

Fuel prices will be tipping point for U.S. electric vehicle consideration: survey

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A new survey released today by Deloitte shows that 78 percent of consumers in the United States would consider purchasing an electric vehicle (EV) when fuel prices reach \$5.00 per gallon. The study, "Gaining traction: Will consumers ride the electric vehicle wave?," surveyed 12,000 consumers globally, including more than 1,000 in the U.S., and finds that the higher the price of fuel, the more interested consumers are in EVs.

"Offsetting the fuel factor is the finding that the better the fuel efficiency of internal combustion engine (ICE) vehicles, the less interested consumers become in EVs," said Craig Giffi, vice chairman, Deloitte LLP and U.S. automotive practice leader. "A total of 68 percent of consumers in the U.S. and 57 percent in China are less likely to consider an EV if they are able to find ICEs with a fuel efficiency of 50 miles per gallon."

According to the survey, the majority of consumers' in the world's four largest automotive markets either identify themselves as potential first movers, or at least willing to consider purchasing an electric vehicle (U.S. 54 percent, China 93 percent, Europe 69 percent, and Japan 48 percent). Looking exclusively at the potential first movers segment, only 12 percent of U.S. consumers surveyed identify themselves as potential first movers in purchasing or leasing an electric vehicle. China stands out with 50 percent of consumers falling into the potential first movers category, followed by Europe with 16 percent. Japan has the smallest percentage of consumers in the potential first movers segment

with only four percent.

"For mass adoption, automakers in the U.S. will be challenged to price electric vehicles to meet the expectations of consumers and still make a profit on them," said Giffi. "U.S. consumers are not likely to pay any sort of price premium for EVs. Therefore, government incentives are very important to the purchase decision."

More than half of U.S. consumers surveyed are not willing to pay any price premium for an EV compared to a regular car (ICE) while only 8 percent are willing to pay a price premium of more than \$3,000. Moreover, the overwhelming majority of these consumers (77 percent) expect to pay less than \$30,000 net of government incentives. In Europe and China however, it becomes an even more significant challenge as the majority of consumers expects to pay less than \$20,000 for an electric vehicle and more than 50 percent of consumers in these markets refuse to pay any kind of price premium for an electric vehicle.

"Global mass adoption of electric vehicles will be significantly influenced by a number of factors, including rising fuel prices, advancements in ICEs, and the availability of government incentives," adds Giffi. "While interest in [electric vehicles](#) is growing, current market offerings generally fall far short of consumers' expectations for driving range, charging time, and purchase price."

The Deloitte survey reveals that consumer expectations, when combined in China, United States, Europe and Japan for EV range, is two to three times (200 to 300 miles) the current market offerings (100 miles) from major automotive manufacturers. And, the expectations for the majority of consumers in these markets is a charging time of two hours or less (60 percent in the United States, 55 percent in China, 67 percent in Europe, and 81 percent in Japan) compared to the expected eight hour charge time (required using Level II chargers with a 24 kWh battery pack)

typical for current market offerings.

Currently, hybrids and EVs represent a tiny fraction of total cars on the road globally. The adoption of all forms of green vehicles—hybrids, EVs, etc.—will be significantly influenced by government policies that will heavily shape the portfolio mix of powertrain technologies in each country. These policies will likely be driven by a number of factors, from stricter carbon emission standards to independence from foreign energy.

Additional findings from the Deloitte survey include:

- Consumers in the United States are aware of EVs. More than half of American respondents say they are at least somewhat knowledgeable about EVs, with 11 percent extremely or very knowledgeable. Among potential first movers, 37 percent rate themselves as extremely or very knowledgeable about EVs.
- For roughly 90 percent of respondent's convenience to charge, range, and cost to charge are all extremely or very important electric vehicle (EV) considerations.
- The vast majority of respondents have requirements that are not currently met by pure EVs in the market today, including range of up to 300 miles (63 percent of respondents; charging time of two hours or less (60 percent of respondents; and widespread availability of public charging stations (53 to 77 percent of respondents).
- Potential first movers in buying or leasing an EV in America describe themselves as environmentally conscious, tech savvy, trendsetters and politically active. These early adopters are generally between the ages of 18 to 34 years old (59 percent), educated (38 percent) with a bachelor's degree or higher, male (60 percent), and affluent (43 percent have

incomes greater than \$50,000).

- Most American consumers surveyed rate EVs as better than ICEs in their impact on the environment (78 percent), availability of government incentives (66 percent), and cost to operate (60 percent). However, ICEs rate better in their range before refueling or recharging (59 percent), purchase price (58 percent), and convenience to refill or recharge (56 percent).
- The most common perception is EVs are "green and clean" (72 percent) yet expensive to buy (71 percent).
- Of the total expected time U.S. respondents say they would be driving an electric vehicle, most are likely to use an EV for commuting to work (average 37 percent of expected driving time) or for short local trips (average 25 percent of expected driving time).
- More than half (60 percent) of U.S. respondents say two hours or less is the longest amount of time they would be willing to wait to fully recharge the battery if they were to purchase an EV. While only 23 percent of respondents find eight hours of charge time acceptable.
- The Full Useful Life of the battery as well as ease and cost of switching batteries are important factors to U.S. [consumers](#) as they begin to contemplate the total cost of ownership.

More information: For more information about Deloitte's "Gaining traction: Will consumers ride the electric vehicle wave?" please visit www.deloitte.com/electricvehicle

Provided by Deloitte

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