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How Heat Waves Reduce Range of Some EVs up to 31%

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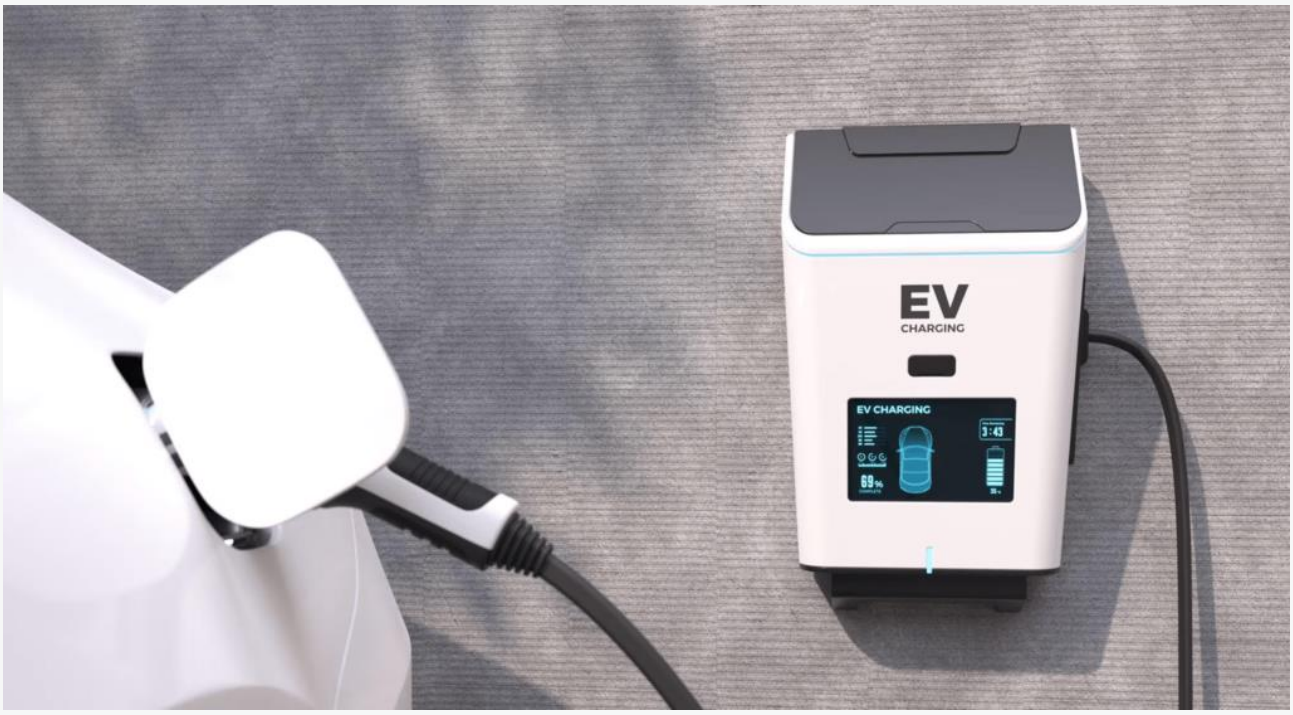

As heat waves continue to sweep across various parts of the globe, accompanied by intense weather phenomena such as heat domes, the scorching temperatures pose numerous challenges for those living in affected regions. In the midst of this, a new concern has emerged for electric vehicle (EV) owners. Recent research conducted by Recurrent, a company dedicated to tracking EV battery performance, has shed light on how extreme heat can significantly reduce the range of some electric vehicles by as much as 31%.

Heat Waves and EV Range

Recurrent's study, driven by an El Niño climate pattern that exacerbates heat waves, brings to the forefront the impact of soaring temperatures on electric vehicles.

Notably, the city of Phoenix, Arizona, has been experiencing relentless heat, with over 20 consecutive days of air temperatures surpassing 110 degrees Fahrenheit.

The Findings

Drawing on data collected from battery readings of approximately 7,500 electric vehicles, Recurrent sought to address concerns about EV performance during the summer season. While the study did not categorize the results by specific EV models or brands, it indicated a clear pattern of range reduction linked to increasing temperatures.

At 80 degrees Fahrenheit, EVs tend to lose about 2.8% of their maximum range. This figure rises to 5% at 90 degrees and dramatically escalates to a substantial 31% reduction at 100 degrees. Although the 31% decrease is based on limited data, Recurrent assures that they are actively gathering more information to refine their findings and provide a more accurate estimate.

Promising News about Air Conditioning

Despite the disheartening impact of heat on EV range, there is a silver lining in the data. Recurrent's study revealed that turning on the air conditioning has a minimal effect on an electric vehicle's range. This discovery should bring some relief to EV owners who may have worried about compromising their vehicle's performance while attempting to stay cool amidst the sweltering heat.

Contrasting Winter Challenges

Interestingly, Recurrent points out that certain electric vehicles experience greater range loss due to heating during winter months. The disparity is attributed to the difference between the ideal cabin temperature and the colder outdoor conditions. In summer, this temperature variance tends to be smaller, making cooling the cabin by 20 degrees more energy-efficient than heating it by 50 degrees.

Report Conclusion

As heat waves continue to be a pressing global issue, understanding their impact on electric vehicle range becomes increasingly vital for EV owners and enthusiasts.

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Recurrent's study provides valuable insights into how extreme heat can significantly affect EV performance, particularly as temperatures rise to the triple digits.

While the findings indicate a potential range reduction of up to 31% at 100 degrees, it is important to note that the research is continually evolving as Recurrent gathers more data. Nonetheless, the knowledge that air conditioning has minimal impact on EV range during hot weather should bring reassurance to those who rely on their electric vehicles daily.

As the world grapples with climate change and its consequences, further studies and advancements in EV technology will undoubtedly be crucial in mitigating the effects of heat waves on electric vehicle performance.