

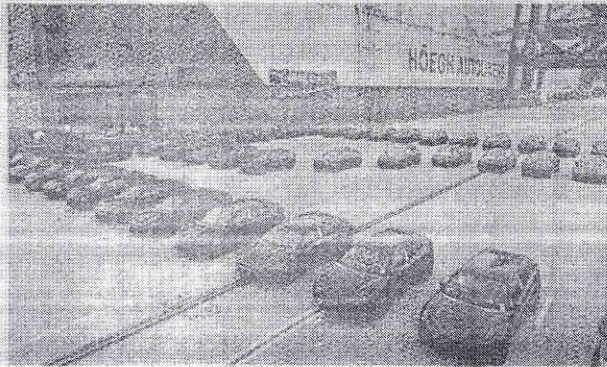
Electric cars pass the crucial tipping point in 23 countries

Bloomberg

Convincing everyone to adopt a new technology can be a slog at first. The humble microwave oven, for example, took two decades of lukewarm sales to reach just a tenth of US households. But then came the 1980s, and quicker than you could say 'hot pockets,' microwaves had spread to nearly every kitchen.

That fast part of the technology adoption curve is happening now with electric vehicles, according to a Bloomberg Green analysis of adoption rates around the world.

When we first completed this analysis a year ago, 19 countries had passed what's become a critical EV tipping point: 5 per cent of new car sales powered only by electricity. This threshold signals the start of mass adoption,



INDIA NOT FAR BEHIND. A tipping point may be on the horizon for India, the third largest auto market after China and the US BLOOMBERG

when technological preferences rapidly flip. Since then, five more countries have made the leap.

The newcomers — Canada, Australia, Spain, Thailand and Hungary — join a cohort that also includes the US, China and most of Western Europe.

The trajectory laid out by these early adopters shows how EVs can surge from 5 per

cent to 25 per cent of new cars in just four years.

WHY 5% IS IMPORTANT

Most successful new technologies — televisions, mobile phones, LED lightbulbs — follow an S-shaped adoption curve. Sales move at a crawl in the early-adopter phase, then quickly once things go mainstream. In the case of fully electric vehicles, 5 per cent

seems to be the inflection point.

The time it takes to get to that level varies widely by country, but once the universal challenges of car costs, charger availability and driver skepticism are solved for the few, the masses soon follow.

In the US, the EV tipping point didn't arrive until late 2021 — relatively late for a country with its spending power. There were reasons for that delay. Americans spend more time in their cars than any other populace, and drivers demanded longer ranges than early models offered. Pick-up trucks and large SUVs, which make up more than half of the US market, were also slow to electrify due to their massive battery needs.

Today, US EV sales are rising fast — up 42 per cent in the second quarter compared to the same period a year ago — but haven't quite matched

the explosive trajectory of other countries that crossed over. That could change as Tesla Inc., the world's biggest EV maker, prepares to launch its Cybertruck pickup, and as competitors roll out EVs under some of the most iconic American brands: Chevy Blazer and Silverado, Ford Explorer and F-150, Jeep Wrangler, and Ram 1500, to name a few.

A tipping point may be on the horizon for India, the third largest auto market after China and the US. EVs made up 3 per cent of new car sales in the country last quarter, after doubling in just six months.

India's homegrown automakers have been investing heavily in electrification, and Tesla Chief Executive Officer Elon Musk met with Indian Prime Minister Narendra Modi in June. Musk said he plans to enter the market "as soon as humanly pos-

sible". Countries that cross the tipping point have seen rapid rates of adoption, with a median sales growth of 55 per cent last quarter compared to the same period a year ago.

As with any new technology, growth rates will eventually slow as a market nears saturation — the top of the adoption S curve. There will always be holdouts. In Norway, the world's EV pioneer, growth appears to be slowing after reaching 80 per cent of new vehicles.

HYBRIDS

The analysis above is for vehicles that run on batteries only. Some countries, primarily in Europe, were quicker to adopt plug-in hybrids, which have smaller batteries backed by a gasoline-powered engine. Other countries, including the US and China, mostly skipped hybrids and went straight to fully electric vehicles.