



# New energy battery 39 degrees

What temperature should a battery run at?

InsideEVs reported that the Contemporary Amperex Technology, or CATL, second-generation sodium-ion power pack can operate well at minus 40 degrees Fahrenheit. It's a big improvement on the more mild mercury range for typical batteries. The report listed the ideal temperature at between 60 degrees and 110 degrees for lithium-ion cells.

Will there be a second-generation CATL battery in 2024?

In January 2024, BYD (Xuzhou) started construction of a sodium-ion battery project with an annual production capacity of 30 GWh. Initially, this is meant to produce batteries with an energy density of 105 Wh/kg, increasing to a density of 130 Wh/kg. This makes claims of a second-generation CATL battery with 200 Wh/kg seem unlikely.

What is a good temperature for EV batteries?

It's a big improvement on the more mild mercury range for typical batteries. The report listed the ideal temperature at between 60 degrees and 110 degrees for lithium-ion cells. Scientific American reported that at 20 degrees -- a fairly common reading during a New England winter, for example -- an EV's driving range drops by about 12%.

Will China's new battery withstand sub-zero temperatures?

A battery being developed in China is built to endure well below sub-zero temperatures, a boon for electric vehicle drivers in areas like America's Northeast. InsideEVs reported that the Contemporary Amperex Technology, or CATL, second-generation sodium-ion power pack can operate well at minus 40 degrees Fahrenheit.

What temperature does a CATL battery discharge?

CATL's second-generation sodium-ion cells can reportedly discharge normally even at -40 degrees Celsius (-40F as temperature scales converge). Depending on the make and model, EV batteries perform the best between 60F to 110F. The operating range can go much higher or lower, but that affects performance and range.

When will CATL launch a second-generation sodium battery?

On November 18, CATL announced its second-generation sodium battery. Speaking at the World Young Scientists Summit, chief scientist Wu Kai revealed the development of the battery and said that it would be launched in 2025.

This lithium battery can work in a minimum temperature as low as minus 70 degrees Celsius and can also function in heat up to a maximum of 80 degrees Celsius, ...



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Better yet, the power pack from China's Farasis Energy can also handle extreme cold, testing well across 5,000 cycles in a wide temperature range -- from minus-22 degrees to 149 degrees...

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This lithium battery can work in a minimum temperature as low as minus 70 degrees Celsius and can also function in heat up to a maximum of 80 degrees Celsius, according to its designer Jiang Chunlei, who is from the Shenzhen Institutes of Advanced Technology (SIAT) under the Chinese Academy of Sciences.

Scientists say the batteries would allow EVs to travel further on a single charge in cold temperatures - and they would be less prone to overheating in hot climates. This would result in less...

Now CATL, the world's largest battery maker, claims to have unlocked new levels of extreme weather performance with sodium-ion batteries. The role of sodium ions is similar to lithium ions, where charge-carrying ions travel between the positive and negative electrodes during the charge and discharge cycles.

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Addressing the World Young Scientists Summit, chief scientist Wu Kai said the new battery will be launched next year - four years after the release of CATL's first sodium-ion battery in 2021. The first generation had an energy density of 160 Wh/kg, while the next one is expected to exceed 200 Wh/kg. Mass production of the



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new product is not ...

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