

Fuel Cell Electric Vehicle CVRP Participation and Participant Characteristics

CVRP Program Data and Consumer Survey (2017–2022 Edition)

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with thanks to John Anderson, Janet Bowers, Anjelica Thang, and others at CSE



Outline



- I. Characterizing rebates
- II. Characterizing consumer behavior
 - I. Adoption
 - II. Fueling



Characterizing Rebates

Summary of CVRP program data



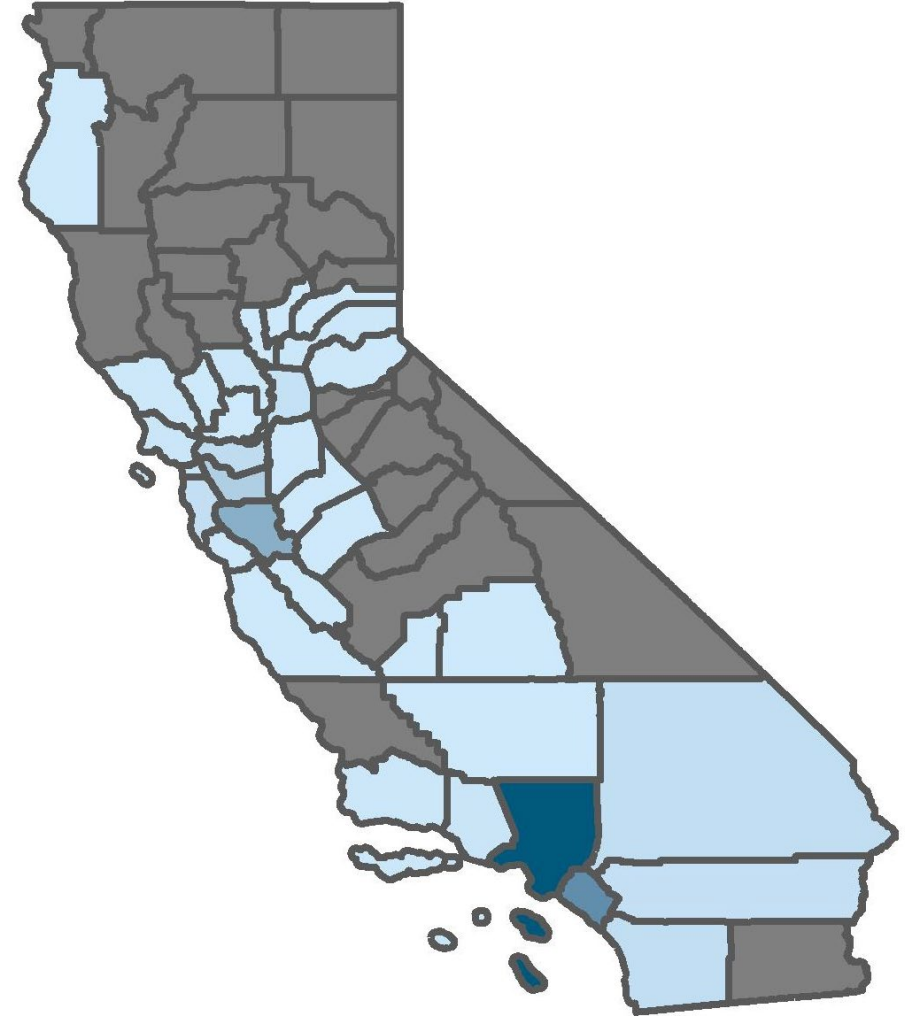
- FCEVs currently represent a small segment of the CVRP program

Data

Purchase or Lease Dates	May 1, 2016 – November 30, 2020
Survey data range	January 1, 2017 – September 9, 2020
Program Participants	<i>N</i> = 258,740
Survey Participants	<i>n</i> = 42,891
FCEVs in program	<i>N</i> = 7,632
FCEVs in survey	<i>n</i> = 1,410
FCEV percent of CVRP	2.95%

Rebates by County

County	Rebates (each)
Los Angeles	2,790
Orange	1,702
Santa Clara	1,070
Alameda	479
Contra Costa	228
San Bernardino / San Diego	200
San Mateo	176
Riverside	156
Sacramento	147
San Francisco	117
Ventura	84
Marin	56
Placer	43
Santa Barbara	41
Yolo	40
Santa Cruz	24
San Joaquin	19
El Dorado / Sonoma	12
Solano	10
Kern	7
Monterey	5



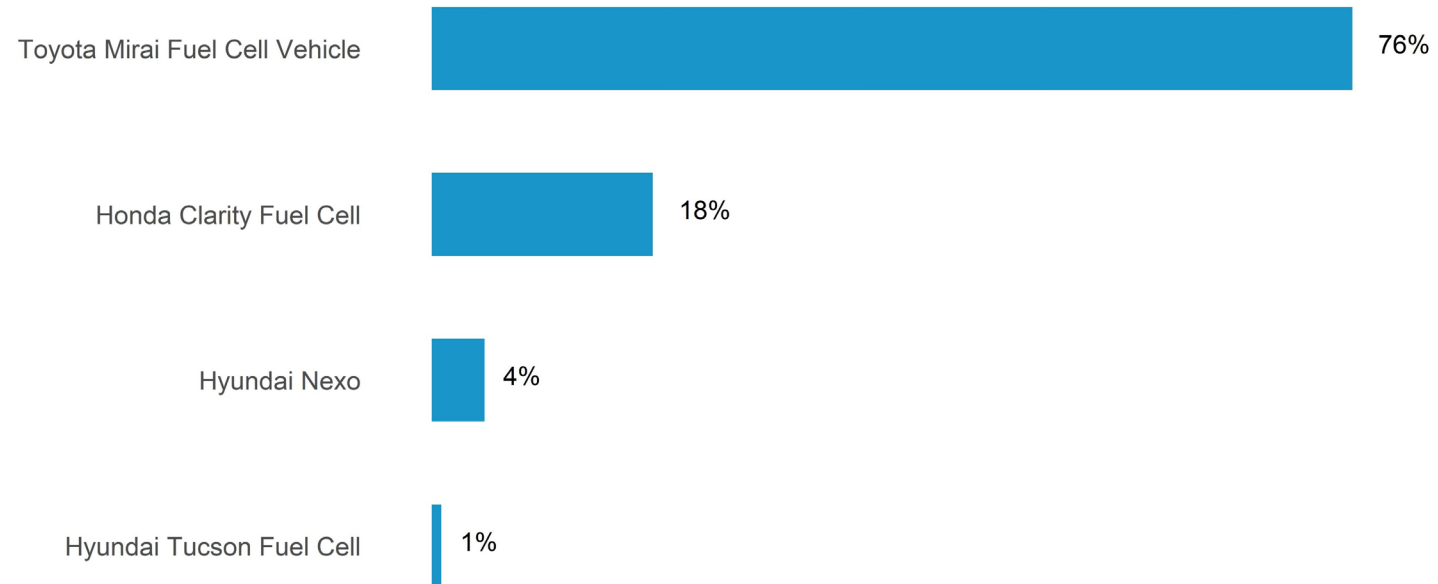
Rebates by Air District

Air District	Rebates (each)
South Coast	4,841
Bay Area	2,144
San Diego	200
Sacramento Metro	147
Ventura	84
Yolo-Solano	44
Placer	43
Santa Barbara	41
San Joaquin Valley Unified	32
Monterey Bay Unified	30
El Dorado	12
Mojave Desert	5
Antelope Valley	2
Feather River	2
Northern Sonoma	2
North Coast Unified	1
Northern Sierra	1



Large majority of rebated FCEVs are Toyota Mirai

Most commonly purchased FCEVs



Total FCEV rebates = 7,631



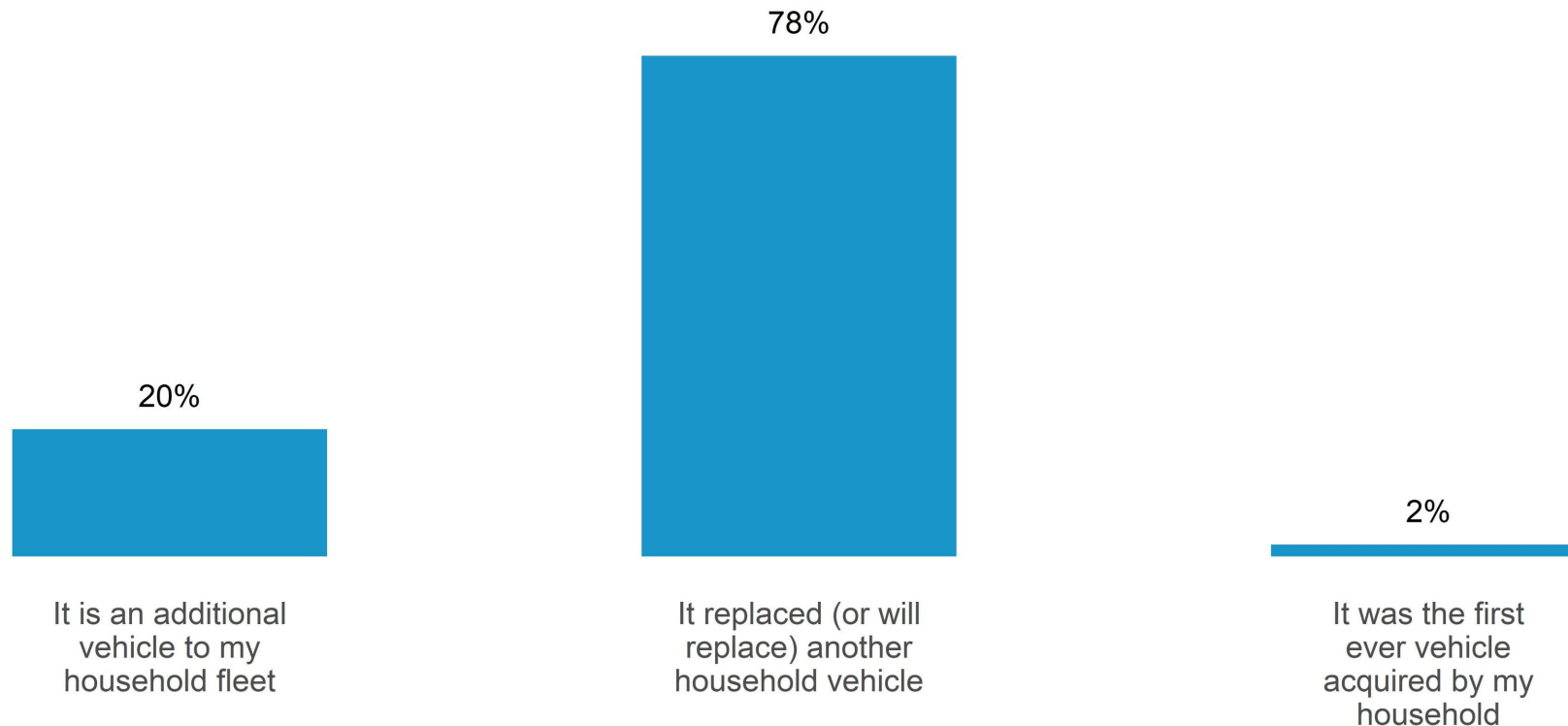
Characterizing Consumer Behavior

Adoption

Most FCEV participants are replacing other vehicles



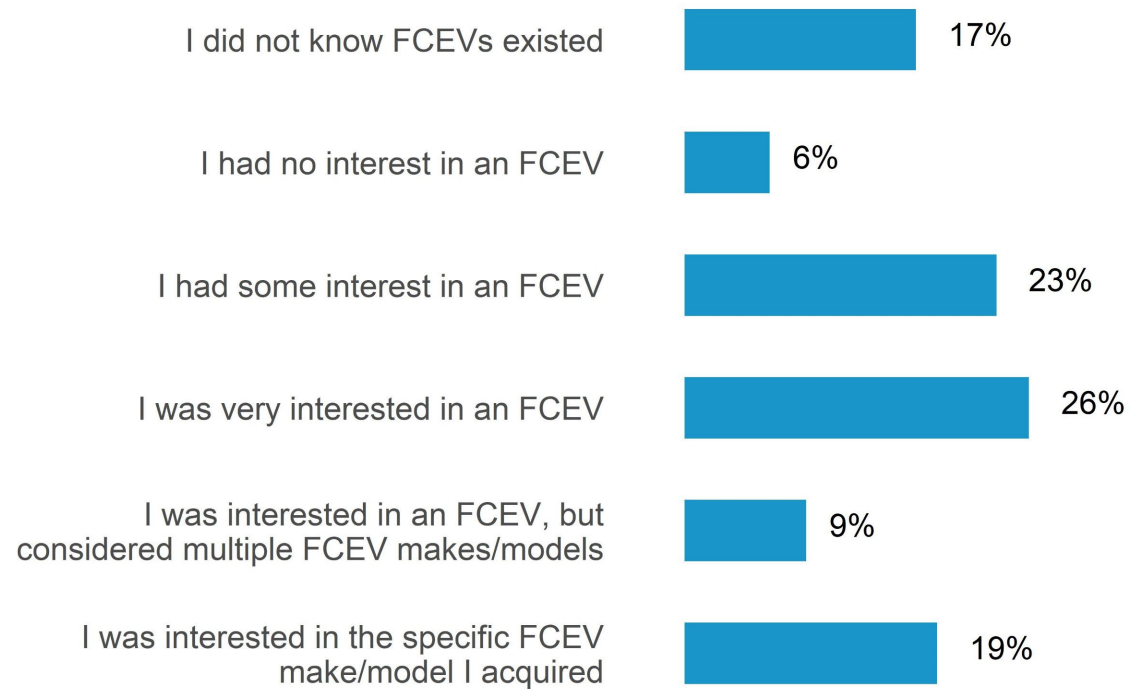
Which of the following best describes your purchase or lease?



n = 1,404

Knowledge and interest in FCEVs varies at the start of the new car search

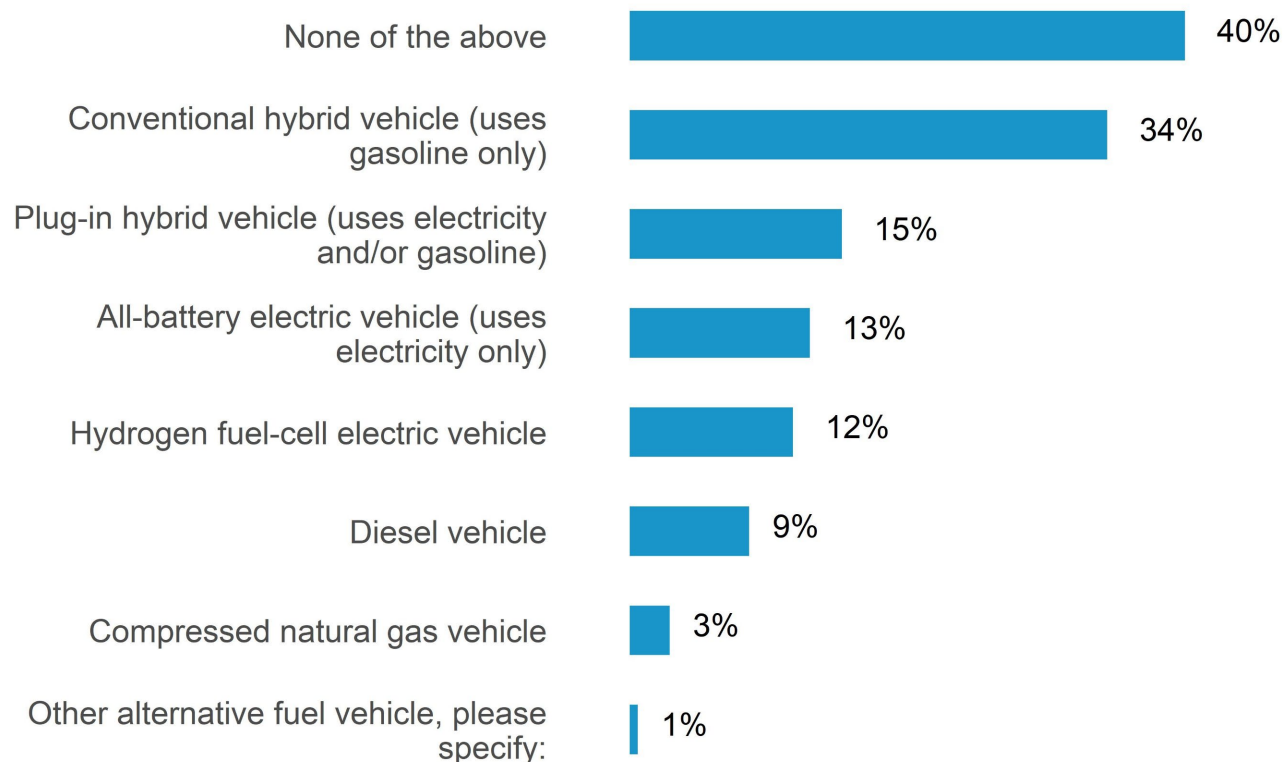
Which of the following statements best describes your interest in acquiring a fuel-cell electric vehicle (FCEV) when you started your search for a new vehicle?



n = 1,408

Most FCEV consumers have experience with alternative fuel vehicles

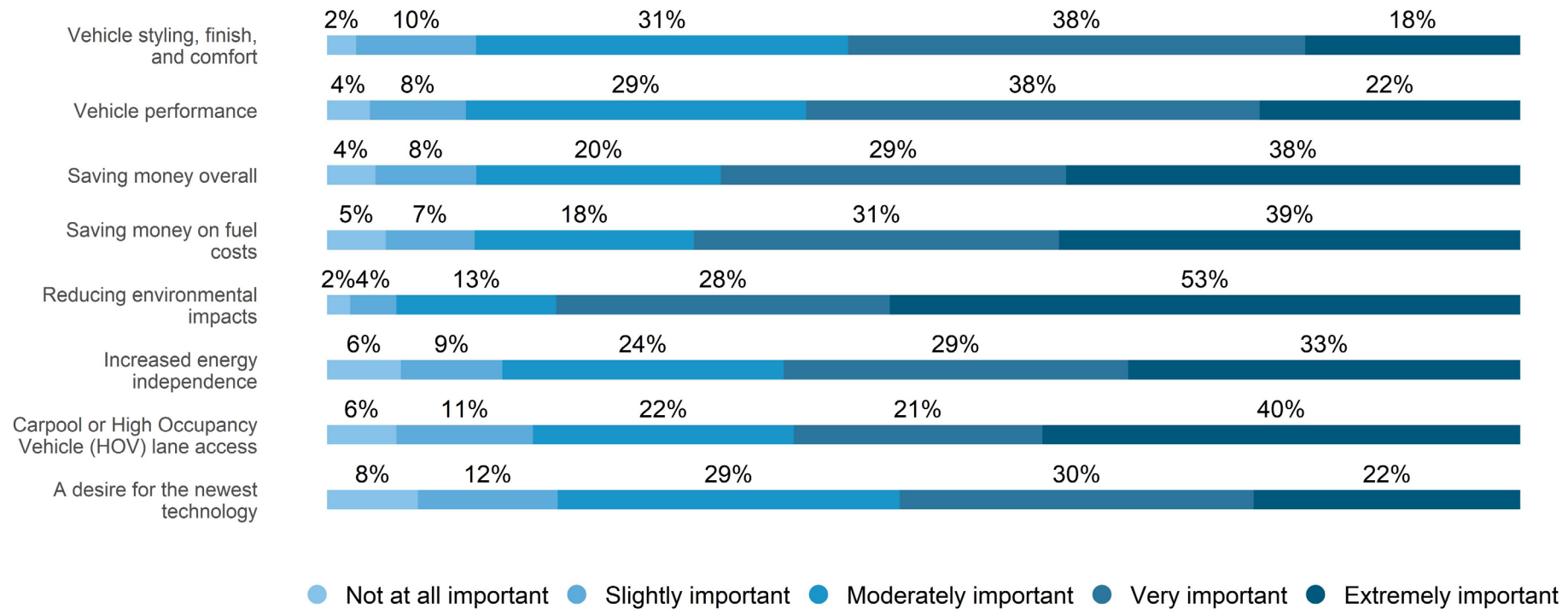
Has your household ever purchased or leased any of the following alternative vehicle types?



n = 1,404

Enviro impacts, costs, and HOV lane access among most impactful motivations to acquire an FCEV

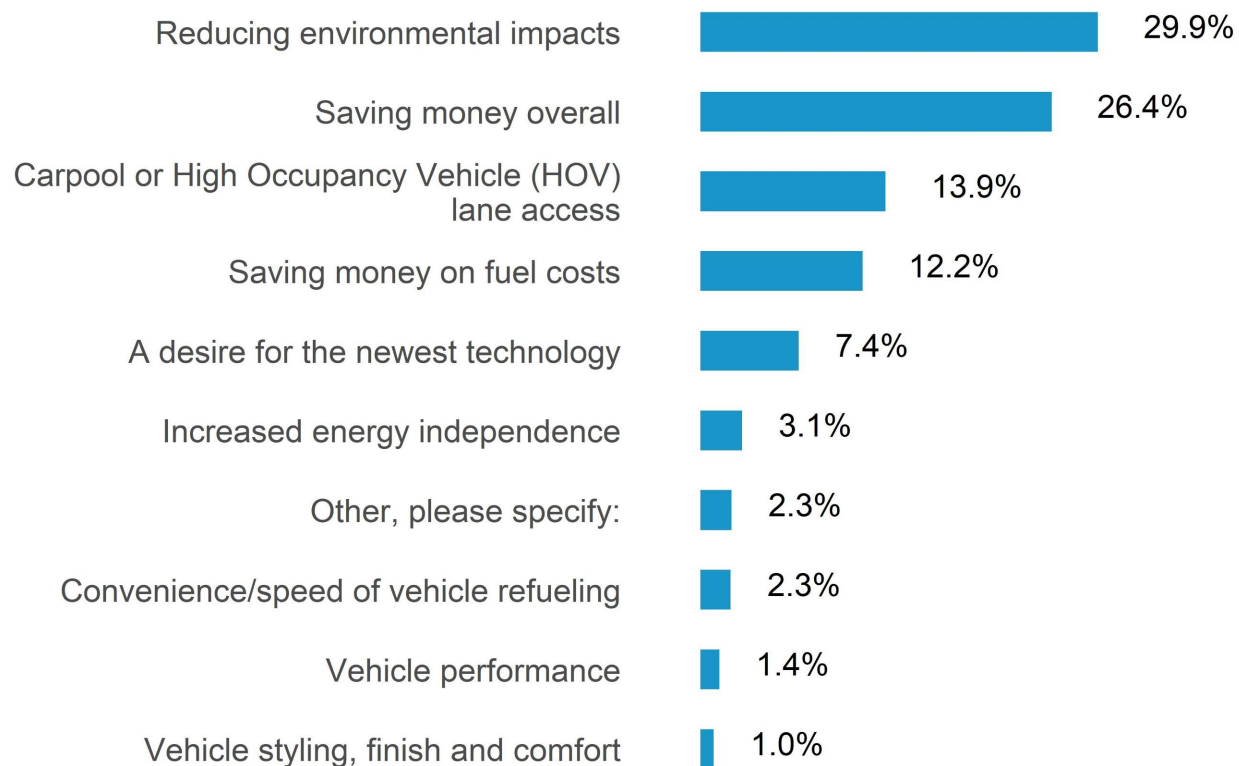
How important were each of the following factors in your decision to acquire a fuel-cell electric vehicle?



n = 1,403

FCEV consumers highly motivated by reducing enviro impact and saving money

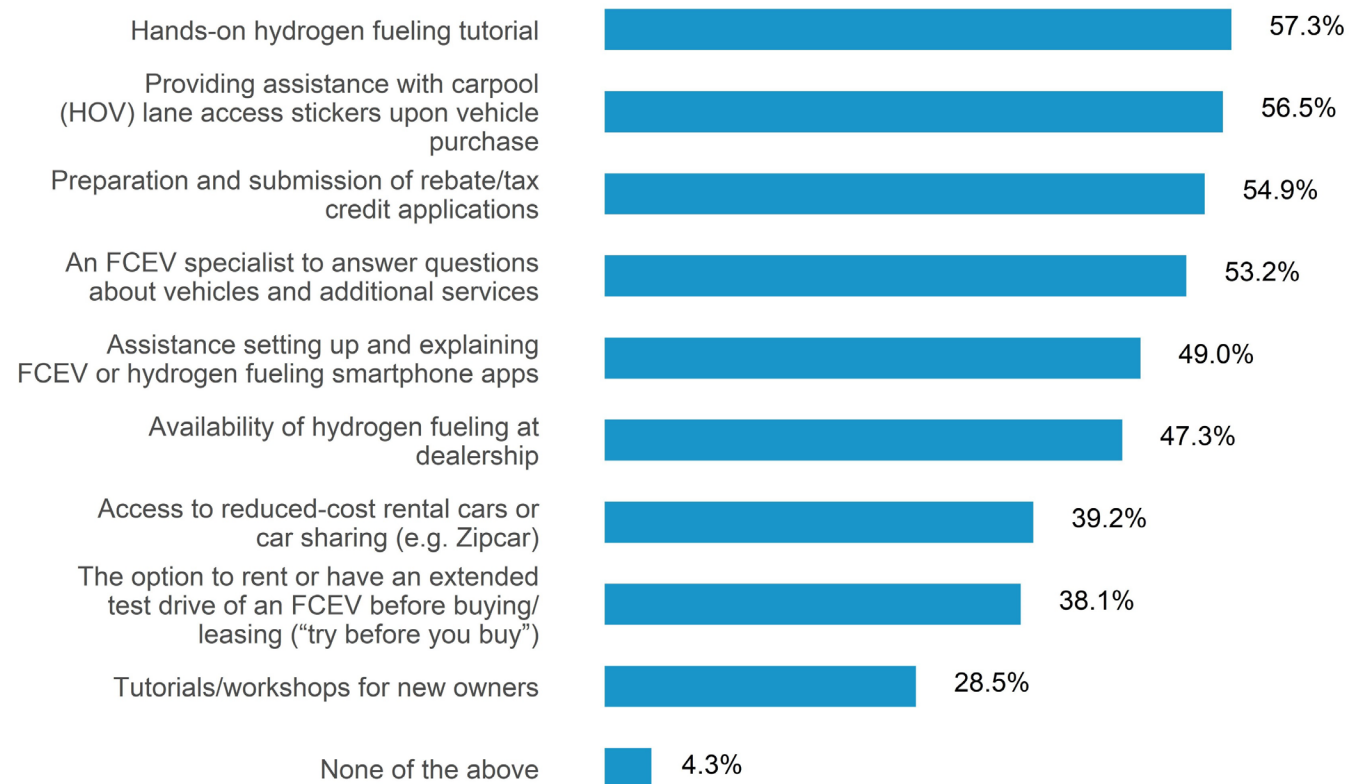
Which of these factors was the most important reason why you decided to acquire a fuel-cell electric vehicle?



n = 1,408

Fueling tutorials and incentive support valued by more than half of participants

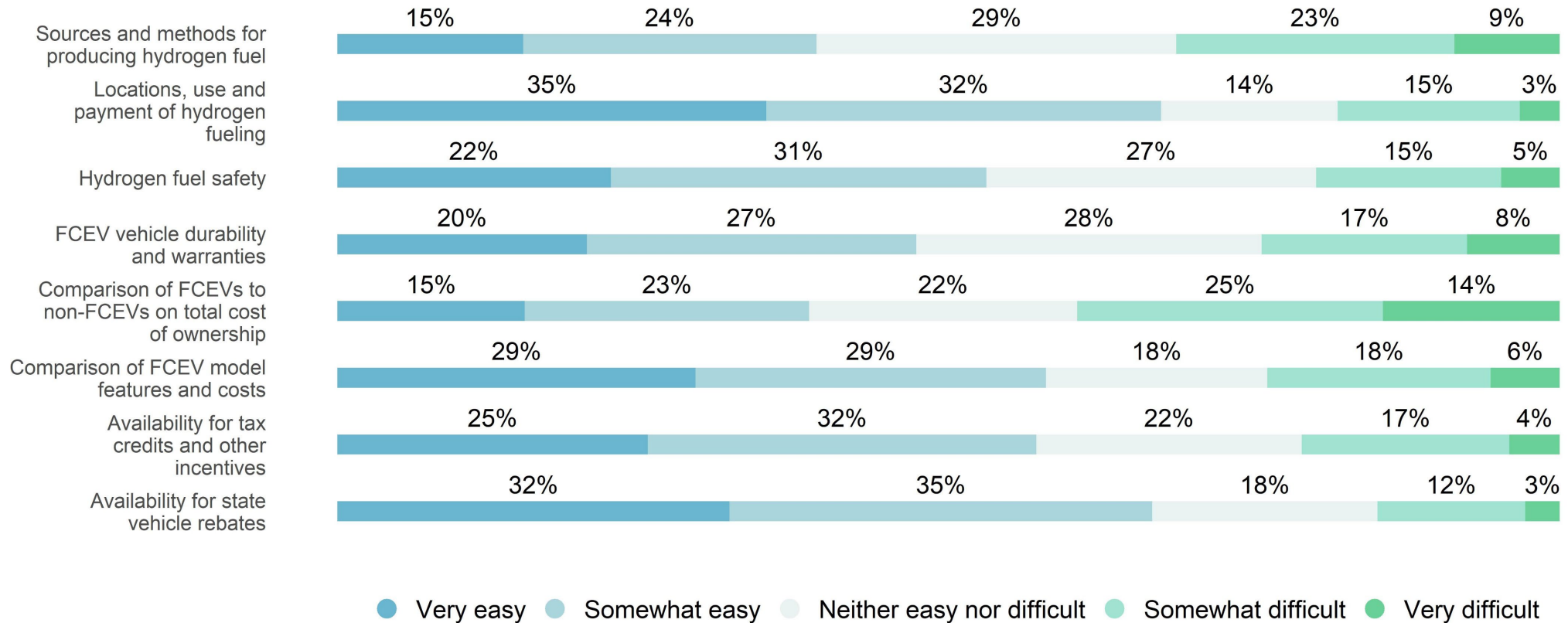
Whether or not these were offered to you, which of these services would be valuable for a dealer to provide?



n = 1,370

Total cost of ownership comparisons the most difficult thing to find for FCEV drivers

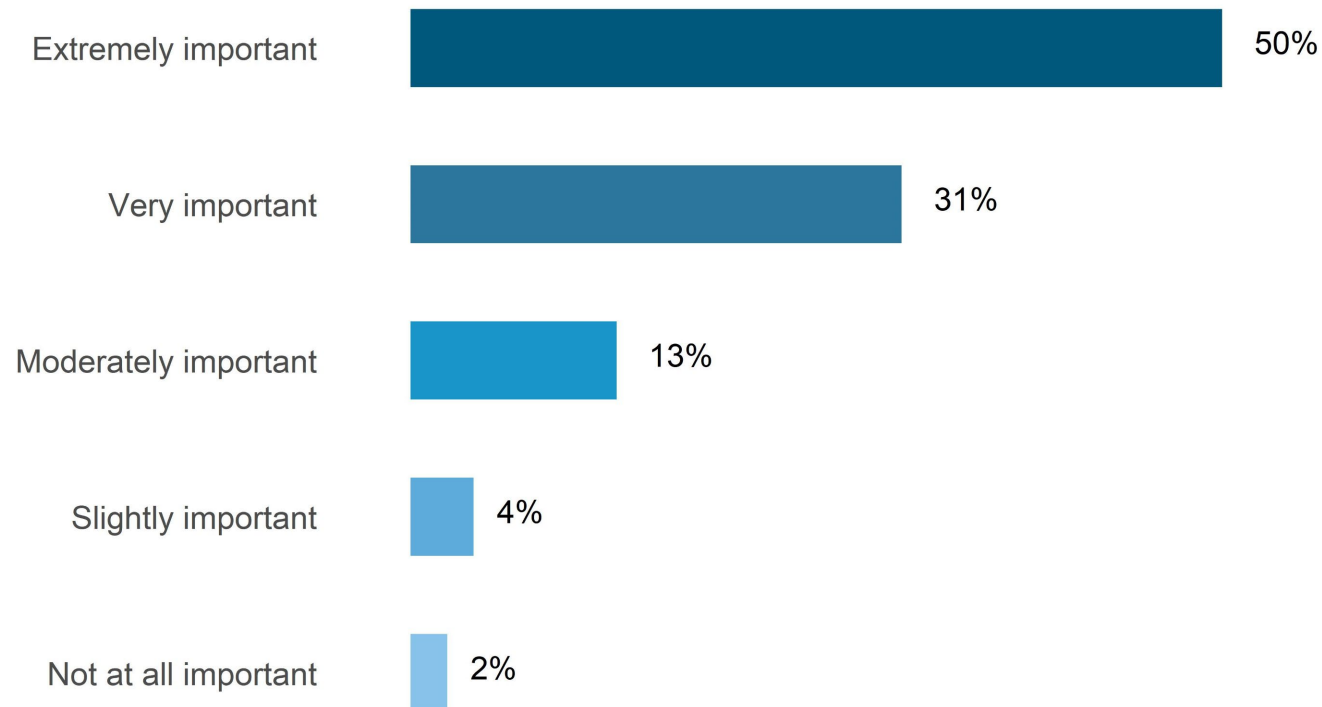
Please rate how easy or difficult it was for you to find information on the following topics on the internet.



n = 1,303

Government subsidies are highly influential in purchase decision

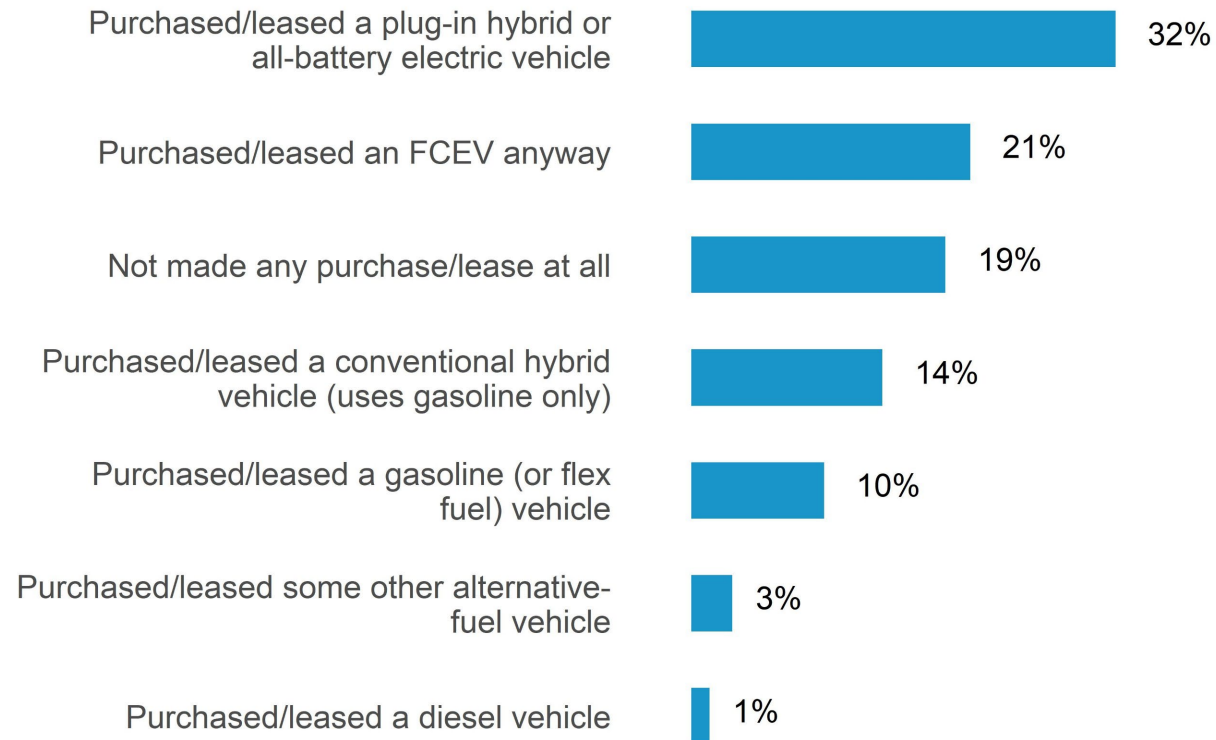
How important were government financial incentives in your decision to acquire a fuel-cell electric vehicle?



n = 1,405

CVRP shifting consumers from plug-in electric options

If the state vehicle rebate (CVRP) were not available for your FCEV, or any other FCEV, what do you think you would have done?

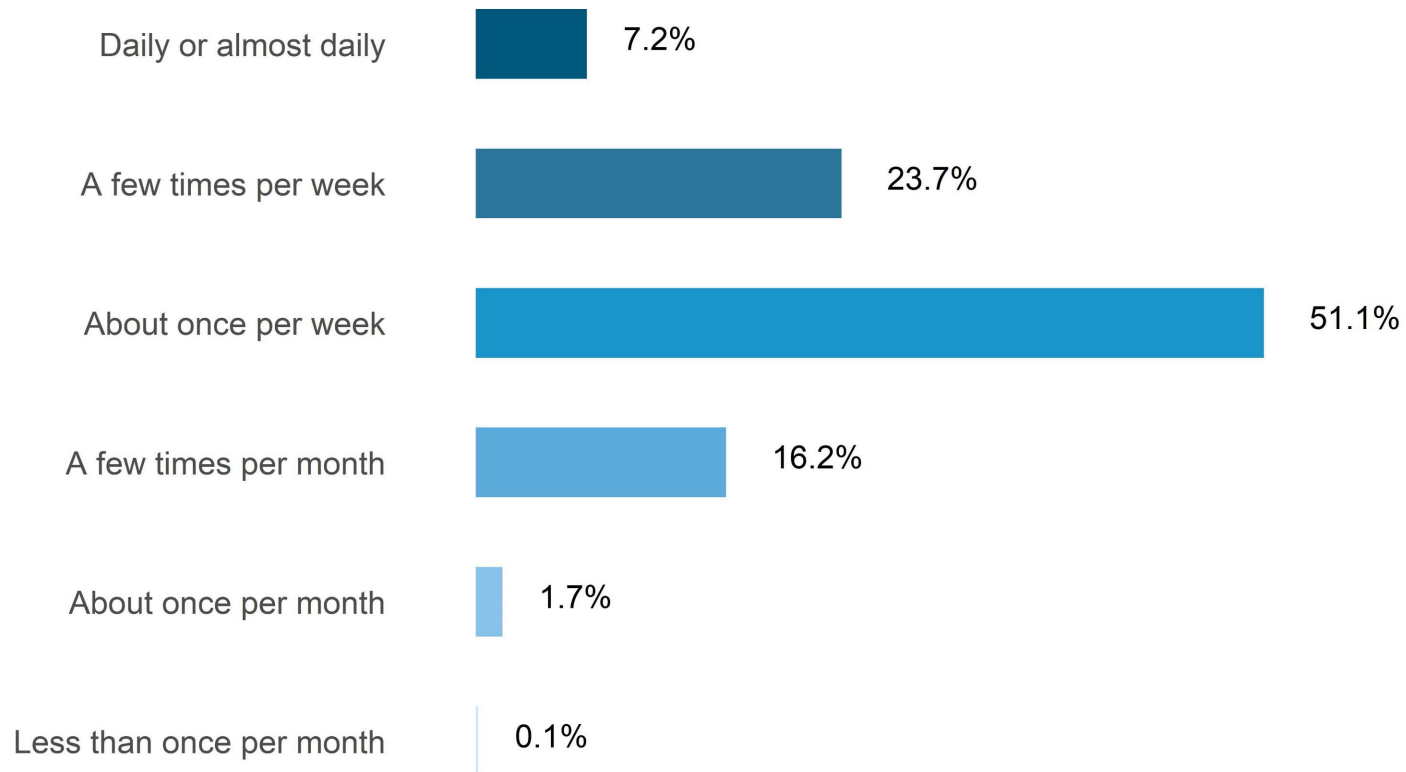


n = 1,403

Fueling

Most FCEV drivers refuel once per week

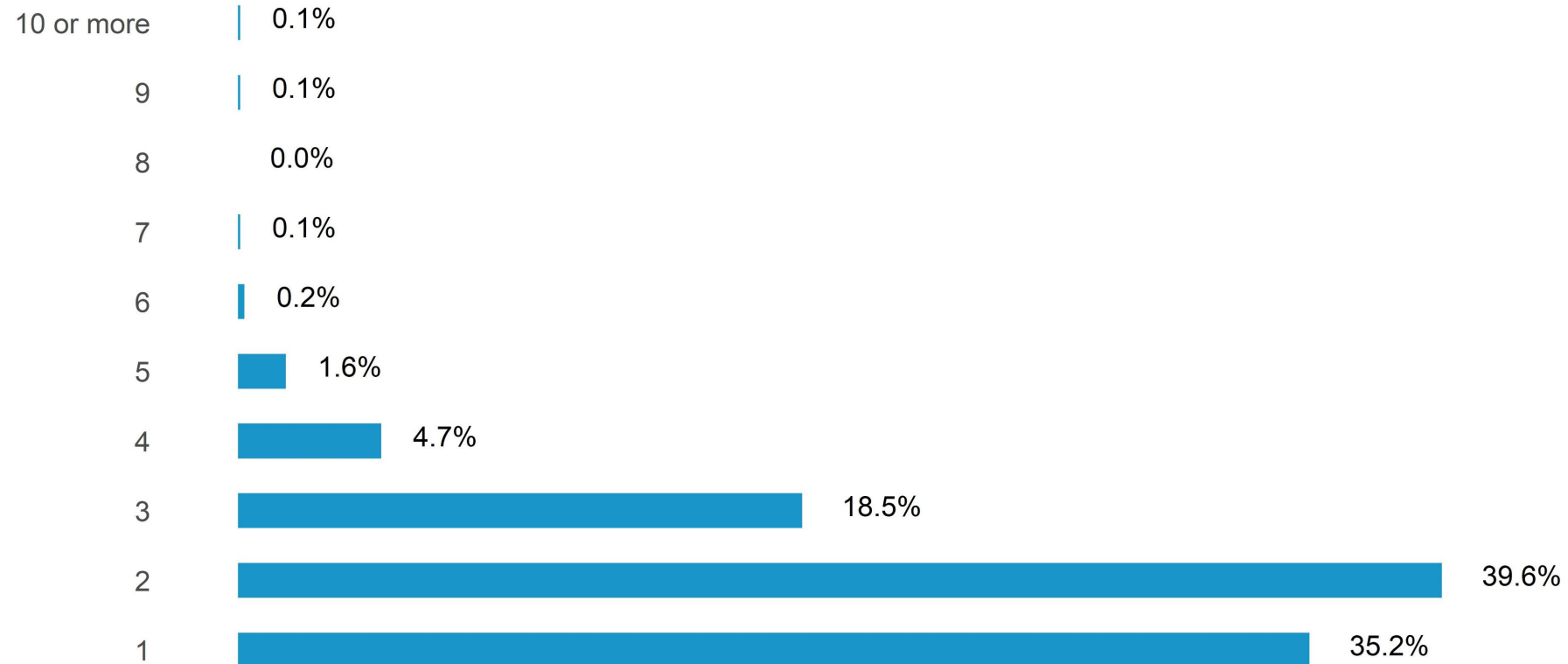
How often do you fuel your fuel-cell electric vehicle?



n = 1,406

Most FCEV drivers visit one or two fueling stations

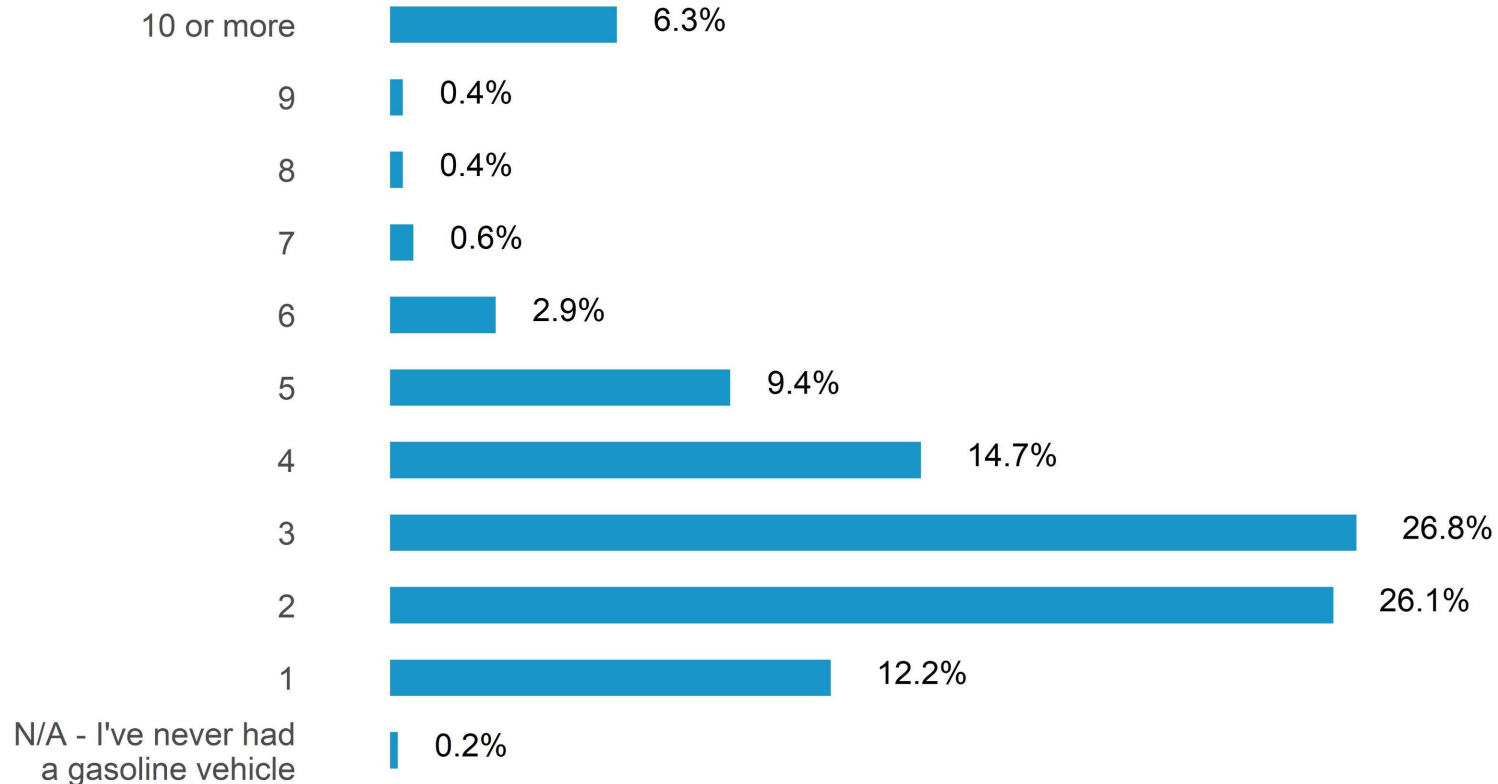
How many different hydrogen stations do you routinely visit to support your typical driving needs?



n = 1,403

Most FCEV drivers visited two or three gas stations

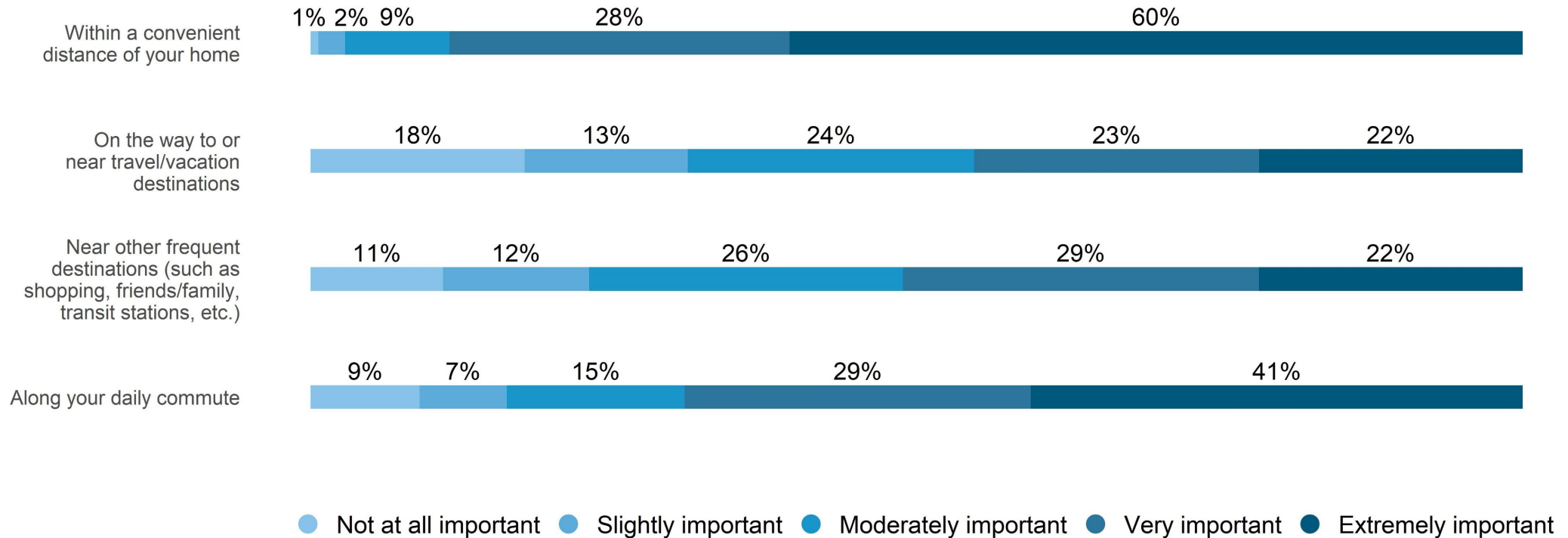
Thinking of your experience with gasoline-powered vehicles, how many different gasoline stations would you routinely visit to support your typical driving needs?



n = 1,401

Fuel station close to home most important location

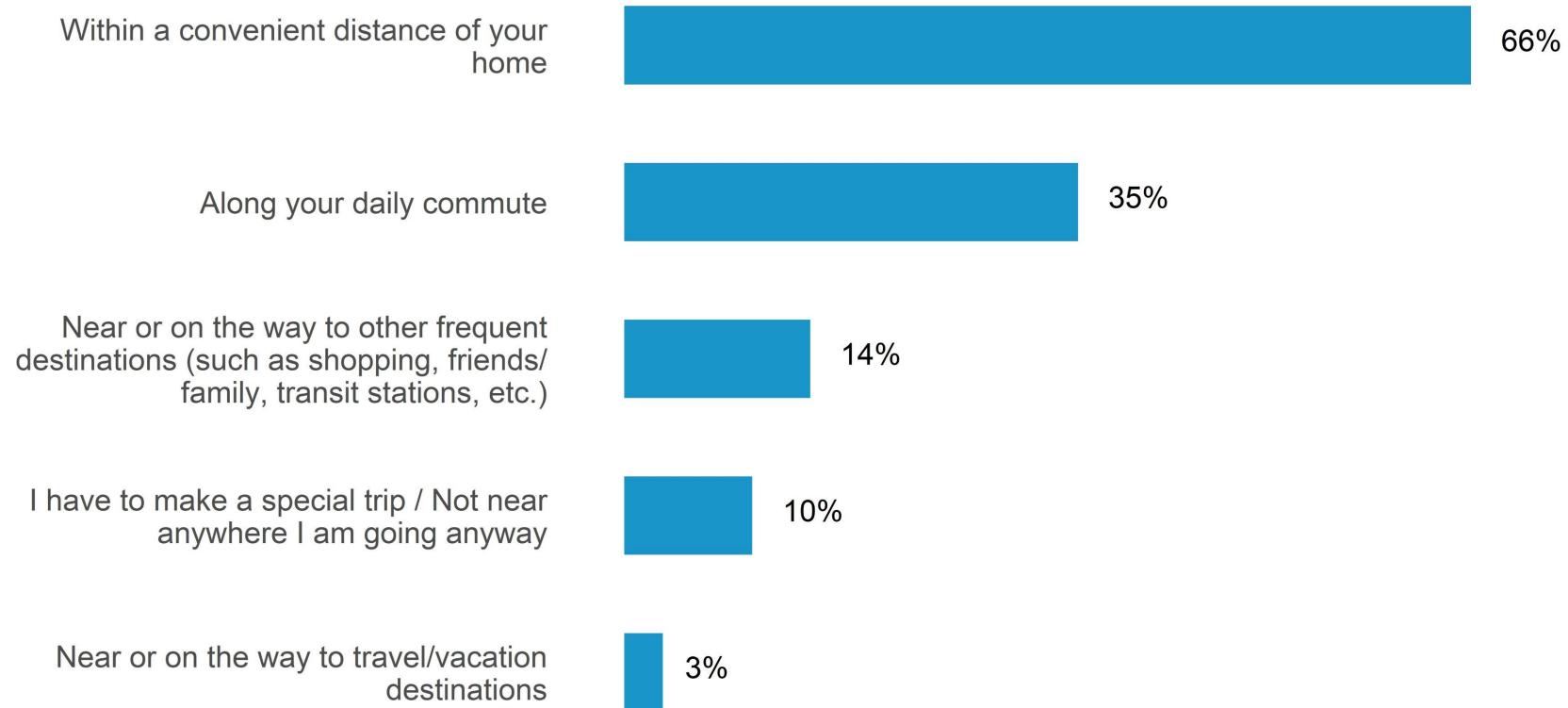
How important to your decision to acquire your fuel-cell electric vehicle was the availability of hydrogen stations at each of the following locations?



n = 1,409

Fueling station near home is used most often

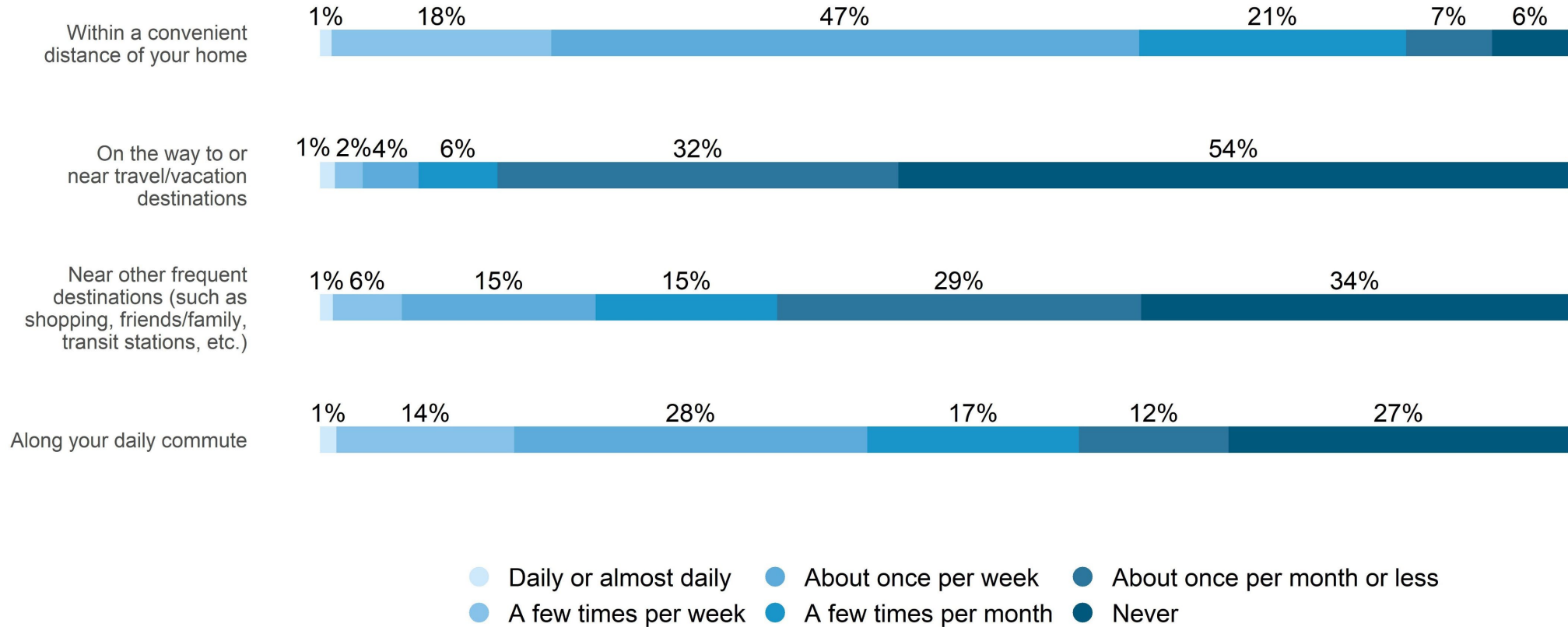
Where is the hydrogen station that you use the most?



n = 1,401

Fueling stations near home are used most often

How often do you use any station in each of the following areas?



n = 1,408

Almost all FCEV drivers get free hydrogen with car

Was hydrogen fuel included in your vehicle purchase or lease?



n = 1,401

Keeping hydrogen free is critical to continued FCEV adoption

Do you think you would have acquired a fuel-cell electric vehicle if you had to pay for hydrogen fuel?



n = 1,372

Most consumers know the price of hydrogen, even if it is included in their purchase/lease agreement

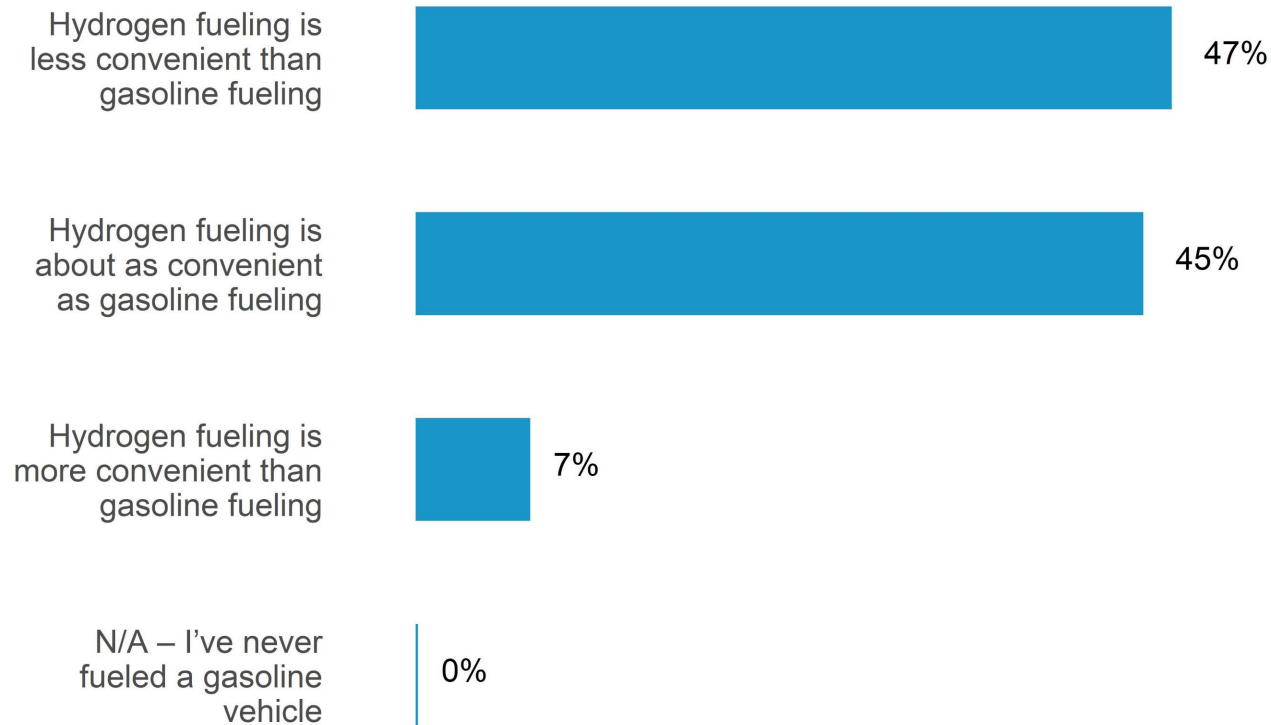
Do you know how much hydrogen fuel costs?



n = 1,370

FCEV consumers find hydrogen fueling to be as easy, or slightly more troublesome than gas fueling

How would you compare fueling with hydrogen to fueling with gasoline?



n = 1,399

Recommended citation:

Fullenkamp, E., 2022. *Fuel Cell Electric Vehicle CVRP Participation and Participant Characteristics*. Center for Sustainable Energy. August.

 CleanVehicleRebate.org

