviation industry's decarbonization goals?

Rated 9-10 on 10 point scale summary

| | Total (=325) |
|-----------|-----------------|
| U.S. | 46% |
| China | 31% |
| India | 12% |
| France | 34% |
| UK | 35% |
| UAE | 30% |
| KSA | 22% |
| Singapore | 28% |

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Q9: From where are you seeing the most pressure to develop more sustainable strategies?

| | Total |
|------------------------|--------|
| | (=325) |
| Employees | 3% |
| Government | 29% |
| Investors | 17% |
| NGOs | 6% |
| Partners | 8% |
| Suppliers | 12% |
| Customers | 10% |
| Consumers | 7% |
| Media | 8% |
| Other (please specify) | 0% |

Q10: Do you believe the aviation industry will meet its 2050 net zero goal?

| | Total (=325) |
|--------|-----------------|
| Yes | 46% |
| No | 32% |
| Unsure | 22% |

Q11: What do you see as the biggest hurdle to meeting the aviation industry's 2050 net zero goal?

Coded open ended responses

| | Total (=325) |
|--|--------------|
| | Overall |
| Rising cost/ Inflation (Healthcare, Labor, procurement, Energy, Equipments, oil, gas) | 15% |
| Budget/Funding | 11% |
| Supply issues (Raw materials, distribution, equipments, energy, delays) | 7% |
| Energy Shortage (Fuel, Coal, electricity) | 6% |
| Political issues/ Instability/ Geopolitical issues | 5% |
| Need better technology/ advanced technology | 5% |
| Net Zero | 5% |
| Proper planning/ Policies / Lack of clear goals | 5% |
| Lack of cooperation | 5% |
| Decarbonizing/carbon reduction | 3% |
| Industrial development (Aviation, production) | 3% |
| Need to increase renewable energy/Development of new | |
| energy (Wind, electric,) | 3% |
| Time management | 3% |

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| Other price and investment challenge mentions | 2% |
|---|----|
| Slow technology development | 2% |
| Market economy system | 2% |
| Lack of resource (Coal, Energy, equipments) | 2% |
| Adaption of new technology/ Mastering the technology | 2% |
| Lack of technical support | 2% |
| Lack of staff/ Manpower/talented staff | 2% |
| Change management | 2% |
| Other management challenge mentions | 2% |
| Other regulatory challenge mentions | 1% |
| Digital/ Technical innovation/ Lack of Innovations | 1% |
| Technology/ Intellectual security | 1% |
| Sustainable energy usage | 1% |
| Senior management/ Leadership | 1% |
| Proper infrastructure | 1% |
| Business expansion/ Sustainable growth | 1% |
| Other service challenges mentions | 1% |
| Lack of options / opportunities | 1% |
| Other miscellaneous mentions | 1% |
| Delays in contracts | 1% |
| Issues with salary / pay structure/ wages | 1% |
| Cost of living/ living crisis | 1% |
| Bad debts/ NPA | 1% |
| Need better R&D system | 1% |
| Adaption of artificial intelligence/ AI Solution | 1% |
| Lack of IT resources / management | 1% |
| Climate change (Global warming) | 1% |
| Greenhouse gas emission | 1% |
| Other environment challenge mentions | 1% |
| Market competitions/ Too much competition (Foreign, | |
| local) | 1% |
| Lack of ventures with foreign companies | 1% |
| Fulfillment of energy demand / Increased demand | 1% |
| More production/ Increase capacity | 1% |
| Energy Transition | 1% |
| Other energy challenge mentions | 1% |
| Staff training/lack of training | 1% |
| Collaborate with new business partners / new business opportunity | 1% |
| Availability of products/ equipments/ spares | 1% |

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| Insurance policies (companies, regularities) | 1% |
|---|----|
| Future development/ Better development | 1% |
| Lots of challenges (unsp) | 1% |
| Russia-Ukraine war/ Global wars | 1% |
| Low cost | 1% |
| Timely delivery/Ontime delivery | 1% |
| Don't know / Not sure | 1% |

Q12: When, if ever, do you think would be a realistic timeline to meet the aviation industry's net zero goal?

| | Total |
|----------|--------|
| | (=325) |
| Mean | 2,055 |
| Never | 3% |
| Not sure | 13% |

Q13: What technology do you think is likely to play the biggest role/be most effective in helping the aviation industry meet its 2050 net zero goal?

| | Total |
|-------------------------------------|--------|
| | (=325) |
| Increased use of Sustainable | |
| Aviation Fuels (SAF) | 27% |
| Hydrogen-blend fuel | 23% |
| Hybrid-electric engine development | 21% |
| More efficient engine designs, such | |
| as open fan technology | 13% |
| Digital solutions | 7% |
| Infrastructure improvements | 8% |
| Other disruptive technology (Please | |
| specify) | 2% |

Q14r - What role do you believe government should play in helping reach the 2050 goal? Please rank from most important (1) to least important (6) role for government to play.

a) Increased investment in Sustainable Aviation Fuels (SAF)

| | Total (=325) |
|------------------------------------|-----------------|
| Most important - 1 | 32% |
| 2 | 18% |
| 3 | 14% |
| 4 | 12% |
| 5 | 13% |
| Least important - 6 | 10% |
| Most important - 1, or 2 (summary) | 51% |

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Q14r - What role do you believe government should play in helping reach the 2050 goal? Please rank from most important (1) to least important (6) role for government to play. *(Continued)*

b) Continued public-private partnerships to develop new technology

| | Total (=325) |
|------------------------------------|-----------------|
| Most important - 1 | 14% |
| 2 | 20% |
| 3 | 20% |
| 4 | 20% |
| 5 | 13% |
| Least important - 6 | 14% |
| Most important - 1, or 2 (summary) | 34% |

c) Increased research and development (R&D) funding

| | Total |
|------------------------------------|--------|
| | (=325) |
| Most important - 1 | 18% |
| 2 | 22% |
| 3 | 22% |
| 4 | 16% |
| 5 | 11% |
| Least important - 6 | 11% |
| Most important - 1, or 2 (summary) | 40% |

d) Policy certainty

| | Total (=325) |
|------------------------------------|-----------------|
| Most important - 1 | 13% |
| 2 | 9% |
| 3 | 13% |
| 4 | 14% |
| 5 | 27% |
| Least important - 6 | 24% |
| Most important - 1, or 2 (summary) | 22% |

e) More infrastructure investment

| | Total (=325) |
|------------------------------------|-----------------|
| Most important - 1 | 15% |
| 2 | 18% |
| 3 | 19% |
| 4 | 19% |
| 5 | 14% |
| Least important - 6 | 14% |
| Most important - 1, or 2 (summary) | 33% |

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Q14r - What role do you believe government should play in helping reach the 2050 goal? Please rank from most important (1) to least important (6) role for government to play. *(Continued)*

f) Improved regulatory oversight

| | Total (=325) |
|------------------------------------|-----------------|
| Most important - 1 | 8% |
| 2 | 13% |
| 3 | 13% |
| 4 | 19% |
| 5 | 22% |
| Least important - 6 | 26% |
| Most important - 1, or 2 (summary) | 21% |

Q15r- Please read through the following statements and indicate which aligns more with your opinion:

| | Total (=325) |
|------------------------------------|-----------------|
| 1 - The government's role in | |
| achieving net zero by 2050 would | |
| be most effective by focusing on | |
| mandates and regulation | 8% |
| 2 | 10% |
| 3 | 21% |
| 4 | 31% |
| 5 - The government's role in | |
| achieving net zero by 2050 would | |
| be most effective by focusing on | |
| incentives and policy support | 30% |
| 1 - The government's role in | |
| achieving net zero by 2050 would | |
| be most effective by focusing on | |
| mandates and regulation, or 2 | |
| (summary) | 19% |
| 4, or 5 - The government's role in | |
| achieving net zero by 2050 would | |
| be most effective by focusing on | |
| incentives and policy support | |
| (summary) | 61% |





Q15r- Please read through the following statements and indicate which aligns more with your opinion: *(Continued)*

| | Total (=325) |
|--------------------------------------|-----------------|
| 1 - The aviation industry's public | |
| comments/position does not align | |
| with the reality of meeting its 2050 | |
| net zero goal | 11% |
| 2 | 12% |
| 3 | 25% |
| 4 | 28% |
| 5 - The aviation industry's public | |
| comments/position aligns with the | |
| reality of meeting its 2050 net zero | |
| goal | 24% |
| 1 - The aviation industry's public | |
| comments/position does not align | |
| with the reality of meeting its 2050 | |
| net zero goal, or 2 (summary) | 24% |
| 4, or 5 - The aviation industry's | |
| public comments/position aligns | |
| with the reality of meeting its 2050 | |
| net zero goal (summary) | 52% |

Q16r- Please read through the following statements and indicate which aligns more with your opinion:

| | Total (=325) |
|---------------------------------------|-----------------|
| 1 - Solving sustainability challenges | |
| in the aviation industry must focus | |
| on aircraft and fuel improvements | 18% |
| 2 | 23% |
| 3 | 15% |
| 4 | 23% |
| 5 - Infrastructure improvements are | |
| a critical part of solving | |
| sustainability challenges in the | |
| aviation industry | 21% |
| 1 - Solving sustainability challenges | |
| in the aviation industry must focus | |
| on aircraft and fuel improvements, | |
| or 2 (summary) | 41% |
| 4, or 5 - Infrastructure | |
| improvements are a critical part of | |
| solving sustainability challenges in | |
| the aviation industry (summary) | 44% |

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Q16r- Please read through the following statements and indicate which aligns more with your opinion: *(Continued)*

| | Total (=325) |
|-------------------------------------|-----------------|
| 1 - The industry can't rely on | |
| consumers' willingness to pay more | |
| for a more environmentally | |
| sustainable flight | 24% |
| 2 | 18% |
| 3 | 17% |
| 4 | 26% |
| 5 - Consumers are willing to pay | |
| more for a more environmentally | |
| sustainable flight | 16% |
| 1 - The industry can't rely on | |
| consumers' willingness to pay more | |
| for a more environmentally | |
| sustainable flight , or 2 (summary) | 41% |
| 4, or 5 - Consumers are willing to | |
| pay more for a more | |
| environmentally sustainable flight | |
| (summary) | 42% |





About the Study

These are the findings of a GE Aerospace/Ipsos poll conducted between May 2-11, 2023. For this survey, a sample of 325 aviation decision makers ages 26+ from the U.S., U.K., China, India, the UAE, and France were interviewed in English, Chinese, Arabic, or French. Respondents in the U.S., U.K., China, and France were interviewed online, while those in the UAE and India interviewed by telephone. To qualify, respondents needed to work full-time at or own a company with 100+ employees in the aviation/aerospace, transport and logistics, or travel sector, have a role as a middle manager or more senior, and have all, part, or some of the decision-making responsibility or input in the aviation/aerospace, transport, or logistics areas. For those in the U.S., the company needed to have an annual revenue of £5 million or more. For those in China, the company needed to have an annual revenue of £5 million or more. For those in China, the company needed to have an annual revenue of £5 million yuan or more. For those in India, the company needed to have an annual revenue of 37.5 million dirham or more. For those in France, the company needed to have an annual revenue of \$5 million or more. For those in the U.S., 56 respondents from the U.K., 50 respondents from China, 55 respondents from the UAE, and 52 respondents from France.

The online sample was randomly drawn from opt-in partner online panel sources. The phone sample was drawn from partner proprietary databases as well as online third-party sources. Overall, the study's sample does not rely on a population frame in the traditional sense. No post-hoc weights were applied to the data and the findings reflect the opinion of these respondents.

Statistical margins of error are not applicable to online non-probability polls. All sample surveys and polls may be subject to other sources of error, including, but not limited to coverage error and measurement error. Where figures do not sum to 100, this is due to the effects of rounding. The precision of Ipsos online polls is measured using a credibility interval. In this case, the poll has a credibility interval of plus or minus 6.7 percentage points for all respondents. Ipsos calculates a design effect (DEFF) for each study based on the variation of the weights, following the formula of Kish (1965). This study had a credibility interval=+/-8.2 percentage points).

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About Ipsos

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