

Low-Carbon Research: Building a Greener and More Inclusive Academy

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Abstract

This essay examines how the fossil fuel energy regimes that support contemporary academic norms in turn shape and constrain knowledge production. High-carbon research methods and exchanges, particularly those that depend on aviation, produce distinct exclusions and incentives that could be reformed in the transition to a low-carbon academy. Drawing on feminist STS, alternative modes of collective research creation and collaboration are outlined, along with an assessment of their potential challenges and gains. This commentary concludes with several recommendations for incremental and institutional changes, along with a call for scholars of social and technical systems to uniquely contribute to this transition.

Keywords

knowledge production; energy transition; air travel; research methods; equity

I start with these two statistics: the richest 10% of the global population contribute approximately 50% of all carbon emissions, and the carbon footprint of the richest 1% is equivalent to roughly 175 times that of the poorest 10%. Clearly, the impacts of individual choices are unequal. Yet, within the academy, even precarious grad students may find themselves emitting in step with global elites. To be a researcher, as Johan [Gärdebo and Kristoffer Soldal \(2017\)](#) colorfully note, is almost always and unthinkingly to travel. Whether in the pull of travel funding or the push of job market anxieties and tenure requirements, the university structurally incentivizes the drive to the airport.

This effects something of a self-reflexive blind spot on climate. Universities with seemingly ambitious sustainability goals often avoid including aviation within their accounting.

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Yet, far disproportionate to heating buildings or cooling libraries, air travel is among the most carbon-intensive commercial technologies and the fastest growing sources of greenhouse gases. Moreover, it may be simply incompatible with a climate safe energy transition. Carbon offsets are largely ineffective and, because long-distance aviation does not have viable renewable alternatives on its wings, this problem cannot be addressed through incremental efficiencies as with road, rail, and ocean travel. To this end, it is useful to think about scholarship facilitated by jet fuel as a unique and particularly troubling part of the academy's carbon costs.

Yet the choice to travel is not one met by detached and rational actors. We are travelers before we are carbon counters, and travel exerts a continued discipline on who it is possible to be within academia. Our dominant ideal is that of a distinctly cosmopolitan scholar, one with (a course load that is sufficiently light and a travel budget that is sufficiently heavy to afford) multiple opportunities to present, research, and collaborate in almost every corner of the globe. Aviation is practically a precondition for participation in academic life today.

The pleasures promised by such a model are significant, yet not without their social differentiation. It is possible to analyze the structural factors engendered by jet fuel, as well as their concomitant exclusions. The result is a complex litany.

Firstly, travel funding between institutions, departments, and tenure lines quickly divides those lining up at the departure gate. Nor are all points of departure equal; some scholars are asked to go further, more often, and with greater costs. There are very real geographic burdens as international—but still predominantly European and North American—meetings hold more social capital than regional events. The result is that we are far more likely to hear about research concerning the Global South from a Northern researcher than from someone living and working in these communities. Adjunct, caregiver (predominantly women), independent, and first-generation scholars bear a further, disproportionate financial burden.

Crossing international borders, as air travel facilitates like no other method of travel, is an additional challenge for many. Besides the usual drama of missed flights, post-9/11 securitization, ableist mobility norms, and prejudicial policing present barriers to participation. Such factors range from unwelcome pat downs to full interrogations and are disproportionately subject to gender non-conforming travelers and researchers from the Middle East. The United States' Muslim Ban is the latest and most blatant form of long-running exclusionary visa practices. In this way, jet-fueled research norms build walls around research communities at the same time that they push carbon dioxide out.

Finally, planes also mediate access to field sites and to archives, changing our expectations around research production and novelty. This can have the effect of maintaining

something of a pioneering and extractive attitude towards new materials. Because informants and archivists are not fully acknowledged within the standards of single-authorship, the distance that planes afford intensifies the appearance of singular authority in what is more candidly a distributed effort.

The recognition of these structural exclusions is as necessary as carbon accounting in the efforts to remake the academy. The second, and necessarily speculative, task is to then ask: What would research and exchange look like if—for instance—we could all only board a plane once a year?

Without abundant jet fuel, international fieldwork and archival research would become singular, annual opportunities, urging us to linger longer along fewer distant shores or to better attend to the communities in which we are already located. Conference travel would become a major commitment, one we would be loath to waste in half attendance. For the rest of the year, we would have to find different ways to access data and interlocutors from afar.

This would likely change how we read and write. Instead of frequent travel to distant places to produce predominantly single-author work, Global North scholars would be incentivized to cite distant authors writing about their own cultures and histories. Local research assistants, possessing newfound power over primary data collection, would further be in a better position to offer correctives and negotiate authorship and remuneration from Northern scholars, potentially challenging the balance of global citation practices and extractive research. Restoring the weight of distance could thus have something of a leveling effect in global knowledge production hierarchies.

A network of collaborators can further extend to archival work. Greater efforts in digitization, as well as parallel open access and peer archiving, could further democratize historical research. Just as scientific publishing is moving towards the digital reproduction of primary data alongside research findings, historical documents and primary sources can be shared online by their interpreters, adding value to the research community and further strengthening their claims across a potentially [low-carbon cloud](#). Removing barriers to access would serve to reward novelty in interpretation rather than the size of one's travel budget.

This turn to the digital is also a key component to visions of green conferences and a more equitable playing field therein. Efforts such as the University of California Santa Cruz's "nearly carbon neutral" conferences, coordinated via YouTube, already model a path to greater participation within and beyond the academy while dramatically slashing carbon costs.

However, a shift to the digital must further imply a shift within the social if such transitions are to be successful. As scholars of knowledge formation and cynical attendees alike

attest, the real substance of a conference often lies more in dinner conversation than in the Q&A. To this end, two responses should be stressed. Firstly, institutions can and must do more by way of formal and informal professionalization within regional hubs (as it is certainly unideal that pragmatic advice and cautionary tales are regularly only shared in hotel bars). Secondly, we should be cautious not to sell digital communications and their capacities for community development short. Privileging only face-to-face interaction reproduces ableist exclusions and ignores the other forms of social coordination that computer-mediated communication offer. Instead of settling for corporate platforms, we could do better together, taking the deep and horizontal connections found in early online communities or cyberfeminist organizing as our model.

Finally, thinking with feminist technoscience allows us to identify the advantages low-carbon fieldwork practices afford in the study of a still-high-carbon world. Abstaining from high-carbon travel, but still making the trip by other means, is a good way to bring the body forward in our writing and to produce “stranger’s accounts” of fossil-fueled infrastructure. Low-carbon transit can help break what Stephanie LeMenager has called “the problem of proximity” to hegemonic petrocultures (2014, 104) and often offers more ethnographic insight than the typical commute. This is all to say that Donna Haraway’s observations about situated knowledge and privileged perspectives also extend to the energy regimes that bring our bodies to the field and mediate how close and for how long we linger within it.

The default expectations of high-carbon research are currently writ into our professional standards. Change requires different incentives and constraints, perhaps guided by travel-savvy carbon accountants or union contracts that tackle structural barriers posed by mobility ideals. These goals extend beyond individual scholars or universities. Winning them requires comparably-scaled structures of organization and solidarity.

A meaningful and eminently do-able first step would be to sanction remote video presentations within traditional conferences. This would address many of aviation’s barriers to participation, prevent thousands of tons of CO₂ from being emitted, and potentially reduce the physical size of conferences, perhaps allowing for proceedings to move back into university campuses where carbon costs, labor rights, and registration fees can be more advantageously determined.

The pleasures and promises of high-carbon research will be missed by many, to be sure, but not by all and not all equally. When we contemplate a departure from these norms we should do so with an eye to what we would like to make differently, rather than assume that this transition will happen spontaneously, or only begrudgingly. This is where STS scholars are well

equipped to lead. We know how institutions and infrastructures can lock in standards and trajectories. We know how, even within seemingly stable systems, there is still a role for contingency. We can see how there is much to change, but also how much there is to gain in doing so. We can turn our analytic expertise into future-oriented praxis.

Author Biography

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