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# Inside Clean Energy: 6 Things Michael Moore's 'Planet of the Humans' Gets Wrong

The documentary's "facts" are deceptive and misleading, not to mention way out of date

BY DAN GEARINO

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Filmmaker Michael Moore released the documentary "Planet of the Humans" last week, a critique of the movement to renewable energy. Credit: Rich Fury/Getty Images

**INSIDECLEANENERGY**

Filmmaker Michael Moore's new documentary purports to expose hypocrisy at the heart of the renewable energy movement. But the video, released on YouTube last week, is a mess of deceptive and outdated anecdotes, and a succession of ridiculous arguments. It will almost certainly do far more harm than good in the struggle to reduce carbon emissions.

As a reporter who covers renewable energy and has a background in covering the business of energy, watching "**Planet of the Humans**" was a slog, the equivalent of being cornered at a backyard barbecue by someone who wants to share conspiracy theories.

The writer and director, Jeff Gibbs, and the executive producer, Moore, have put together something that is woefully dated—the kind of commentary that was more common years ago, when renewable energy was more expensive and less efficient and we knew much less about what an energy transition might look like. Today we know more and we know better, but to watch this film you'd think it was about 2010.

I reached out to the producers, but did not get a response.

Here are some questions that the film raises, and my answers:

## Are EVs Just as Polluting as Gasoline Vehicles?

The time-capsule quality of the film is underscored by a scene filmed in Michigan about a decade ago showing an event tied to the rollout of the Chevrolet Volt, an all-electric vehicle that began production in 2010. The narrator makes the point that the vehicle was powered by a local utility that runs almost completely on coal, as if to say that the environmental benefits of an EV are illusory.

The film is recycling an old argument: that the use of fossil electricity means electric vehicles have about the same emissions as gasoline vehicles. But researchers have looked closely at this and found that there is a clear emissions benefit of using an EV.

For example, the Union of Concerned Scientists **has found** that EVs have lower emissions—including emissions from generating electricity—than typical gasoline models, even in the parts of the United States that still rely the most heavily on fossil fuels for electric power.

The environmental benefits of EVs will increase as utilities continue to reduce their emissions and as batteries used in the vehicles become more efficient.

## Do Solar Panels Only Last 10 Years?

Planet of the Humans shows an unidentified man at a solar trade show who says, "Some solar panels are built to last only 10 years, so it's not as if you get this magic free energy."

I can only guess that this comment is from years ago, when panels were less durable and efficient than they are today. I know of no solar panel on the market today with such a short life span.



A workman installs solar panels in Colorado. Credit: John Moore/Getty Images

The National Renewable Energy Laboratory has done extensive work to determine how much solar panels degrade over time. Researchers there have found a **median degradation rate** of 0.5 percent per year, which means a median panel is still producing at 90 percent of its capability after 20 years.

Most solar systems come with warranties of at least 20 years.

## How Much Wind and Solar Does Germany Generate?

The narrator of the movie makes the point that Germany's substantial spending on renewable energy has had almost no effect. A graphic appears on screen showing that Germany's solar energy consumption is 1.5 percent and wind energy consumption is 3.1 percent. It doesn't list the year.

As you can see from **my story** published today about the German energy transition, this is a subject I've followed closely, and I knew something was awry with the film's statistics.

The filmmakers appear to be using percentages that include energy used for home heating and transportation to arrive at such low numbers for wind and solar, without making clear that this is what they're doing. It is, at best, misleading.



German Chancellor Angela Merkel walks past wind turbines while visiting a wind farm in 2010 in Kremplin, Germany. Credit: Sean Gallup/Getty Images

Last year, renewable sources generated more than **40 percent** of the electricity in Germany, more than double the share in the United States. Onshore wind energy is the country's leading renewable power source, with 17 percent of generation. Solar accounts for 8 percent. The other leading renewable sources are biomass (7 percent), offshore wind (4 percent), and hydroelectric (4 percent).

Germany's success in developing renewable energy and maintaining a reliable grid is a compelling counterpoint to much of what the film is arguing.

## Do Solar and Wind Energy Components Have a Carbon Footprint as Large as Fossil Fuels?

This question gets at the issue of "life-cycle emissions" of power plants, which takes into account the carbon emissions of every part of the life of a plant, including obtaining and manufacturing its components.

There is a deep body of research showing that wind, solar and nuclear power have much lower life-cycle emissions than natural gas and coal.

One example is a 2017 **paper** published in the journal Nature Energy that showed very small carbon footprints for wind, solar and nuclear, while coal and natural gas power plants had much larger carbon footprints, even if they were using carbon capture equipment to store their emissions. Carbon Brief **wrote about** this research at the time.



An older, but still widely cited, example is a 2013 [report](#) from the National Renewable Energy Laboratory that analyzed previous research on the subject to date and used it to produce ranges of findings. It showed a wide gap between life-cycle emissions of fossil fuel power plants compared to wind, solar and nuclear. For instance, the report showed that the median estimate of life-cycle emissions for a coal-fired power plant was about 100 times per unit of electricity than that of a utility-scale wind farm.

## Tesla's Factories Generate 100 Percent of Their Own Electricity. So Why Are They Connected to the Grid?

The film shows Tesla officials boasting about how their factories get 100 percent of their electricity from renewable sources. Then the camera pans from a factory to the power lines connecting it to the grid.



Credit: Spencer Platt/Getty Images

There are many reasons that a building needs to be connected to the grid even if it has access to its own electricity sources. First, the power lines can be used to export any excess electricity. Second, the grid is available as a backup whenever needed.

This doesn't mean that Tesla's claim of 100 percent renewable energy is incorrect. Most of the time, when companies make this claim, they mean that they buy or generate enough megawatt-hours of renewable energy to meet their needs over the course of a year, not that they have gone off-grid.

## Do the Environmental Concerns about Biomass Energy

# Mean that All Renewable Energy is Suspect?

The short answer is an emphatic "No," but there's a longer answer that gets to the heart of one of the film's biggest shortcomings.

The film spends much of its time criticizing energy systems that use biomass, including those that use wood chips to make electricity or corn to make ethanol for motor fuel.

There are some well-documented concerns with using biomass in terms of land use to produce feedstocks, and emissions related to the burning of the fuels. Many environmental advocacy groups do not support the expansion of biomass energy systems, and see a clear difference between biomass and other renewable technologies like wind and solar.

But by lumping together biomass with wind and solar in an argument about renewable energy, the film is oversimplifying. While biomass is clearly a form of renewable energy, the better question is whether it is clean energy. I'm not going to attempt to answer that one today other than to say it is a source of fierce disagreement.

*Inside Clean Energy is ICN's weekly bulletin of news and analysis about the energy transition. Send news tips and questions to [dan.gearino@insideclimatenews.org](mailto:dan.gearino@insideclimatenews.org).*

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