

Self-Heating, Fast-Charging Battery Makes Electric Vehicles Climate-Immune | TechExplore

By Pennsylvania State University

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Californians do not purchase electric vehicles because they are cool, they buy EVs because they live in a warm climate. Conventional lithium-ion batteries cannot be rapidly charged at temperatures below 50 degrees Fahrenheit, but now a team of Penn State engineers has created a battery that can self-heat, allowing rapid charging regardless of the outside chill.

"Electric vehicles are popular on the west coast because the weather is conducive," said Xiao-Guang Yang, assistant research professor in mechanical engineering, Penn State. "Once you move them to the east coast or Canada, then there is a tremendous issue. We demonstrated that the batteries can be rapidly charged independently of outside temperature."

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