

Ways to extend your EV's battery life

PETALING JAYA: Electric vehicle (EV) owners should adopt smarter parking practices and charging habits, including keeping their battery levels between 20% and 80% to extend battery life and avoid costly repairs in the long run, say safety experts.

Universiti Putra Malaysia Assoc Prof Dr Law Teik Hua said ensuring the long-term health and safety of an EV primarily hinges on proactive and mindful battery management.

They include several key practices such as temperature control, which is crucial for maintaining battery life, he said.

"Fundamentally, it is crucial to avoid maintaining extreme states of charge for extended periods. For daily use, the battery should ideally be kept between 20% and 80%, reserving a full 100% charge only for long trips and not letting it drop below 10%," he said yesterday.

He said utilising the vehicle's built-in feature to set a charging limit made it easy to manage.

"The primary charging method should be Level 2 (home) charging, with DC fast charging reserved for travel or emergencies, as its frequent use generates excess heat and strain.

"While regular charging is recommended, the vehicle does not need to be constantly plugged in, as leaving it at full charge for days can accelerate degradation," he said.

Law also recommended parking in a garage or shaded spot to avoid excessive heat accumulation, a practice equally important in cold climates.

"Taking advantage of the preconditioning function to preheat or precondition the cabin and battery while still connected to the utility, lessens the energy burden at departure.

"It is also recommended to rely on the car's onboard thermal control system and not bypass it, while noting that exercises such as high-speed driving or trailering in exceedingly warm weather push the system to operate harder and potentially reduce battery life," he added.

These rules, Law said, become even more essential in warm climates, when it made sense to avoid rapid charging at the hottest part of the day and pre-cool the cabin using a connected charger.

"When long-term storage for several weeks or months stretches ahead, the most crucial step is to leave the battery at a moderate



Power up: EV cars parked at the charging station located at the Hyundai Ara Damansara showroom.
— IZZRAFIQ ALIAS/The Star

state of charge, preferably in the range of 40% to 60%," said Law.

"If available, the car should be left connected and this charge limit set to the requisite amount. If not, the battery level must be checked periodically every few weeks for intermittent topping-up to avoid the risk of a deep discharge damaging the cells."

He also suggested that EVs be kept in a dry, airy garage, with care taken to maintain the 12V

auxiliary battery and to carry out pre- and post-storage checks on tyre pressure.

"By incorporating intelligent charging practices and conscious temperature control and seasonal adjustments, you can extend the life of your EV's battery substantially and ensure the continued safe and effective running of your car for years to come," he said.

Malaysian Institute of Road

Safety Research chairman Prof Dr Wong Shaw Voon urged EV users to read and refer to the owner's guidebook provided by the manufacturer.

"It is important to note that there could be some variation, especially involving different battery technologies.

"So the best and a must is to read, understand and practise the safe way of operating your EV, including charging," he added.