

Rieger, Annika

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What have corporations got to do with it?

A political economy approach to organizations and climate change

Annika Rieger

Ecological issues are often seen as only one of the many “problems” societies face today, even though they go deep and affect everything – from physical disruption and displacement to perhaps more subtle long-term changes in temperature, flora, and fauna that alter the face of the planet and the norms of everyday life. As a result of this view, the study of the environment has been siloed into the realm of “environmental sciences” with a few “environmental fill-in-the-social-science-blank” subfields scattered about. This is not to say that only “environmental” problems are important, but that across all disciplines and subfields, greater attention needs to be paid to these issues – especially to the ways in which environmental problems intersect with other social problems, including those of race, gender, and class.

When studying environmental problems, social scientists, especially sociologists, have concentrated their efforts on two “levels”: the macro level, focusing especially on nations, where most environmental data is recorded and where many publicized efforts (e.g., the annual UN COP, Emissions Trading Systems, etc.) have been made to address the problem; and the micro level, focusing especially on individuals, where environmental problems are keenly felt (e.g., pollution of the local environment and result-

ing health issues such as asthma) and people’s opinions on climate and science impact their decision-making. This leaves the meso level of organizations largely underexplored. Economic sociologists could make important contributions at this level, adding to a growing body of literature (see, for example, Coen, Herman, and Pegram 2022; Galli Robertson and Collins 2019; Grant, Jorgenson, and Longhofer 2020; Grant and Vasi 2017; Leffel, Lyon, and Newell 2024; Rieger 2024). More specifically, there is a particular lack of theory that reaches across the macro-meso gap, one that economic sociology is well poised to help fill.

Beyond the gap in the literature, there are pressing reasons to study environment at the meso level. What corporations “do” matters. They have contributed, and continue to contribute, an outsized proportion of environmental harm. The organizational sociologist Charles Perrow, in an oft-cited quote, once described corporations as “the most intensive and effective environmental destroyer” (Perrow 1967, 6). CO₂ emissions are the most common metric for measuring this contribution, given their role in driving global warming and subsequently climate change. Since 1988, over 70% of all CO₂ emissions can be attributed to the economic interests of 100 oil and gas “majors,” the largest corporations in the industry.¹ In 2022, 28% of that year’s CO₂ emissions could be attributed to 13,500 corporations.²

Corporations have also supported the duality between “green” and “brown,” with a select few who see potential for profit pursuing green products and the rest doing their best to ignore the environmental implications of their operations. But even for the most powerful transnational corporations, this is becoming a more difficult task. Environmental social movements are increasing pressure on and scrutiny of corporate actions. Consumers are increasingly seeking out better green alternatives for mainstream products and services. Governments at the national and subna-

Annika Rieger is an assistant professor of sociology in the School of Social Sciences at Singapore Management University. She received her PhD in sociology from Boston College. Her current projects utilize quantitative and computational methods to investigate how transnational corporations contribute and respond to climate change, as well as how national governments and civil society might mitigate corporate emissions. Annika Rieger’s research has been published in journals such as *Social Problems*, *Environmental Sociology*, *Sociology of Development*, *Human Ecology Review*, and *Energy and Social Science Research*. amrieger@smu.edu.sg

tional level are requiring more transparency in corporate environmental outcomes, as well as plans and reporting on action to improve those outcomes. Even some shareholders and financial institutions, worried about the long-term horizon of their investments, are ramping up pressure on corporations to discontinue

business as usual. This raises the question of what the next steps might be for corporations and what the options are.

Many of sociology's key insights involve contextualizing social problems to understand how to move forward. While much work has already been done to understand the social contexts driving the climate crisis, more work is needed to integrate the different levels of analysis. Corporate emissions are an ideal example here: corporations are major contributors to climate change, and so overlooking their role leaves a major component of the crisis unexamined. However, focusing on corporate-level variables alone to explain corporate-level outcomes also risks overlooking the importance of the larger context in which corporations operate.

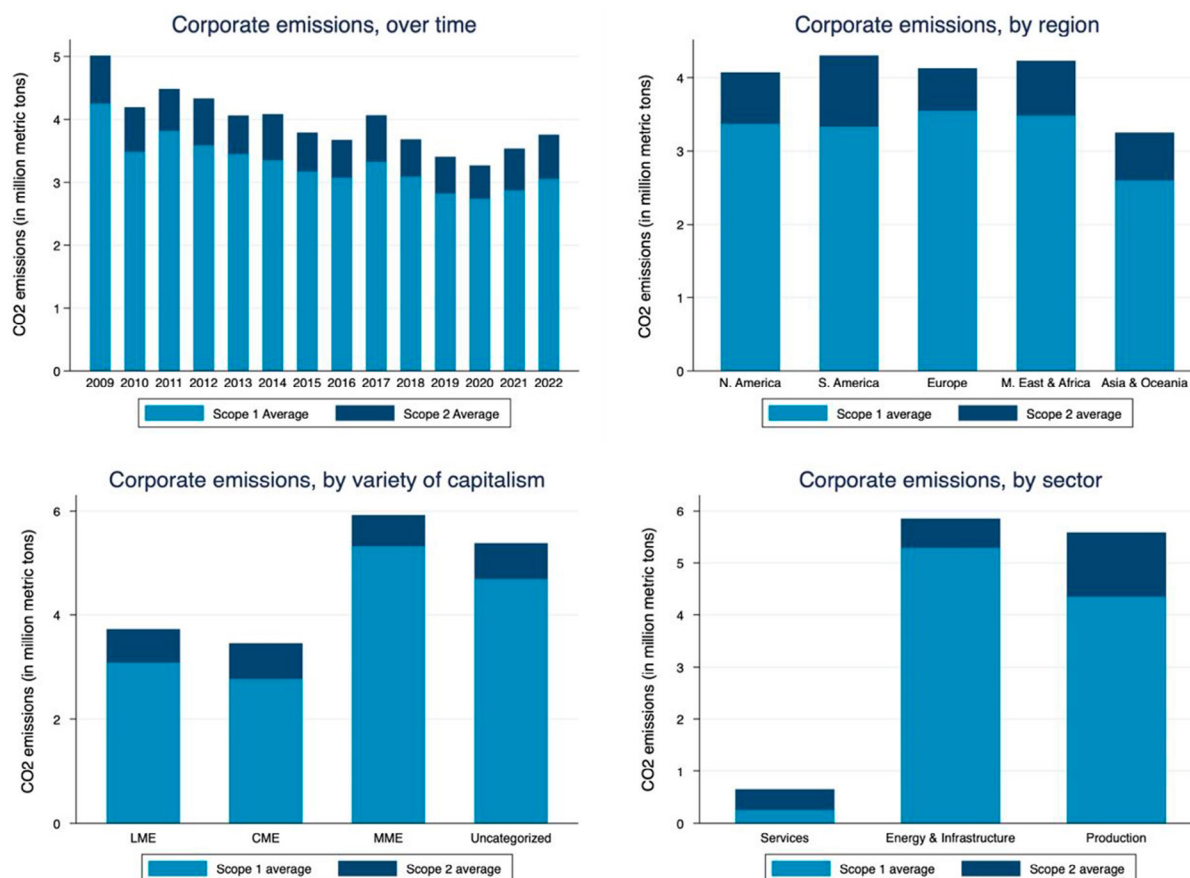
This is the first area where economic sociology's strengths could contribute to environmental sociology. The field has given rise to many theories that consider the impact of higher-level context in influencing organizational outcomes. Some, like Pulver's (2007) contestation approach, were developed with environmental outcomes in mind. Others, like Fligstein and McAdam's (2012) field approach, focus on the meso level but suggest the importance of considering actors beyond corporations themselves. The Varieties of Capitalism (VoC) theory, which focuses on categorizing coordination styles between governments and corporations (Hall and Soskice 2001), has already been applied to understand national outcomes (for example, Benney 2019); it could also be applied to organizational outcomes. There are certainly other theories that could prove useful.

Deciding on a theory is one thing; deciding what to use as an "outcome" is another. In quantitative research on environmental outcomes, carbon dioxide emissions are used most often. Readers might already be familiar with the different ways of accounting for national emissions – as the result of production (location-based) or consumption (embodied in trade). Corporate emissions are also broken down, but into three scopes, each measuring emissions from different sources that a corporation is responsible for. Scope 1 emissions are those produced via the direct consumption of fossil fuels, while scope 2 emissions are considered "indirect" in that they are associated with the production of energy that is then consumed by the corporation, typically in the form of electricity. Often not accounted for are scope 3 emissions, which encapsulate all indirect emissions for which the corporation is responsible, notably those from the consumption and disposal of products after purchase. While scope 3 emissions are, for many corporations, the largest component of the three, there is disagreement over the best way to account for them. Many corporations do not

track their scope 3 emissions at all, and most accounting and reporting requirements have made it optional. This is no accident – while true that accounting for these emissions will be more difficult than accounting for scopes 1 and 2, it is much easier for corporations to appear sustainable if they can push their scope 3 emissions off onto consumers.

Perhaps one of the more pragmatic reasons why organizational environmental outcomes have been understudied is a relative lack of data availability. Some corporations are required to report some environmental data, but not all corporations, and there is little consistency across nations. Privately held and small and medium enterprises (SMEs) are often exempt from much standardized reporting. Some industries are required to report environmental outcomes, but often only when they are above a certain size. An example of this inconsistency is the US Environmental Protection Agency's (EPA) Toxic Release Inventory, which provides important data on pollutants that are harmful to both human and environmental health. Reporting is required and the data are compiled by the national government, resulting in a comprehensive and reputable data source. But there are still downsides: only corporations in certain industries are required to report and, even then, only those above a certain size. Further, the data are reported by the corporations rather than collected directly by the EPA, provoking self-reporting concerns – but this is an issue that plagues many sources of emissions, even at the national level. The current most comprehensive dataset of corporate emissions (and the one I use in my own research) is from the CDP (formerly the Carbon Disclosure Project), which collects emissions and Environment Social Governance (ESG) information via survey. While the dataset represents a powerful and polluting bunch – responsible for almost a third of global greenhouse gas (GHG) emissions in 2022 – it is also from a self-selected group, albeit with some nudging from shareholders. A "gold standard" for environmental outcomes data is that on emissions from powerplants from the CARMA database, which reports emissions data measured via sensor directly, so with no worries about reporting bias.

However, there are two trends that I see improving the variety and quality of environment data – and thus the desirability of studying organizational outcomes. First is the advent of "big data" and computational methods which have widened not only the size but also the scope of what can be used as a dataset. Environmental reports, earnings calls, and other kinds of corporate documents can be collected and analyzed en masse. Another benefit of the wealth of data is the ability to look for "rare" cases; here much is to be learned from what is given less attention. The large size of



Figures 1–4. Corporate emissions, over time and broken down by region, sector, and political economy type

LMEs: Australia, Canada, India, Ireland, New Zealand, South Africa, Thailand, United Kingdom, United States.

CMEs: Argentina, Austria, Belgium, Brazil, China, Denmark, Finland, Germany, Japan, Mexico, Netherlands, Norway, Peru, Philippines, South Korea, Sweden, Switzerland.

MMEs: Chile, Colombia, France, Greece, Italy, Portugal, Spain.

Uncategorized: Bermuda, Guernsey, Hong Kong, Hungary, Israel, Kenya, Luxembourg, Singapore, Taiwan, Turkey.

these datasets means that even relatively rare instances can have enough cases for further study. My coauthor, Isak Ladegaard, and I used this approach to identify, track, and analyze discussions of climate change topics in earnings calls (Ladegaard and Rieger, forthcoming). The quarterly earnings calls from 24 oil and gas majors over 14 years produced enough data to quantitatively track different topics over time and by region, as well as qualitatively analyze the framings these terms were used to convey. Second, growing scrutiny of organizations is improving the quality and availability of their data. Publicly traded corporations in particular are increasingly required to disclose environmental information – nine nations and the EU have laws on the books or in the pipeline.³ The CDP dataset has certainly benefited from the mainstreaming of reporting pressure, with the sample size improving every year: over 23,000 corporations reported their emissions in 2023, up from 9,500 in 2020.⁴ While this will ease concerns of sample selection bias for some nations, other nations and industries will remain underrepresented without international pressure and requirements to report emissions.

Sociologists are no strangers to finding ways to work with the data at hand. In this spirit, figures 1–4 show variations in corporate scope 1 and 2 emissions from 2009 to 2022 to illustrate some general patterns in corporate emissions. The data are from the CDP and represent a subset of 1,362 corporations with at least nine years of emissions data, representing 43 different nations. Figure 1 shows change over time; overall, the average amount of emissions reported has declined since 2009, indicating either some improvement in the sustainability of the subsample – or perhaps some sort of emissions offshoring. Notably, 2020 represented a low point for average emissions, but like national emissions, there was a rebound in subsequent years, erasing any improvement (i.e., decrease) since 2017. The variation is largely attributable to scope 1 emissions. Scope 2 emissions are more stable. Figure 2 shows differences between regions; there is perhaps a surprising amount of similarity, excepting Asia and Oceania, where corporations report lower emissions on average. There is also some variation in scope 1 emissions, with the lowest average amount reported in Europe and the highest in South America.

Figure 3 shows the differences between sectors; the CDP reports 14 industries, which I have collapsed into three general areas. Unsurprisingly, the services sector has the lowest average emissions – but over half of the reported emissions are from the consumption of energy. Corporations in the energy and infrastructure sector have the highest average emissions overall, but those in the production section have the highest average scope 2 emissions. Finally, figure 4 suggests some ways in which theory might be pressed into service; corporate emissions are broken down by political economy type with respect to the VoC theory. The theory distinguishes between coordinated market economies (CMEs), where government and corporations interact directly via national institutions, and liberal market economies (LMEs), where the market acts as a mediator between government, institutions, and corporations (Hall and Soskice 2001). This has implications for how each kind of nation might approach sustainability problems: for example, corporations in CMEs can be encouraged to create more efficient versions of existing technologies by co-created governmental regulations, while corporations in LMEs pursue technological innovations in response to market pressures, sometimes with little official governmental support (Mikler and Harrison 2012). Only those nations identified in previous literature as belonging to either LMEs, CMEs, or MMEs (mixed market economies, which combine elements of both coordination styles) are classified, with the rest “uncategorized.” Corporations in CMEs report the lowest average emissions, while those in LMEs and especially MMEs report higher average emissions.

There is a growing body of literature that has sought to better understand and explain variation in corporate environmental impacts. Research has shown how corporate-level factors, such as size, age, and sector, can increase corporate emissions – larger and older companies pollute more, as do those in production-focused sectors (see Grant, Jorgenson, and Longhofer 2020). But on their own these characteristics offer little insight into why corporations diverge in their sustainability and environmental outcomes. More useful is putting corporations into a broader social context – be it an organizational field, local or regional government, or national and international conditions.

Corporations can, and to some degree have, adopted sustainability and efficiency measures of their own accord (Vandenbergh and Gilligan 2017). However, widespread adoption of CSR and ESG initiatives is most successful with the addition of outside pressure (Reid and Toffel 2009; Sharkey and Bromley 2015). Much of this pressure occurs at the national level. Governments have worked to influence corporate actions both directly, via regulation, or indirectly,

by shaping the institutional context from which corporations gain legitimacy (Mikler 2018). While environmental regulations are the most direct way for a government to pressure corporations to act sustainably, few countries have managed to pass lasting or far-reaching legislation (Mildenberger 2020). But the pressure on corporations to address climate change is mounting from actors beyond governments. Civil society pressure has taken the form of increased public interest in value-aligned investments, the rise in third-party rating systems (Gerber, Norman, and Gamble 2023), and organizing on the part of INGOs and IGOs, among other local, national, and international environmental groups. This movement is part of a broader trend identified by World Society theory, which argues that global civil society has increasingly disseminated pro-environmental norms (Hironaka 2014).

On which “level” ecological issues are studied might seem like a purely academic debate. But it has implications for the larger debate about responsibility. Corporations have certainly recognized the importance of pushing their responsibility off onto other actors as a way to maintain the status quo. The metric for determining a person’s carbon footprint was created and popularized by oil and gas companies looking to share the burden of emissions with the individuals consuming their products (Supran and Oreskes 2021). Corporations often cite lack of clarity in regulation as a reason to delay their own actions, putting the blame for stalled progress on governments. This framing narrows the field of possible climate change mitigation strategies to individual consumption patterns and national environmental policies, leaving corporations free to continue business as usual while they await pressure from below and above to coalesce – by which time it might be too late. This debate plays out most noticeably during climate negotiations, where the most polluting nations use an array of excuses to avoid blame: “We won’t sign unless China does,” “we’re still a developing nation,” “we only extract fossil fuels, other nations use them,” “our fossil fuels are cleaner than other nations’ fossil fuels,” and so on. In recent years, those nations already being hit by climate change have banded together to demand reparations (Fanning and Hickel 2023). Clearly, they see the value of correctly assigning blame.

Previous research shows how studying organizations in context can lead to concrete suggestions for reducing emissions. One such suggestion is to take advantage of “disproportionality” in corporate environmental outcomes: the discrepancy between the lowest and highest polluters (Freudenburg 2006; Galli Robertson and Collins 2019). Grant, Jorgenson, and Longhofer (2020) show that not all powerplants are

equal, with some being particularly inefficient in the amount of emissions created per unit of energy produced. Even more to the point, these “super polluters” are the product of certain contexts – combinations of plant and national characteristics – that make them potentially easy targets for closure. The resulting policy proposal is to identify and target corporations with disproportionately higher emissions, starting with those in nations identified as creating social contexts leading to reduced emissions (Grant, Jorgenson, and Longhofer 2020). Another example would be implementing different types of policy proposals depending on the political and economic context of the nation, such as continuing incremental regulations in CMEs and encouraging innovation in LMEs. This is already being done to some extent: in the US, the 2022 Inflation Reduction Act contains efforts to boost the domestic clean energy sector via government funding and tariffs on foreign goods, protecting the domestic market from cheaper competition and boosting domestic demand. However, globally it is still essential to work on reducing inequality between nations; otherwise, the corporate emissions reductions in core nations could come at the expense of emissions increases in non-core nations.

This question of responsibility to act, and act first, mirrors that of the choice between the use of the terms “Anthropocene” and “Capitalocene.” Proponents of the latter argue that the former conflates all human actions as the driver, while in reality the climate crisis is the result of the actions of a few, and the vast major-

ity of humanity past and present played a negligible role. Why should it matter who is responsible and who is not? Should not everyone do their part to address climate change? But some have more power, money, ability to enact changes that would have widespread impact – and others can control only their limited consumption, further limited by social, economic, and even spatial ability. Corporations, clearly, have money, power, and ability; their actions would be impactful if they were to address climate change. In this essay, I have shown ways in which this can happen, including working from below on sustainable business alternatives, and from above by pressuring existing corporations to clean up their act. What is needed is probably a combination of these various approaches, but it starts with the recognition of the essential role of the meso level that needs more study and attention.

Endnotes

- 1 <https://www.cdp.net/en/articles/media/new-report-shows-just-100-companies-are-source-of-over-70-of-emissions>
- 2 https://cdn.cdp.net/cdp-production/comfy/cms/files/files/000/008/925/original/CDP_full_GHG_emissions_dataset_2023_summary_.pdf
- 3 <https://www.nortonrosefulbright.com/en/knowledge/publications/9261bbcf/review-of-climate-related-financial-disclosure-regimes-around-the-world>
- 4 <https://www.cdp.net/en/companies/cdp-2023-disclosure-data-factsheet>

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