

Press Release

Electric car and pedelec in winter

Shorter Range in the Cold

- Decreasing performance of the batteries and energy demand for heating
- Energy-saving driving style especially important in winter
- Warning: Do not save at the expense of safety

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Anyone who uses an electric car or pedelec in winter must be prepared for a shorter range than during summer. Cold weather not only reduces the performance of the batteries, but it also requires additional energy to heat the passenger compartment in the car. DEKRA's experts say how to minimize the cold effect.

“At temperatures of around +10°C and below, the physical processes in the batteries of electric vehicles run more slowly. This reduces the performance of the energy storage units and thus also the effective range of the vehicles”, explains Andreas Richter from the DEKRA Electromobility Competence Center. According to various studies, the range of electric cars decreases by an average of 20 to 30 percent in winter.

Pre-heat the electric car before starting

In addition to getting the battery to an optimal temperature window by means of a heater built into the battery, heating the passenger compartment in the electric car swallows up a lot of energy. A garage space – preferably warm – is therefore worth a lot. It also makes sense to reconnect the vehicle to the charging station fifteen minutes before starting, so that the battery is pre-heated.

Electricity can also be saved by switching to recirculation mode and heating only the zone used in the vehicle, such as the driver's seat area, if the vehicle is equipped for that. In winter, it is also advisable to use the existing recharging facilities while on the road. In cold weather, more time should generally be allowed for recharging. And it is more effective to charge a warm battery than a cold one, the DEKRA expert reminds us.

Further savings potential can be exploited by changing your driving style to “winter mode”. Driving in eco mode saves energy, as does a steady, anticipatory driving style at medium speed so that strong acceleration and high speeds are kept to a

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minimum. Short trips with longer breaks increase consumption particularly sharply because the battery cools down in the process and has to be heated up again.

However, DEKRA experts warn emphatically against saving energy at the expense of safety. “Anyone who switches on the lights too late in poor visibility or does without ventilation or windscreen heating when the windows are steamed up is putting themselves and others in unnecessary danger”, emphasizes Richter.

Insert warmed pedelec battery only before the start

For pedelec riders, too, it's a matter of rethinking in winter. As with the electric car, the performance of the bicycle battery is optimally utilized if it is charged at room temperature and only used shortly before the start. If the pedelec parks for hours in the cold, one should better store the battery in the warmer bicycle cellar. Charging should not begin when the battery is cold, but only when it has warmed up to room temperature.

In icy cold conditions, a thermal cover also does a good job, as it keeps the battery warm longer and can thus increase the range. For longer rides on cold days, it can be useful to have a charger with you.

If the pedelec hibernates over the cold days, make sure that the charger does not remain permanently connected. The battery is best stored at a temperature of 10 to 20°C (50 to 68°F) with a state of charge of 30 to 60 percent.

About DEKRA

DEKRA has been active in the field of safety for almost 100 years. Founded in 1925 in Berlin as Deutscher Kraftfahrzeug-Überwachungs-Verein e.V., it is today one of the world's leading expert organizations. DEKRA SE is a subsidiary of DEKRA e.V. and manages the Group's operating business. In 2022, DEKRA generated preliminary sales totaling almost EUR 3.7 billion. The company currently employs over 48,000 people (as of 30.09.2022) in approximately 60 countries on all continents. With qualified and independent expert services, they work for safety on the road, at work and at home. These services range from vehicle inspection and expert appraisals to claims services, industrial and building inspections, safety consultancy, testing and certification of products and systems, as well as training courses and temporary work. The vision for the company's 100th birthday in 2025 is that DEKRA will be the global partner for a safe, secure, and sustainable world. With a platinum rating from EcoVadis, DEKRA is now in the top one percent of sustainable businesses ranked.