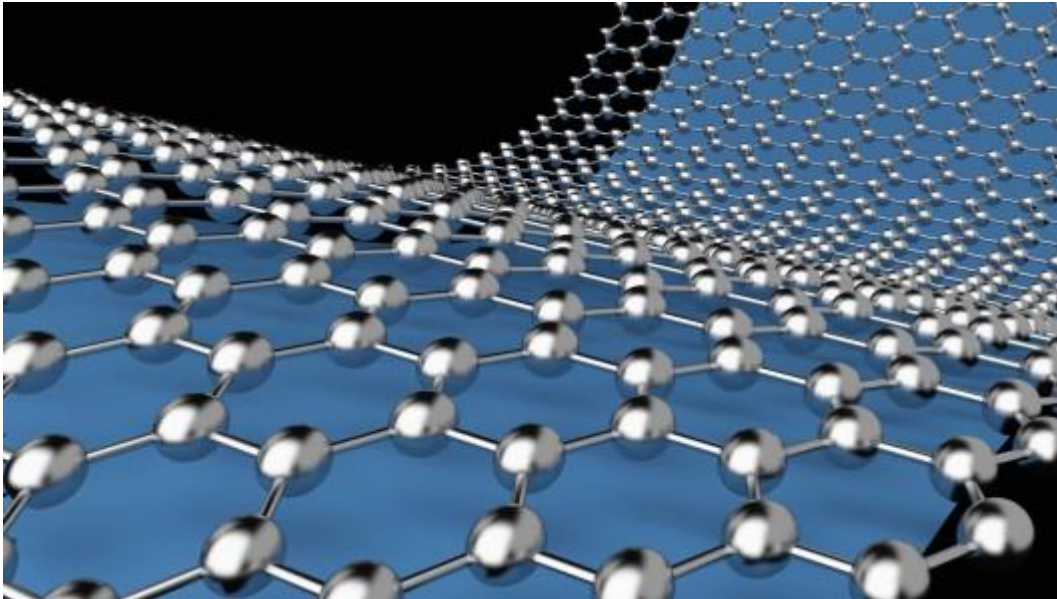


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Graphene-based solar cell hits record 15.6 percent efficiency

By [Darren Quick](#)

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Researchers are claiming a record efficiency of 15.6 percent for a new graphene-based solar cell (Image: [Shutterstock](#))

In 2012, researchers from the University of Florida reported a [record efficiency of 8.6 percent](#) for a prototype solar cell consisting of a wafer of silicon coated with a layer of graphene doped with trifluoromethanesulfonyl-amide (TFSA). Now another team is claiming a new record efficiency of 15.6 percent for a graphene-based solar cell by ditching the silicon all together.

The prototype photovoltaic device, created by researchers from the Group of Photovoltaic and Optoelectronic Devices (DFO) at Spain's Universitat Jaume I in Castelló and Oxford University, uses a combination of titanium oxide and graphene as a charge collector and perovskite as a sunlight absorber.

As well as the impressive solar efficiency, the team says the device is manufactured at low temperatures, with the several layers that go into making it being processed at under 150° C (302° F) using a solution-based deposition technique. This not only means lower potential production costs, but also makes it possible for the technology to be used on flexible plastics.

The team's paper is published in the journal [Nano Letters](#).

Source: [Asociación RUVID](#) (Spanish)

