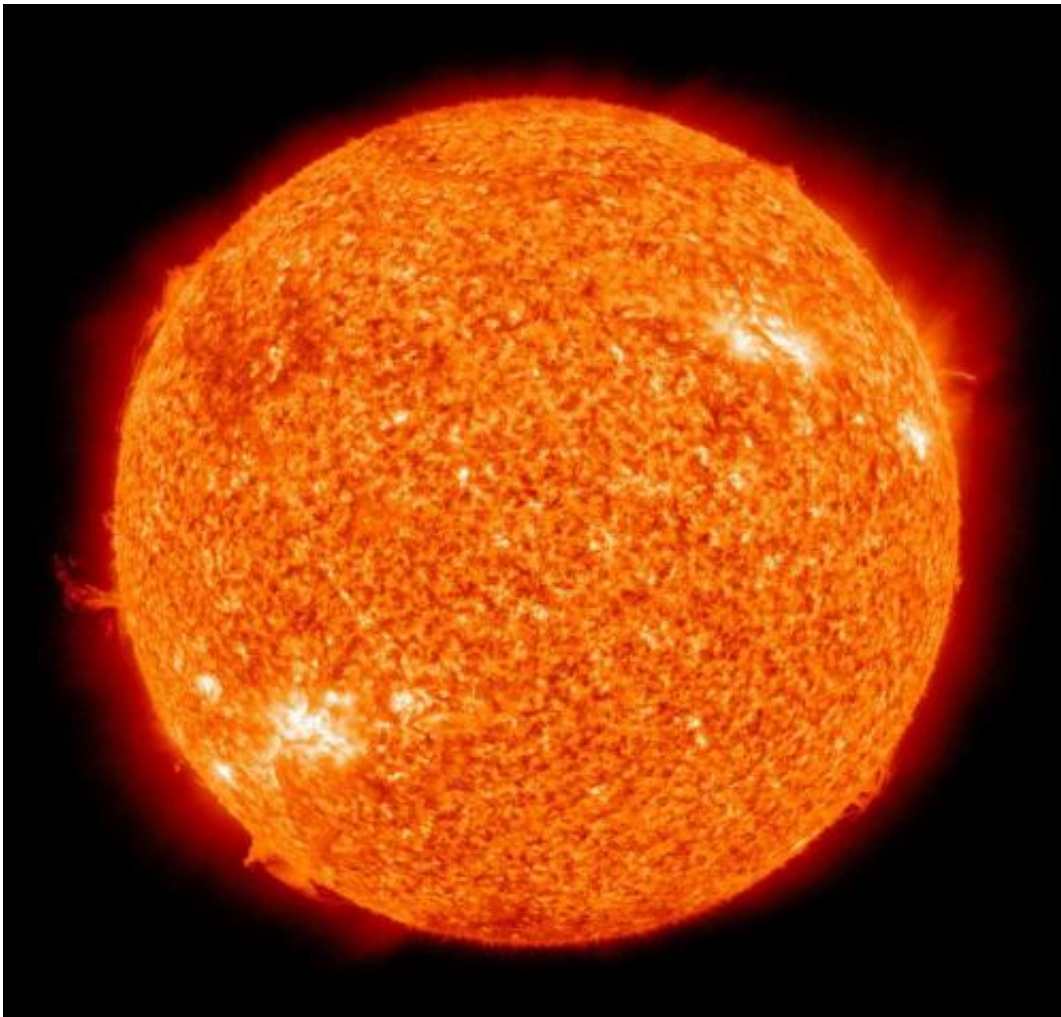


Solar eclipse will test Germany's green power grid

March 13 2015, by Frank Jordans



The Sun by the Atmospheric Imaging Assembly of NASA's Solar Dynamics Observatory. Credit: NASA

Will next week's partial solar eclipse turn off the lights in Germany?

Experts say the country's [electricity grid](#), which relies increasingly on renewable energy, faces a crucial test on the morning of March 20, when the moon will pass in front of the sun and block up to 82 percent of its light across Germany.

This [partial eclipse](#) will cause a sudden drop and then a surge in solar-generated power that will have to be balanced out to avoid instability in the grid, Germany's Fraunhofer Institute for Solar Energy Systems said Friday.

Scientists at the Freiburg-based institute ran simulations showing that conventional power plants and hydroelectricity pump-storage facilities should be able to cushion the impact of the eclipse.

They found that the strain on the grid would be greatest on a sunny day—such as March 20, 2014—when the drop and subsequent rebound would be strongest. Grid operators have likened the effect to 12 large power plants being switched off and 19 being switched on in a short space of time.

If the weather is overcast, the impact should be negligible, the Fraunhofer institute found.

Solar power from some 1.4 million installations contributed almost 6 percent to Germany's energy mix last year, but is set to rise steadily as Europe's biggest economy strives to meet 80 percent of its energy needs from renewable sources by 2050. Germany currently gets almost 26 percent of its electricity from renewables, including solar, wind, biomass and hydroelectric plants.

The upcoming eclipse will help grid operators plan for the next

comparable event in 2026, when Germany expects to have shuttered its [nuclear power stations](#).

© 2015 The Associated Press. All rights reserved.

Citation: Solar eclipse will test Germany's green power grid (2015, March 13) retrieved 20 March 2024 from <https://phys.org/news/2015-03-solar-eclipse-germany-green-power.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--