

CLIMATE CHANGE

US climate report stresses human role

Analysis is at odds with the policies of President Donald Trump.

BY JEFF TOLLEFSON

Humanity is fundamentally changing the planet by pumping greenhouse gases into the atmosphere, US government scientists said on 3 November in their latest assessment of climate science.

The average global temperature has increased by 1°C since the pre-industrial era, the 477-page report says — adding that the past 115 years comprise the warmest period “in the history of modern civilization” (see go.nature.com/2hpj3bo). The analysis warns that temperatures could increase by another 4°C by the end of the century, with dramatic consequences for people and ecosystems.

The findings are at odds with the policies of US President Donald Trump, who has questioned established climate science and vowed to protect and promote the country’s fossil-fuel industry. Trump’s stances led many scientists to worry that his administration would try to block or tamper with the climate-change assessment, but several scientists who helped to write the document reported that they experienced no problems.

“We weren’t interfered with, and we ended up producing something that I think is of tremendous value,” says David Fahey, an atmospheric scientist with the National Oceanic and Atmospheric Administration in Boulder, Colorado, and a coordinating lead author.

The climate-science report is the first volume of the next National Climate Assessment, a legally mandated analysis of the causes and impacts of global warming that is due in 2018. The second volume, released in draft form on 3 November, focuses on how climate change is affecting life in the United States, from crop yields to property damage caused by extreme weather. Another report, on the carbon cycle, was released in draft form on the same day. The US National Academy of Sciences is set to review the draft documents.

“The science speaks for itself,” says Don Wuebbles, a climate scientist at the University of Illinois at Urbana-Champaign and a coordinating lead author of the climate-science report. “It’s hard to counteract the basic observations and the truth of the science with any kind of political playing around.” ■



Renewable energy, including wind power, is at the heart of a multi-million dollar lawsuit.

ENERGY

Lawsuit targets science academy

Conflict over two journal articles leads to US libel case.

BY CHRIS WOOLSTON

A scientific dispute about the future of alternative energy has ended up in a US court. Mark Jacobson, an environmental and civil engineer at Stanford University in California, has filed a libel lawsuit against the US National Academy of Sciences (NAS) and a researcher who published a study in the academy’s journal that criticized Jacobson’s work.

Jacobson, who filed suit in a superior court in Washington DC in late September, is seeking damages of US\$10 million. He also wants the *Proceedings of the National Academy of Sciences* (PNAS) to retract a 2017 article, whose lead author was mathematician Christopher Clack. The NAS and Clack have until late November to respond, according to court documents. Some experts are worried that the lawsuit could dampen scientific progress on renewable energies. But others defend the move, saying researchers should be able to take advantage of all civil avenues in defence of their work.

Jacobson was the lead author of a high-profile PNAS paper¹ published in December 2015 making the case that the continental United

States could meet nearly 100% of its energy needs using wind, water and solar sources as early as 2050. A rebuttal² written by Clack — then at the University of Colorado Boulder — and 20 co-authors, published in PNAS in June 2017, questioned Jacobson’s methodology and challenged his conclusions. The authors argued, among other things, that Jacobson’s paper overestimated the maximum outputs from hydroelectric facilities, and the nation’s capacity to store energy produced by renewable sources.

In the lawsuit, Jacobson says that he alerted PNAS to 30 falsehoods and 5 “materially misleading statements” in Clack’s paper before its publication. The complaint states that almost all of those inaccuracies remained in the published version. Jacobson also argues that “the decision by NAS to publish the Clack Paper in PNAS has had grave ramifications” for his reputation and career.

In a letter³ accompanying Clack’s paper in PNAS, Jacobson and three co-authors wrote that Clack’s criticisms are “demonstrably false”. They maintained that their projections regarding hydroelectric power were based on an assumed increase in the number of turbines and were not a “modeling mistake”.

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