

Overcoming Political Climate-Change Apathy in the Era of #FridaysForFuture

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The non-result of the 2019 UN Climate Change Conference (COP25) confirmed that consensual political will for implementing the Paris Agreement is still lacking despite strident protests by civil society actors, such as #FridaysForFuture. Breaking this deadlock requires not only reconsidering global climate-governance architectures but also a more pronounced stance of researchers at the science-policy-society interface.

The climate crisis will become one of the greatest existential threats to humanity if global warming cannot be limited to a maximum of +2°C above pre-industrial levels by the end of this century. Predictions show that continuing on a baseline emissions trajectory—without additional mitigation—will lead to 3.7°C–4.8°C of warming with catastrophic impacts, both those we expect and those we cannot imagine.¹ Successful implementation of voluntary pledges that have been made by parties to the United Nations Framework Convention on Climate Change (UNFCCC)—the nationally determined contributions—would predictably put the world on track for 2.7°C–3.0°C warming compared with pre-industrial levels.² This falls far short of the goals set out in the Paris Agreement. Despite this dire prognosis, the political will for consequent implementation of the 2015 Paris Agreement is still lacking, confirmed once again by the failure of the 25th Conference of Parties (COP) in Madrid to deliver on the implementation of the Paris Agreement. In addition, and intricately linked, society is facing further grand challenges, including unprecedented levels of biodiversity loss, land degradation, water scarcity, and rapid urban growth just to name a few. Meeting the Paris goals and tackling the other manifold social-ecological challenges will require a fundamental reconfiguration of the predominant resource-intensive way of sustaining our societies, that is, a comprehensive social-ecological transformation across all areas of life. This will involve not only large-scale deployment of a broad portfolio of low-carbon technologies but also substantial behavioral changes.³ Dealing with the

inevitable residual impacts will necessitate transformational adaptation and risk-management strategies.⁴

Action on the climate crisis and other societal challenges still faces political gridlock due to powerful lobby groups' vested interests and ideological beliefs, causing other—real or perceived—priorities to take preference over a transformation toward a sustainable society. The non-result of the recent 2019 UN Climate Change Conference (COP25) in Madrid has shown again that particularly those countries where governments have close ties to the coal, oil, and agricultural industries show strong resistance in scaling up climate-policy ambitions. The individual, short-term economic-benefit thinking of powerful industries keeps postponing the urgently needed low-carbon transformation of our societies and thereby passes the increasingly difficult task onto future generations. Across the globe, countries are facing non-existent or failed climate-governance regimes—current policy and decision-making arrangements (including the UNFCCC's COP format, which is based on consensual decision-making procedures) appear incapable of solving the climate crisis or, indeed, other highly complex global challenges of the Anthropocene.⁵

At the same time, the world has been witnessing newly emerging youth-led bottom-up and grass-roots movements protesting government inaction on the climate crisis since the beginning of 2019. A simple but unambiguous message emerged as a common denominator of these individual groups: “listen to the science.”⁶ These movements have gained visibility and traction, and many have managed to escalate climate policy

to the center of public conversation and mainstream media attention. Moreover, these growing movements are important not only regarding their potential impact on climate policy but also because they generate a cohort of democratically active citizens.⁷ Next to “Extinction Rebellion” and the “Sunrise Movement,” one of the most prominent of its kind is the “#FridaysForFuture” initiative. During COP25, these civil society actors stridently called for completing the remaining tasks in operationalizing the Paris Agreement. Unfortunately, they had little success and have even been barred from the UN climate talks after staging an unauthorized protest at the COP venue.

To support #FridaysForFuture's claims with the best available scientific evidence, a group of German, Austrian, and Swiss scientists (from the so-called DACH region) came together in early 2019 as “Scientists for Future” (S4F) to declare: “[The young protesters'] concerns are justified and supported by the best available science. The current measures for protecting the climate and biosphere are deeply inadequate.”⁸ More than 26,000 scientists across all scientific disciplines have signed a statement started by this group of scientists. I have been part of S4F in Austria, where I act at the intersection of the two initiatives. When I officially “handed over” the S4F statement to the young activists in March 2019 in front of some 30,000 people at the *Heidenplatz* in Vienna (Figure 1), I realized that a potentially unique window of opportunity was opening. I began pondering how these burgeoning youth-led movements might catalyze broader public support for and engagement in the social-ecological



Figure 1. The Author (at the Very Bottom Right) “Handing Over” the S4F Statement, which Was Signed by More Than 26,000 Scientists from Germany, Austria, and Switzerland, on March 15, 2019, at the Heldenplatz in Vienna, Austria
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transformation. Scaling up is key, given that current empirical research on non-violent activism has shown that only as much as 3.5%–5% of a nation’s population can be sufficient to kick off transformational political processes.^{9,10} But how do we reach this critical threshold in the case of the transformation to a low-carbon climate-resilient society such that elected political leaders eventually have to get active on this “wicked” problem?¹¹

Building Blocks of the Social-Ecological Transformation

After I’ve talked to many young activists, laypersons, research colleagues, practitioners, and policy makers since then, three aspects have crystalized as essential building blocks for catalyzing broad public support for the social-ecological transformation that #FridaysForFuture and other climate movements are demanding. However, these building blocks are subject to serious barriers that need to be tackled, and science can play an important role in doing so.

A first building block toward broad public support of and engagement in the so-

cial-ecological transformation is a broad realization of the existential risk that the climate crisis is imposing on us humans. Only when a representative part of society arrives at a shared understanding of the problem and sees the urgent need for taking action will climate change become a central topic in public and political discourses. Initiatives such as #FridaysForFuture or Extinction Rebellion are now fostering substantial public support for the topic, which already materializes in many political parties jumping on the climate-crisis bandwagon in the DACH region, the US, and elsewhere. However, serious barriers toward an even broader realization of the problem still exist. These barriers relate to the regional and temporal disconnect between the causes and impacts of climate change, as well as to manufactured uncertainties about climate change by climate-change deniers, who are steered by vested industrial, political, and ideological interests.

A second building block relates to governance issues in identifying and implementing concrete options for tackling the climate crisis. This aspect is constrained by the fact that often roles and

responsibilities for acting against the climate crises are not clearly identified and allocated across different levels of governance and individual stakeholders. Hence, even though potential solutions exist, no one feels responsible for their implementation. This barrier is paramount for both climate-change mitigation and adaptation. Where soft and hard limits to adaptation occur, there might not even exist socioeconomically or technologically feasible options to deal with climate-related impacts. Options and governance frameworks to deal with the resulting losses and damages from climate change are still not readily available and are the subject of fierce policy debate.¹²

A third building block relates to individual risk perceptions and perceived self-efficacy. Further barriers exist in this context at both the individual and collective levels. At both levels, fatalism (the belief that the climate crisis is unstoppable) decreases behavioral and policy responses to climate change.¹³ A related aspect concerns perceived self-efficacy. If individuals or collectives, such as the above-presented bottom-up youth-led

initiatives, get the feeling that their activism does not have an impact on climate-change policy and practice, they will experience frustration and might stop investing their energy into mastering the social-ecological transformation. Usurpation of individuals or socioenvironmental initiatives by political actors to gloss over their own insufficient responses can have an equally thwarting effect on sustainability action even among the concerned. Moreover, although individual actions for mitigating and adapting to the climate crisis are important, having the right framework conditions in place is even more relevant. Without the right incentive structures (e.g., national and supranational tax and subsidy schemes) in place, individual measures taken by a subgroup of the population will not be sufficient to achieve the substantial reduction of greenhouse gas emissions necessary for remaining below 2°C global warming. Currently, the #FridaysForFuture movement is still running strong, as reflected by the many local, national, and even global climate strikes that the young activists have organized during 2019. This could change, however, if concrete results in terms of more ambitious climate-policy measures do not materialize.

A New Role for Science

Discussing the building blocks and associated barriers for fostering individual and collective action on the climate crisis brings to the forefront that an informed society with a high expectation of self-efficacy is key to mastering the social-ecological transformation toward a sustainable society. Moreover, it becomes apparent that governance—the institutions, rules, conventions, processes, and mechanisms by which policy decisions are taken and implemented—is critical yet sorely underdeveloped for the social-ecological risks facing humankind. Governance is more than government, and transformation will require a significant engagement not only of the state but also of the scientific community, market actors, and civil society.

Considering this, research must also change its scientific approaches, its methods of science communication, and its perceived role in society. Truly inter- and transdisciplinary research is needed to support the complex transformation to-

ward a sustainable society and the integration of novel civil society bottom-up initiatives with top-down policy and decision making. To that end, it is crucial that transformative science apply a comprehensive systems perspective by integrating (1) the long-standing tradition of top-down model-based systems analysis for informing society about the potential consequences of (in)action on the climate crisis with (2) bottom-up soft systems analysis for informing and engaging with stakeholders and transforming governance institutions and processes. Engaging multiple actors with their alternative problem frames and aspirations for sustainable futures is now recognized as essential for effective governance processes and ultimately for robust policy implementation.¹⁴ Indeed, some researchers see the 21st century as the “post-participation era” because of the growing recognition that stakeholders need not be merely participants in expert-generated policy strategies; experts can be participants in stakeholder-generated strategies—what is termed co-generation. Co-generation requires active and meaningful engagement of experts with policy actors across the whole policy cycle—from problem framing to policy implementation. This also means that novel research methods for comprehensive stakeholder engagement (e.g., social simulations that support the identification of roles and responsibilities in climate-change mitigation and adaptation) must be developed and employed.¹⁵

Researchers have to leave their comfort zones and connect more directly with all parts of society, for example, in citizens’ fora, where the current knowledge base on climate change—the scientific facts—is being openly discussed and false facts are being debunked. Through my recent engagement in the S4F movement and my experience in systems and sustainability science, I realize that the role of science is already changing from “advisor” to “partner” in civil society, policy making, and decision making. By doing so, scientists can play an important active role in implementing the desperately needed social-ecological transformation of our society without becoming policy prescriptive. The recent failure of COP25 has shown that societal engagement of the scientific community is more urgently needed than ever in order to lay the objective facts on

the table and thereby further increase the pressure on the obstructionist states. If there is a positive aspect to the results of COP25, it is the fact that the increasing pushback by the foot draggers can be interpreted as their last frantic response against a growing consensus throughout society that a low-carbon climate resilient transformation is inevitable. Let us not miss this window of opportunity that the young generation’s demonstrations for a sustainable future have opened.

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