

REPORT

# Low Carbon Fuel Survey

A Nationally Representative  
Multi-Mode Survey



Prepared by  
CR Survey Research  
Department

August, 2022

# TABLE OF CONTENTS

<b>INTRODUCTION</b> .....	3
<b>HIGHLIGHTS</b> .....	3
<b>THE IMPORTANCE OF CLIMATE CHANGE</b> .....	4
<b>Opinions About Climate Change</b> .....	5
<b>Americans' Degree of Control Over Their Personal Impact on the Environment</b> .....	6
<b>Level of Concern About Emissions Based on Views Towards Climate Change</b> .....	7
<b>LOW CARBON FUELS IN VEHICLES</b>	
<b>Awareness of Low Carbon Fuels for Use in Personal Vehicles</b> .....	8
<b>Choosing Low Carbon Fuels as an Alternative in a Personal Vehicle</b> .....	9
<b>Reasons for Not Using Low Carbon Fuels as an Alternative in a Personal Vehicle</b> .....	10
<b>LOW CARBON FUELS IN AVIATION</b>	
<b>Awareness of Low Carbon Fuels for Use in Aviation</b> .....	11
<b>Choosing a Flight on a Plane that Uses Low Carbon Fuel</b> .....	12
<b>SUMMARY</b> .....	13s
<b>METHODOLOGY</b> .....	14

# INTRODUCTION

In January/February 2022, Consumer Reports conducted a nationally representative multi-mode survey. The purpose of the survey was to gauge Americans' perspectives and concerns regarding the transportation industry's impact on the environment and their willingness to make environmentally-friendly transportation choices. The survey assessed Americans' awareness about low carbon fuel usage in vehicles and aviation and their willingness to use low carbon fuels in their personal vehicle as well as choose flights that use low carbon fuels, when they become available. The survey also NORC at the University of Chicago administered the survey through its AmeriSpeak® Panel to a nationally representative sample of 8,027 adult U.S. residents.

## HIGHLIGHTS

### Low Carbon Fuels

- **One in four Americans say they have heard about the use of low carbon fuels in vehicles** before taking the survey.
  - Overall, two thirds of Americans (**67%**) **say they would likely use low carbon fuel in their personal vehicle** if the cost per gallon was the same as the cost for traditional fuel. Two in 10 Americans are unsure.
  - **Fourteen percent** of Americans say they would be **unlikely to use low carbon fuel** instead of traditional gasoline in their personal vehicle.
    - **Four in 10 Americans** who say they would be unlikely to use low carbon fuel in their personal vehicle say it's because of **"concern that low carbon fuels could negatively affect the performance of the vehicle"** (42%) and **"concern that low carbon fuel could damage the vehicle"** (40%).
- One in 10 Americans (**11%**) **say they have heard about the use of sustainable aviation fuel (SAF)** in airplanes before taking the survey.
- Overall, **a third of Americans** say they would be **'very likely' to choose a flight on a plane that uses low carbon fuel** if the cost of the ticket was the same as flying on a plane that uses traditional jet fuel.

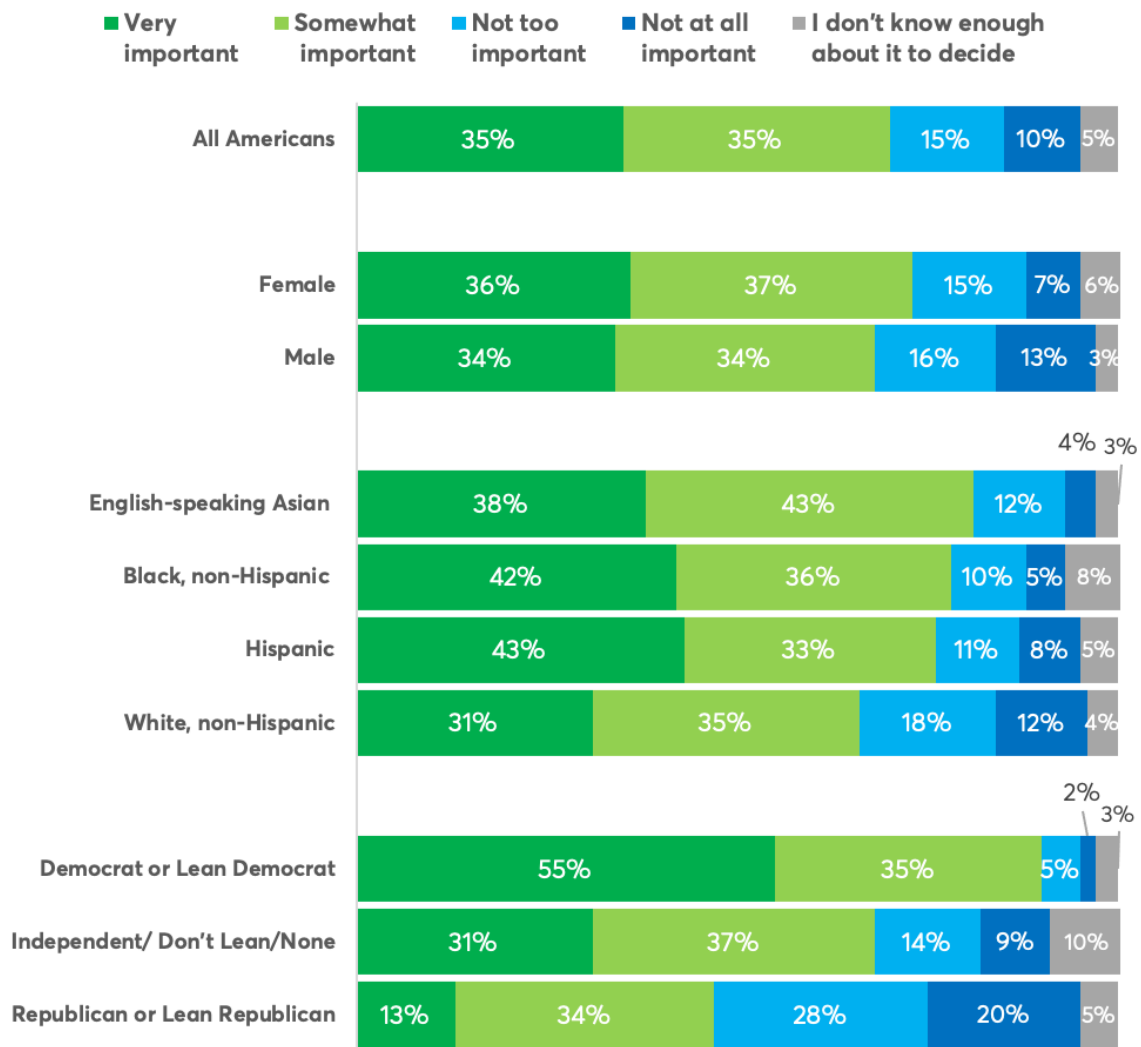
### Climate Change

- **Seven in 10** Americans say the issue of climate change is personally **'very important'** (35%) or **'somewhat important'** (35%) to them.
- Three out of four Americans **agree that human activities contribute to climate change.**
- **Six in 10 (62%)** Americans feel as though they have **at least some control over their personal impact on the environment.**

# THE IMPORTANCE OF CLIMATE CHANGE

Seven in 10 Americans say the issue of climate change is personally 'very important' (35%) or 'somewhat important' (35%) to them. Females are more likely than males and Democrats are more likely than Independents or Republicans to say climate change is personally important to them. A larger percentage of Black, non-Hispanic (78%) and Hispanic (76%) than white, non-Hispanic (67%) Americans say climate change is 'very' or 'somewhat' important to them.<sup>18</sup>

## HOW IMPORTANT OR NOT IMPORTANT TO YOU PERSONALLY IS THE ISSUE OF CLIMATE CHANGE?



Base: All respondents

<sup>18</sup> Differences are significant when controlling for gender, age, education, household income, race/ethnicity, urbanicity, region, and political affiliation.

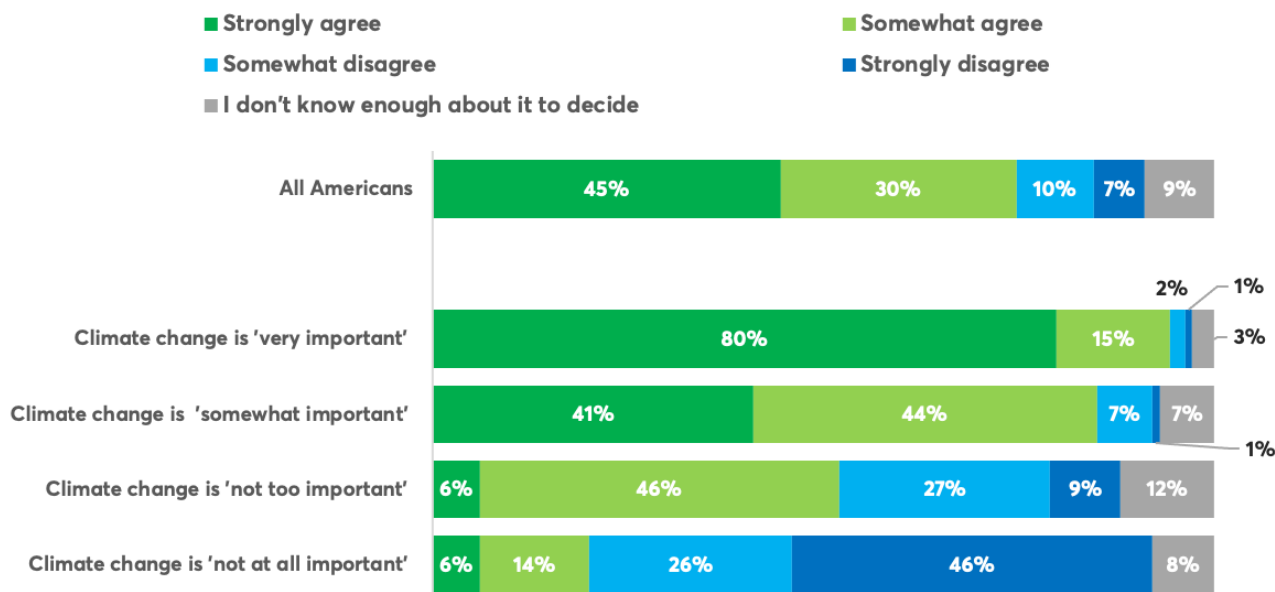
# OPINIONS ABOUT CLIMATE CHANGE

We asked Americans *"How much do you agree or disagree with the following statement: **"Human activities contribute to climate change"***

Overall, **three quarters of Americans agree that human activities contribute to climate change.** Age and education are related to opinions about this statement. A larger percentage of **younger adults and those with higher education than older adults and people with less education agree that human activities contribute to climate change.** A larger percentage of English-speaking Asian Americans (86%) and Black, non-Hispanic (76%) Americans than white, non-Hispanic Americans (74%) agree with that statement. Lastly, a larger percentage of Democrats (90%) than Independents (69%) or Republicans (59%) agree that human activities contribute to climate change.<sup>19</sup>

The importance of climate change as a personal issue for an individual is directly related to taking ownership for it. **Eight in 10 Americans who say climate change is 'very important' to them personally 'strongly agree' that human activities contributed to it.** In contrast, only six percent of Americans who say climate change is 'not at all important' to them 'strongly agree' that humans contributed to climate change.

## PERCENTAGE OF WHO AGREE/DISAGREE THAT "HUMAN ACTIVITIES CONTRIBUTE TO CLIMATE CHANGE "



Base: All respondents

<sup>19</sup> Differences are significant when controlling for gender, age, education, household income, race/ethnicity, urbanicity, region, and political affiliation.

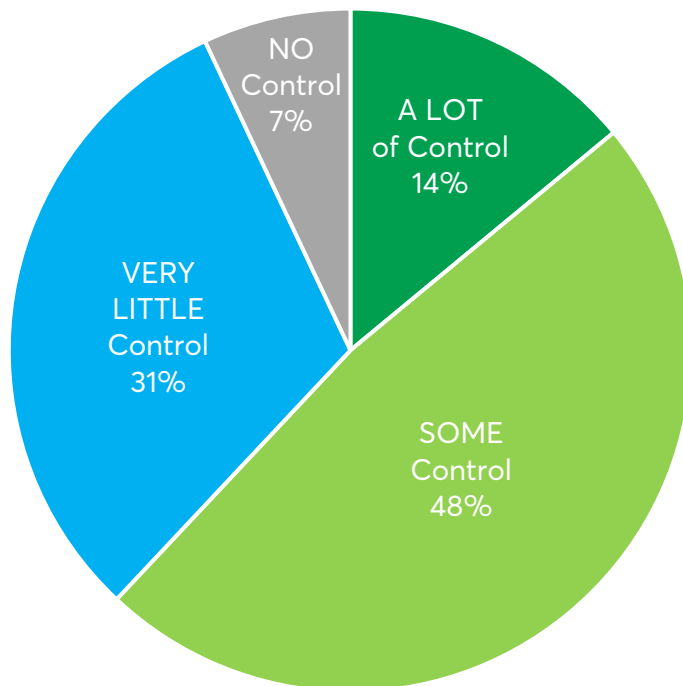
# AMERICANS' DEGREE OF CONTROL OVER THEIR PERSONAL IMPACT ON THE ENVIRONMENT

We asked Americans "In your day-to-day life (shopping, transportation, household behaviors, food choices, etc.), how much control do you believe you have over your personal impact on the environment?"

Six in 10 (62%) Americans feel as though they have **at least some control over their personal impact on the environment**. Americans who say the **issue of climate change is important** to them **are more likely than those who don't view climate change as important** to them personally to say they have control over their personal impact on the environment in their day-to-day life.

Some sociodemographic differences are shown in the graph below.<sup>20</sup>

## HOW MUCH CONTROL DO YOU BELIEVE YOU HAVE OVER YOUR PERSONAL IMPACT ON THE ENVIRONMENT?



### HAVING MORE CONTROL...

- Females are more likely than males
- Older adults are more likely than younger adults
- Americans with higher education are more likely than those with lower education
- Democrats are more likely than either Independents or Republicans
- Americans who say they are more likely to get an electric-only vehicle if they were to buy or lease a vehicle today

Base: All respondents

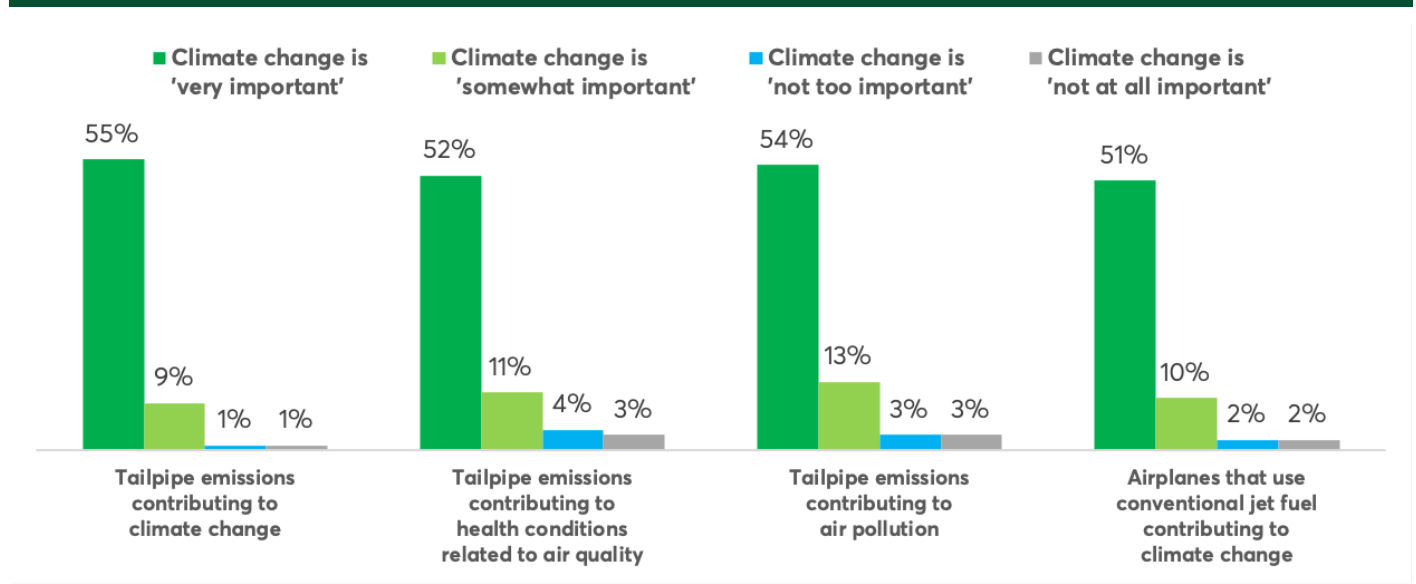
<sup>20</sup> Differences are significant when controlling for gender, age, education, household income, race/ethnicity, urbanicity, region, and political affiliation.

# LEVEL OF CONCERN ABOUT EMISSIONS BASED ON VIEWS TOWARDS CLIMATE CHANGE

Americans who say the issue of climate change is personally 'very important' to them are more likely than all other groups to say they are 'very concerned' about each of the emissions scenarios we asked them about.<sup>21</sup>

For example, 55% of Americans who say the issue of climate change is 'very important' to them personally say they are 'very concerned' about vehicle tailpipe emissions contributing to climate change; this is compared to 9% of Americans who say climate change is 'somewhat important' to them and one percent of Americans who say climate change is 'not too' or 'not at all' important to them.

## PERCENTAGE OF AMERICANS 'VERY CONCERNED' ABOUT EACH OF THE FOLLOWING EMISSIONS PROBLEMS



Base: Respondents who say they are 'very concerned' about each of the above emissions problems

<sup>21</sup> Differences are significant when controlling for gender, age, education, household income, race/ethnicity, urbanicity, region, and political affiliation.

# LOW CARBON FUELS IN VEHICLES

## AWARENESS OF LOW CARBON FUELS FOR USE IN PERSONAL VEHICLES

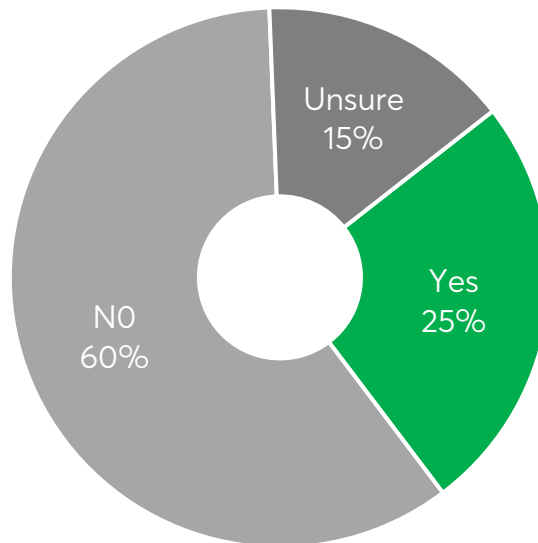
Respondents were provided the following information:

*"Alternative low carbon fuels are becoming more available in the US as an alternative to traditional petroleum-based fuels. The use of these fuels in vehicles can reduce the impact to the environment by at least 50% compared to traditional fuels.*

*For the purpose of this survey we are asking about "drop-in fuels." These are low carbon fuels that can be used with your current vehicle. While much is unknown at the moment, we'd like to understand your thoughts on using these low-carbon fuels in your personal gasoline-powered vehicle."*

Overall, **one in four Americans say they have heard about the use of low carbon fuels in vehicles** before taking the survey.

### BEFORE TAKING THIS SURVEY, HAD YOU HEARD ABOUT THE USE OF LOW CARBON FUELS IN VEHICLES?



Base: All respondents

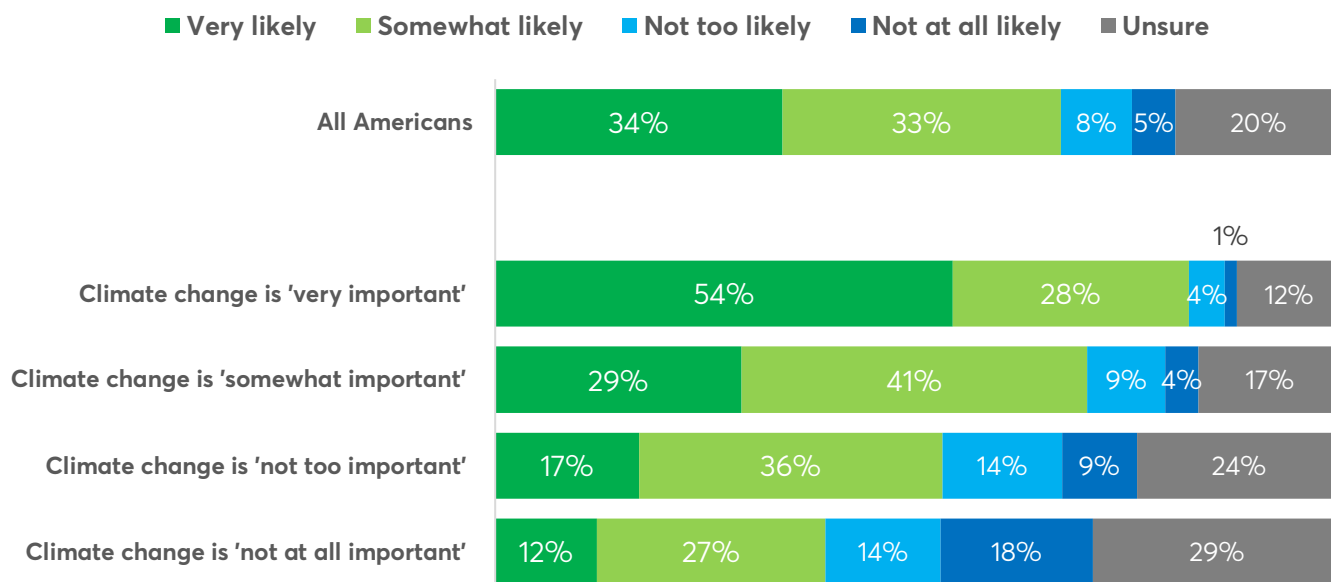


## CHOOSING LOW CARBON FUELS AS AN ALTERNATIVE IN A PERSONAL VEHICLE

The importance of climate change as an issue had no effect on whether or not Americans are aware of low carbon fuels for use in personal vehicles or in airplanes.

However, Americans who say that climate change is **personally important to them** are more likely to say they **would use these low carbon fuels in their personal vehicle**. More than half of Americans (54%) who say climate change is 'very important' to them personally say they are 'very likely' use these low carbon fuels in their personal vehicles compared to 12% of Americans who say climate change is 'not at all important' to them.

### LIKELIHOOD OF CHOOSING A LOW CARBON FUEL FOR YOUR PERSONAL VEHICLE INSTEAD OF TRADITIONAL FUEL



Base: All respondents with the exception of those who said 'not applicable' which were removed from the base

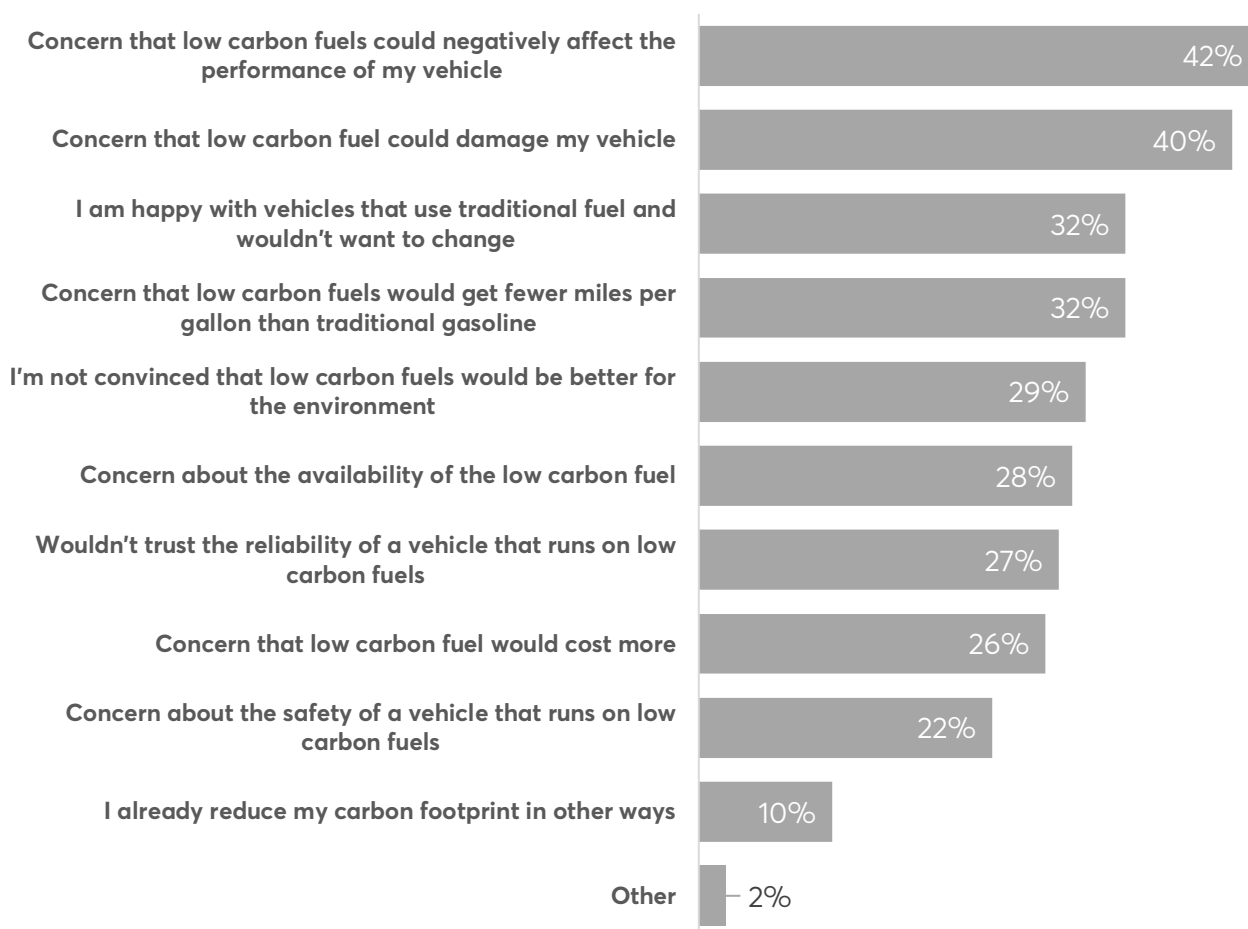
## REASONS FOR NOT USING LOW CARBON FUELS AS AN ALTERNATIVE IN A PERSONAL VEHICLE

Overall, two-thirds of Americans (67%) say they would likely use low carbon fuel in their personal vehicle if the cost per gallon was the same as the cost for traditional fuel. Two in 10 Americans are unsure. Of the 14% of Americans who say they would be unlikely to use low carbon fuel instead of traditional gasoline in their personal vehicle, we asked them why.

Four in 10 Americans who say they would be unlikely to use low carbon fuel in their personal vehicle say it's because of "concern that low carbon fuels could negatively affect the performance of the vehicle" (42%) and "concern that low carbon fuel could damage the vehicle" (40%).

Americans who say that climate change is not important to them personally are more likely than those who say climate change is important to them to say they would not use low carbon fuel in their vehicle because they are "happy with vehicles that use traditional fuel and wouldn't want to change" and they are "not convinced it would be better for the environment."

### REASONS WHY AMERICANS WOULD BE UNLIKELY TO USE LOW CARBON FUEL INSTEAD OF TRADITIONAL GAS IN THEIR PERSONAL VEHICLE



Base: Respondents who said they would be unlikely to use low carbon fuel in their personal vehicle even if it was the same cost as traditional fuel.  
 Respondents selected all that apply.

# LOW CARBON FUELS IN AVIATION

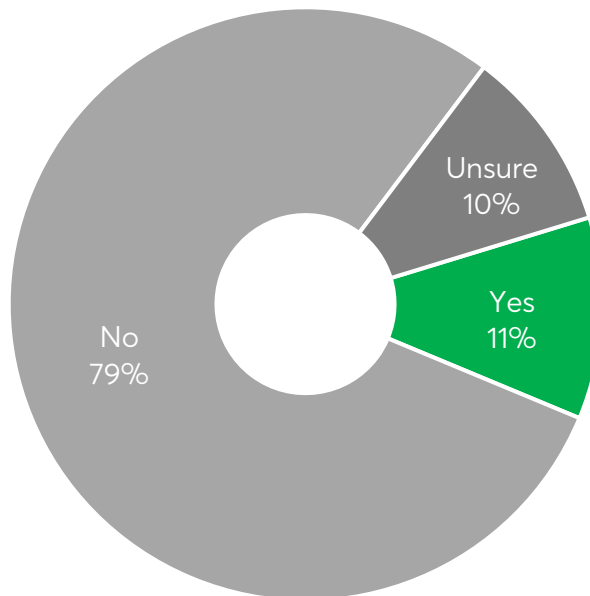
## AWARENESS OF LOW CARBON FUELS FOR USE IN AVIATION

Respondents were provided the following information:

*"Airlines are considering using more efficient fuel called sustainable aviation fuel (SAF). SAF is a renewable, low-carbon intensity substitute for conventional jet fuel. SAF is widely considered the best approach to rapidly reducing greenhouse gas emissions from commercial and business aviation. While this fuel is very new, we'd like to understand your thoughts on flying on airplanes that use these fuels."*

Overall, just one in 10 Americans (**11%**) say they have heard about the use of sustainable aviation fuel (SAF) in airplanes before taking the survey.

### BEFORE TAKING THIS SURVEY, HAD YOU HEARD ABOUT THE USE OF SUSTAINABLE AVIATION FUEL IN AIRPLANES?



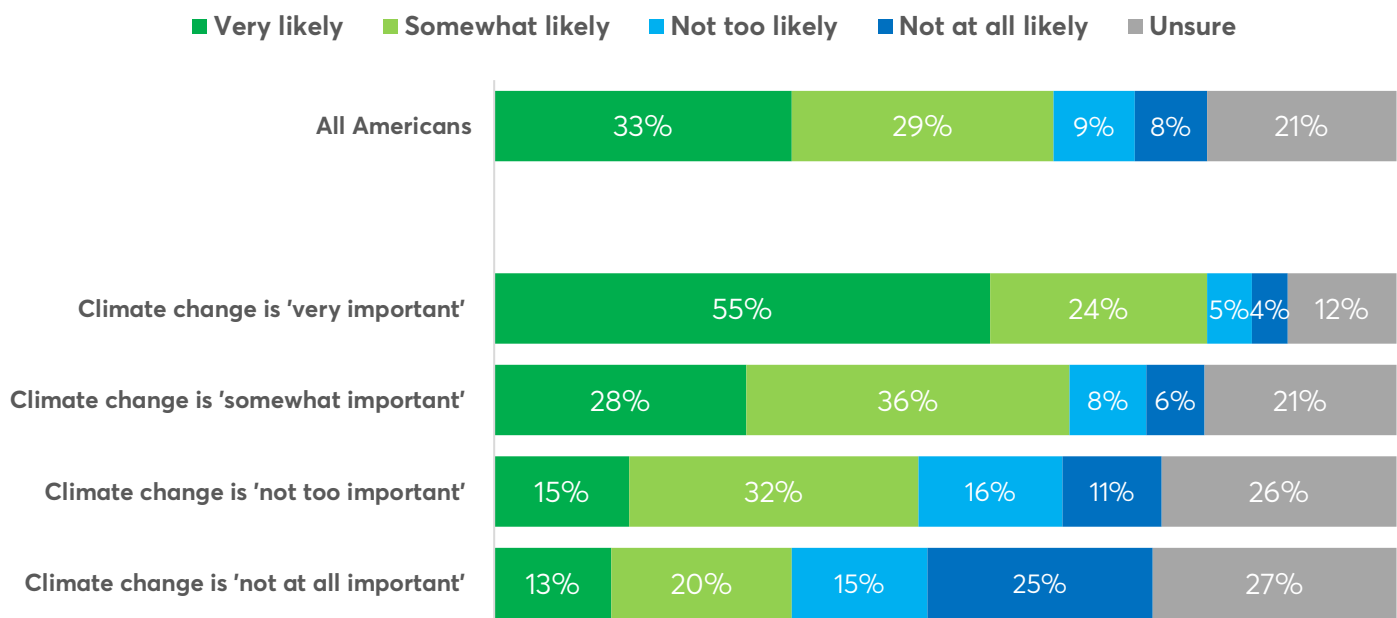
Base: All respondents

## CHOOSING A FLIGHT ON A PLANE THAT USES LOW CARBON FUEL

Similarly, Americans who say climate change is personally important to them are more likely to say if they had a choice they would be more likely to choose a flight on a plane that uses low carbon fuel if the cost of the ticket was the same as flying on a plane that uses traditional jet fuel.

Overall, **a third of Americans** say they would be **'very likely'** to choose a flight on a plane that uses low carbon fuel. **Fifty-five percent** of Americans who say **climate change is 'very important'** to them say they would be **'very likely'** to choose a flight on a plane that uses low carbon fuel compared to **only 13%** of Americans who feel climate change is **'not at all important'** to them personally.

### LIKELIHOOD OF CHOOSING A FLIGHT ON A PLANE THAT USES LOW CARBON FUEL IF THE COST OF THE TICKET WAS THE SAME AS FLYING ON A PLANE THAT USES TRADITIONAL JET FUEL



Base: All respondents

# SUMMARY

## LOW CARBON FUELS

A **quarter of Americans have heard about the use of low carbon fuels in vehicles** and just **one in 10** have heard about them being used in **airplanes**, prior to taking the survey. Americans are quite receptive to the possibility of using these fuels in their own personal vehicles. **Two-thirds of Americans say they would be likely to use low carbon fuel instead of traditional gasoline** in their personal vehicle if the cost per gallon was the same as the cost for traditional fuel. Of those who say they would be unlikely to use low carbon fuels, four in 10 say they would be concerned that it could negatively affect the performance of the vehicle and/or a concern that it could damage the vehicle.

Similarly, **six in 10 Americans say if they had a choice, they would be likely to choose a flight on a plane that uses low carbon fuel**. For those who say they **would be unlikely to fly on a plane that uses this fuel**, about four in 10 say they are **happy with their current experience** and wouldn't want to change, they **wouldn't trust planes** that fly on this low carbon fuel to be as **safe**, and they **wouldn't trust the reliability of the service** of planes that fly on this fuel given the new technology.

Those who say climate change is important to them personally are more likely to be willing to adopt these new fuel changes into their transportation behaviors.

## METHODOLOGY

This multi-mode survey was fielded by NORC at the University of Chicago using a nationally representative sample. The survey was conducted from January 27 – February 18, 2022. Interviews were conducted in English and in Spanish, and were administered both online and by phone.

A general population sample of U.S adults age 18 and older was selected from NORC's AmeriSpeak® Panel for this study. Funded and operated by NORC at the University of Chicago, AmeriSpeak® is a probability-based panel designed to be representative of the US household population. Randomly selected US households are sampled using area probability and address-based sampling, with a known, non-zero probability of selection from the NORC National Sample Frame. These sampled households are then contacted by US mail, telephone, and field interviewers (face to face). The panel provides sample coverage of approximately 97% of the U.S. household population. Those excluded from the sample include people with P.O. Box only addresses, some addresses not listed in the USPS Delivery Sequence File, and some newly constructed dwellings. While most AmeriSpeak households participate in surveys by web, non-internet households can participate in AmeriSpeak surveys by telephone. Households without conventional internet access but having web access via smartphones are allowed to participate in AmeriSpeak surveys by web. AmeriSpeak panelists participate in NORC studies or studies conducted by NORC on behalf of governmental agencies, academic researchers, and media and commercial organizations.

In total, NORC collected 8,027 interviews, 7,795 by web mode and 232 by phone mode, 7,820 in English and 207 in Spanish. The margin of error for the sample of 8,027 is +/- 1.59 percentage points at the 95% confidence level. Smaller subgroups will have larger error margins. In addition, we oversampled English-speaking Asian Americans. This sample of Asian Americans is composed of people from many different countries of origin and ethnicities, and all took the survey in English. Panelists were offered the cash equivalent of \$2 after successfully completing the survey.

Final data are weighted by age, gender, race/Hispanic ethnicity, housing tenure, telephone status, education, and Census Division to be proportionally representative of the U.S. adult population. Key demographic characteristics (after weighting is applied) of this sample are presented below:

- 52% female
- Average age of 48 years old
- 62% White, Non-Hispanic
- 35% 4-year college graduates
- 57% have a household income of \$50,000 or more