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### Need to charge your cellphone?

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Technology makes it possible for us to charge a cellphone in new ways.

AP

***Just when you need to make an urgent call, you realise that your cellphone battery has died. Geeta Padmanabhan on the latest ways of charging your phone on the go***

It is a nightly ritual. Kick off your shoes, fling your bag, yank out your cellphone, and attach it to a power outlet before saying “I’m home!” That is if your cellphone use is moderate. If you need to charge it more than a couple of times a day, you need ideas — like using the office outlet, a friend’s home, a doctor’s waiting room, school lobby, restaurant, or even a well-maintained roadside teashop.

Now charge a cellphone without a charger with Cellboost, which plugs directly into the phone and the wall to provide a quick charge. Consider carrying a portable cellphone charger or car charger (ask.com). The problem is also the time — a full hour for a smartphone? This might change soon, says CNNMoney. An Israeli company has posted a video on YouTube with the prototype for technology that can charge a cellphone battery in just 30 seconds. StoreDot, the company behind the video, says the technology was the result of Alzheimer’s research at Tel Aviv University. “During that research, specific amino acids were isolated, which, with peptides were used to create nanocrystals,” said the CEO, StoreDot. “These have special properties that enable us to use them in various devices, such as a battery.” It charges quickly and continues to charge even after being unplugged. Marketing is just a two-year wait.

#### **Use your bike**

You can also use your bike to charge it. Using hot glue, zip ties, and duct tape, mount a small DC motor set-up on the bike so the chain will catch on the gear and spin the motor. For the electronics, cut the head off your charger, strip the wires, solder them to the motor. You may have to use some resistors depending on the voltage that your cellphone takes. Connect the cellphone and ride off! Not your scene? Get a portable power supply/battery, use your phone’s cigarette-lighter charger, and plug it into the “chargeit”. Recharge the chargeit when driving your car. Another way is to connect your cellphone to your laptop and share batteries.

You could buy a back-up charger happily called a “juice pack”. (Mophie, for example, makes them for Apple/Android devices). The ones that are in the market now double as protective cases for smartphones. Also, battery-powered backup chargers like Zagg Sparq can provide several full charges for your mobiles when the usual electrical options are gone. And don’t forget solar power. When everything fails, sunlight should help.

Not-so-welcome suggestions to conserve juice are disabling apps like Wi-Fi on an iPhone (check Quartz.com), texting less and turning down your screen’s brightness. Have you tried the free app Carat, which makes customised

suggestions on which power-sucking apps you could delete?

And here is an AP news item to warm your heart. Researcher Smitha Rao, working with her Taiwanese professor at the University of Arlington, Texas, may just have found a solution to cellphone batteries dying in your hands. The researchers have apparently designed a tiny windmill, hundreds of which can be embedded in a sleeve for a cellphone. If you wave the cellphone in the air or hold it up to an open window on a windy day, the windmill collection will generate enough electricity to recharge its battery. Rao's design blends origami concepts into conventional wafer-scale semiconductor device layouts.

The micro-windmills — a single grain of rice could hold about 10 of them — operate under strong artificial winds without material damage because of its durable nickel alloy and smart aerodynamic design. They were tested successfully in September 2013 in professor Jung-Chih Chia's lab. That is something to look forward to. But if the battery is out, take it back to the seller, says Engineer Kumaravel. The manufacturer has an obligation to dispose of e-waste carefully.

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