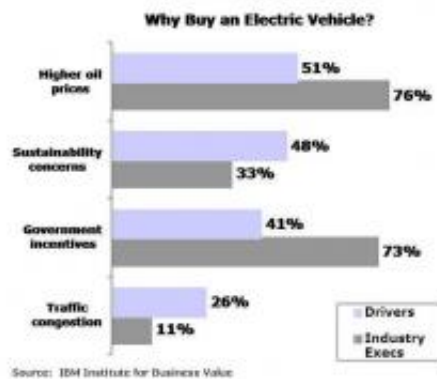


Nearly one-fifth of drivers are likely to consider an electric vehicle: study

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The IBM study asked drivers what would motivate them to switch from a vehicle that currently runs on gasoline, diesel or hybrid to an electric-only vehicle. The same question was posed to auto industry executives, who were asked to rate the importance they believe drivers place on each criteria. The percentage of drivers and executives who selected each criteria is reflected in the chart.

Many automobile industry executives believe that sales of traditional vehicles will peak before 2020 and are looking to electric-only vehicles (EVs) as one of the next hot products, but they will first have to address stringent consumer requirements about EV performance, recharging, and convenience, according to a new IBM survey of consumer attitudes and a recent study of auto industry executives.

Taken together, the two studies uncover significant differences between

the [automobile industry](#) executives IBM spoke to and [consumers](#) on the factors motivating consumers to purchase electric vehicles, with auto execs placing greater emphasis than consumers on government incentives and [oil prices](#). The executives were also skeptical of consumers' willingness to pay a premium for green vehicles.

The insights, from IBM's Institute for Business Value (IBV), are derived from a new survey of 1,716 U.S. drivers and interviews with 123 [auto industry](#) executives. The study indicates that, even in these early days, there is a potentially large market for EVs. Nineteen percent of drivers surveyed said that they were either "very likely" or "likely" to consider purchasing an electric-only vehicle when shopping for a new car. This is notable, given that 42 percent of drivers know only "a little" about EVs or have "only heard of them," suggesting that automakers could increase the pool of potential buyers with sustained educational campaigns.

Thirty percent of drivers surveyed said that they would consider switching to an EV that got 100 miles or less per charge. Current EVs get about 50 to 100 miles per charge.

And 40 percent of drivers said they would pay up to 20 percent more for an electric-only vehicle compared with a similarly-featured gas-, diesel, or hybrid-powered vehicle, with 27 percent saying they would pay 10 percent more and 13 percent saying they would pay 20 percent more.

To drive the price of electric vehicles into this more affordable zone, the IBV research indicates that automakers should initially focus on sales to both consumers and commercial fleets, building scale and creating economic efficiencies in production. Automakers may also need to develop new business models for [electric vehicles](#) to overcome the higher initial price.

Home charging: a sticking point

Nevertheless, price of the home charging installation often required to support an EV could pose an obstacle to EV adoption. Only 13 percent of drivers said they would consider spending more than \$1,000 to retrofit their residence to support recharging of an electric vehicle. According to industry estimates, retrofitting to a 240 volt outlet accessible to vehicles averages between \$1,000 and \$2,000.

In addition, two-thirds of consumers expect a price discount on their electricity for charging at home overnight. This expectation could place increasing focus on utilities for time-based pricing to encourage home charging, or more public charging will be required if an electricity discount is not available.

Home charging is considered important to the success of EVs. Of the drivers surveyed, 83 percent said they park their primary vehicle in the driveway or garage of their private residence, as opposed to in a parking lot, on the street, in a shared garage or some other location.

“Even under optimal circumstances, fully recharging an electric-only vehicle takes hours,” said Kal Gyimesi, IBV automotive lead and co-author of the IBV study. “So, it is crucially important that we build an infrastructure that can charge vehicles where their owners park them for extended periods of time – whether that is at home or at work, school, or the store.”

Where to put those charging stations?

Perhaps a reflection of America’s consumer culture, 62 percent of drivers surveyed said they most often parked in a mall or store parking lot when not at home or work. That’s substantially higher than any other location – “on the street” was number two at 17 percent.

“When deciding where to put charging stations, retail hubs like malls and shopping centers are good locations,” Gyimesi said. “It’s easy to envision charging stations in these commercial locations coupled with an advertising and promotion-based business model for local stores – which will help make the economics more feasible.”

Partnering with large employers in target regions to create charging infrastructure in the workplace also makes sense, Gyimesi added.

Consumers were asked what would motivate them to switch from using a vehicle that currently runs on gasoline, diesel or hybrid to an electric-only vehicle. The same question was posed to automobile industry executives, who were asked to rate the importance consumers place on each choice.

The answers illustrate that the automobile industry executives IBM interviewed for this study place far greater weight than consumers on government incentives/regulations (73 percent to 41 percent) and significantly higher oil prices (76 percent to 51 percent). The executives also place less emphasis than consumers on green image/sustainability concerns (33 percent to 48 percent).

According to the IBV study, when asked executives how automakers could develop mobility solutions, 83 percent said that the best direction would be to shift their product portfolio from conventional vehicles to electrified vehicles (EVs). About half said they expect the annual sales of conventional vehicles to have begun to decline by 2020.

Responses for the driver survey were similar across urban, suburban and rural areas -- with some notable exceptions. For example, rural respondents were the most likely (59 percent) to say they would pay nothing more for an electric-only vehicle compared with a similarly-featured gas-, diesel, or hybrid-powered vehicle.

Provided by IBM

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