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GRAPHENE MAKES RAINY DAY SOLAR POWER POSSIBLE



Scientists at the Ocean University of China, have developed graphene-coated solar cells that will produce electricity from rain.

As technical advances continue to reduce the cost and increase the effectiveness of solar cells, a remaining disadvantage is that they do not produce power when it is raining. Now, researchers from the [Ocean University of China](#), Qingdao, have used graphene to produce hundreds of solar cell microvolts from simulated rainwater.

Graphene is a one-atom-thick sheet of carbon with particular conductivity. In aqueous solutions, graphene binds positively charged ions to its own electrons. Because rain contains salts as well as water, when used on a solar cell, graphene attracts the positive ions in the salts, which results in two completely separate layers of ions – one positive and one negative.

Energy generated by the force of impact of the rain on the solar cell can then be stored between the two layers of ions. Scientists found the solar-to-electric conversion efficiency of rainwater on a graphene-covered solar cell to be up to 6.53 percent, enough to generate hundreds of microvolts of electricity.

Further research into the use of graphene on solar cells will look at the viability of large-scale production of rainwater electricity, as well as ways in which to use the other ions found in rainwater.

We have already seen [mobile-controlled grids](#) bringing solar power to rural communities, and [portable energy mills](#) providing solar and wind power to disaster zones, as well as attracting

homeowners in less sunny climates. Could all-weather solar panels assist those at particular risk of severe climate change?

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