

# An Energy Boost for Ultracapacitors

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Article Source: Technology Review, Published by MIT Ultracapacitors, energy-storage devices that absorb and release charge in minutes, could be a rapid-charging, cheaper, and safer alternative to batteries for electric cars. But commercial ultracapacitors can hold just 5 percent of the energy of lithium-ion batteries, providing short power bursts that limit them to uses such as acceleration in hybrid buses.

Researchers at Nanotek Instruments in Dayton, Ohio, have now made graphene electrodes that could lead to ultracapacitors with more than five times the energy density of commercial devices. By using grapheme - atom-thick sheets of carbon - Nanotek increases the surface area of the electrodes in the ultracapacitors, boosting the amount of charge that they can store. "We are trying to bridge the performance gap between an ultracapacitor and a lithium-ion battery," says Nanotek's Bor Jang, the lead author of a paper published in the online version of the journal Nano Letters.

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