

# Don't gloss over social science! A response to: Glavovic et al. (2021) “The tragedy of climate change science”

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## Abstract

Glavovic et al. (2021) recently argued that the science-society contract is broken and that—given the urgency of climate change—scientists should agree to a moratorium on climate change research. We are grateful to the authors for their courage to spark this very important discussion, even if we disagree with their proposed solution. Glavovic et al. (2021) consider three solutions: continuing with science as usual, increasing social science research, and scientists' declaring a moratorium on climate change research and future IPCC reports; they argue that only the latter presents a real prospect for restoring the science-society contract. We certainly agree that the world has largely failed to act on the scientific knowledge on climate change. However, we disagree that the science-society contract is broken and that a moratorium on climate change research is a tenable or meaningful solution. Instead, we suggest that scientists have done their job effectively, but that powerful political and cultural forces are standing in the way of effective climate change mitigation and more social science and humanities research is needed to expose and address these power structures.

*Where does the problem lie—and where does it not?*

According to the authors, the tragedy of climate change science lies in the compulsion to do ever more research on climate change when the science-society contract is broken, leading to “diverting attention away from where the problem truly lies” (p. 2). To debate about the role of climate change science and whether we need a moratorium on this type of research, we first need to reflect on where the problem truly lies—and where it does not. We argue that the problem predominantly lies in the active resistance of powerful actors with vested interests to change the status quo from which they disproportionately profit. These actors encompass not only fossil fuel industries and other industries determined to sustain a fossil fuel economy, but also conservative, libertarian, and pro-corporate organizations and thought leaders opposed to government regulation (Mann, 2021; Michaels, 2008, 2020; Oreskes & Conway, 2010) and affluent individuals in high-emitting societies who—consciously or subconsciously—seek to protect their high-carbon lifestyles and disproportionate appropriation of planetary resources (Hickel et al., 2022; Nielsen et al., 2021; Stoddard et al., 2021; Wiedmann et al., 2020).

The science linking climate change to “dangerous interference in the climate system” has been clear for decades (Oreskes, 2004). But the idea that science could ever provide proof that compels political action misunderstands the role and power of science (Oreskes, 2004). So while we entirely agree that more science as usual will not bring about the transformational changes needed to mitigate climate change, we argue that the misrepresentation of science—and its exploitation by actors with vested interests—has led to international organizations at the science-policy interface such as the IPCC to provide ever more knowledge to policy makers in the (vain) hope that more scientific evidence will translate into climate action.

*The science-society contract isn't broken—the supply side model of science is*

Is the science-society contract broken? Glavovic et al. (2021) conclude that it is, because “scientists have been spectacularly unsuccessful at bridging the science-policy interface” (p. 2). But what is that contract? Most historians and science studies scholars, particularly in the US, would point to the post-World War II public investment in science, with the expectation that scientific research will produce knowledge that benefits society (Bush, 2021; Gibbons, 1999). We do not see any evidence to support the argument that this contract is broken. In the United States, Europe, and many other countries, science remains well funded and scientific

institutions are thriving. At universities, STEM programs are often nurtured in ways that programs in the social science, arts, and humanities rarely are.

When talking about the science-society contract, Glavovic et al. (2021) invoke Lubchenco's (1998) "Social Contract for Science", which (she argues) rests upon the assumptions that scientists will (p. 495): (1) address the most urgent needs of society, in proportion to their importance; (2) communicate their knowledge and understanding widely in order to inform decisions of individuals and institutions; and (3) exercise good judgment, wisdom, and humility. Importantly, she notes (1998, p. 495) that "science alone does not hold the power to achieve the goal of greater sustainability but scientific knowledge and wisdom are needed to help inform decisions that will enable society to move toward that end." In other words, knowledge is a necessary but not sufficient condition to drive action.

We argue that climate scientists have in fact been spectacularly successful in delivering their part of the contract by providing policymakers with the necessary knowledge to inform decision-making and by communicating the state of knowledge through the IPCC and beyond. Rather, we believe that the authors conflate the science-society contract with what we call the "supply model of science", which assumes that if scientists supply reliable knowledge, the world will act upon it. Clearly, that model has proved incomplete at best. We argue that the real tragedy is the failure of policymakers to translate this knowledge into action. The question, therefore, is how to address that.

#### *A moratorium on climate change science is untenable and undesirable*

A moratorium on climate change research is unlikely to be an effective solution for several reasons. Glavovic et al. (2021) focus on governments in addressing climate change and therefore the role of science in informing governmental institutions, but this neglects the role of social movements in transformational change (Thiri et al., 2022). While the IPCC was established with the specific goal of informing governmental signatories to the UN Framework Convention on Climate Change, science also plays a key role in providing knowledge to groups and individuals other than governments, such as social movements, business leaders and NGOs. For example, the international youth climate movement set a strong focus on the importance of "listening to the science", making trust in science a centrepiece of the movement. Thousands of scientists have supported this movement (Hagedorn et al., 2019). A moratorium on climate change research would deprive these actors

of knowledge that can aid the development of bottom-up approaches to addressing climate change. It would also deprive local and regional governments—who are not parties to the UNFCCC—of information crucial to adaptation.

Social science research across countries shows that the public wants scientists to play an active role in policymaking (Cologna et al., 2021). Lubchenco (2017) acknowledges direct engagement of scientists with society as an important part of the social contract. Therefore, acting on a moratorium could lead the public to perceive a decreased willingness of scientists to engage with policymakers and potentially threaten public trust in science, harm the social contract for science and hinder its effective renegotiation.

And what do we mean by science, anyway? Glavovic et al. (2021) focus their attention on *natural* science and dismiss the possibility that social science research could help us to break the barriers to meaningful action. But, if we are right that the principal barriers to action are social, cultural, economic, and political, then social science (and humanities) research is key to understanding those barriers and learning how to overcome them.

We agree that natural scientists have answered the key questions posed back in 1988 when the IPCC was established, and 1992 when the UNFCCC was written. But *more social science and humanities research* is needed to identify and deconstruct existing institutions, social practices and power structures that halt action on climate change (Feola et al., 2021) and obstruct workings at the science-policy interface. Research to date has exposed the ways in which the fossil fuel industry and its third party allies have acted and continue to act to stall climate action (see e.g., Brulle, 2020; Dunlap & McCright, 2015; Franta, 2018; Oreskes & Conway, 2010; Stoddard et al., 2021; Supran & Oreskes, 2021). Yet, much remains to be done as delegates of the fossil fuel industry continue to be present in large numbers at UN climate summits (McGrath, 2021), invited to sponsor climate change exhibitions (Osborne, 2021), and active in lobbying against meaningful climate policy (Brulle, 2020).

### *Where do we go from here?*

We believe that a moratorium on climate change research is not only untenable, but also undesirable for the scientific community and society at large. Instead, we call for increased research to identify, understand, and overcome actors with vested interests who stand in the way of climate action. We also echo the call by Feola et al. (2021) to increase the study of how existing institutions, power structures, social imaginaries and practices can be

deconstructed to achieve a sustainability transformation. We believe that science as usual will continue to fail to translate into (political) action unless the role of power is more adequately addressed. This will necessarily require an increase in funding for social science research on climate change mitigation, which has only accounted for a meagre 0.12% of all research funding between 1990 and 2018 (Overland & Sovacool, 2020). The IPCC could help support such a change by declaring the job of Working Group I to be complete, and focusing its efforts and attention on Working Groups II and III (Oreskes, 2021).

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