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Metrics of sustainability: Critical studies of sites, practices, and performances of accountability in environmental governance

The 2018 Summer Institute aims to realize emerging topical, theoretical, and methodological synergies pertaining to critical studies of environmental metrics and accountability, with emphasis on sharing insights among a mix of established and junior scholars. We welcome research grounded in a wide variety of disciplines and socioecological problems. We are committed to substantive engagement with environmental regulation and governance through a variety of disciplinary lenses aimed at revealing the ways in which the establishment of metrics and accountability regimes can induce complex and unforeseen socio-ecological responses. Our aim is to understand the promulgation of metrics and accountability as dynamic forms of governmentality, and to support junior scholars in the development of this multi-faceted area of scholarship and policy analysis.

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Mobilizing metrics to advance accountability: an organizational perspective

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To better govern our environment, organizations create sustainability programs and deploy metrics. These initiatives are increasingly exposed to calls for accountability. This article illuminates the ways in which organizations mobilize metrics to meet these accountability demands. It starts with the rather banal question: what are metrics? It then goes on to further explore how organizations use and modify them to sustain and advance accountability over time.

The article adopts an organizational perspective and conceptualizes metrics as organizational tools. Following the idea of “partial organization” (Ahrne and Brunsson, 2011), I argue that metrics are composed of organizational elements - membership, rules, monitoring, sanctions - upon which sustainability initiatives decide. The initiatives devise and combine organizational fragments differently to (retro- or prospectively) underpin internal and external accountability (cf. Boström and Garsten, 2008; Gulbrandsen and Auld, 2016).

An empirical study on the Fair Trade program in Switzerland (1992-2015) details this argument. Instead of highlighting a single, pivotal accountability turnaround in the fair trade movement (Davenport and Low, 2013), the theory-led analysis of qualitative data (archival data, representative standard documents, 32 interviews) reveals a gradual metamorphosis of an organizationally lenient metric into a sophisticated blend of organizational elements (see tab. 1).

Building upon the empirical results and viewing through the theoretical lens chosen, I present testable propositions about the role of metrics in advancing accountability. While metrics promisingly orchestrate accountability through time within the system, they seem poorly equipped to enhance external accountability. Against this background, I conclude with a discussion on the responsiveness of sustainability initiatives by going back to Etzioni's (1969) seminal work. The article contributes to a deeper understanding of the nature, capabilities and shortcomings of metrics in the context of environmental governance.

Holding cities accountable? C40 Cities and the metrics of ‘green urbanism’

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In this essay, I will illustrate how C40 Cities Climate Leadership Group works together with global marketing and consulting firms, multinational corporations, media and PR agencies and environmental “think tanks” to set norms and standards in the metrics of “green urbanism”. For C40 Cities, the systematic production, transfer and circulation of policy models is a means by which the organization can set technical and political norms that become the standard for urban climate governance in cities around the world. For example, the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC) that was launched by C40, ICLEI and WRI in 2014 has become the global standard for GHG inventories in cities and the way to measure and report urban emissions and account for reductions. In cities around the globe, new (environmental) governance arrangements are forming that propagate technology-focused and market-led approaches to urban sustainability that are based on this standard. In the global circulation of sustainability concepts, “green cities” are presented as modern, technocratic, un-ideological and consensus-based – an idea that is generally not considered the subject of political struggles. This eco-modernization perspective was readily adopted by urban governance coalitions precisely because it implies that economic expansion and increasingly dense urbanization – provided they are based on “green” technologies and “sustainable design” – will ultimately reduce ecological damage without compromising today’s lifestyles or making significant shifts to existing socio-political structures. These new urban growth regimes involve not only local governments, urban planners, architects and local entrepreneurs, but often include also global consultancy firms, multinational corporations and so-called “Big Green Groups” (Klein 2013). City networks like the C40 Cities act as powerful actors in the global dissemination of market-based concepts of “urban sustainability”. In this article, I argue that the dominance of technocratic and market-led perspectives in urban environmental governance arrangements increasingly excludes divergent voices and alternative approaches from the discourse on the metrics of sustainable development.

Making Carbon ‘Count’: Creating the Climate for Disagreement

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This paper interrogates the spatial dynamics, tensions and conflicts between carbon accounting and an antagonistic decarbonisation politics. Literature observing the links between space, politics and accounting (cf Crampton & Elden, 2006; Elden, 2007; Hansen & Porter, 2012; Lovell & MacKenzie, 2011) has largely overlooked silences within calculative spaces (Marquardt, 2016), focusing instead on accounts as technocratic governance (Bulkeley & Betsill, 2005) and eliding contentious political struggles (Brown, 2017; Marchart, 2007; Swyngedouw, 2011). In response, this paper builds upon Rancière’s (1999) framework - which appreciates this ‘political difference’ between instituted orders and their contestation (Marchart, 2007) - to understand the dynamics of how accounting renders perspectives in/visible. This research also responds to the urgent need for planetary decarbonisation, problematising the IPCC’s ‘territorial-based’ metric as providing just one “sense of the stakes” (Sunstein, 2005, p. 129). It is argued that this metric, which only assumes responsibility for ‘direct’ emissions from a given territory, depoliticises other perspectives of decarbonisation responsibility. Existing spaces that count carbon in multiple ways are interrogated, considering how such spaces might render (in)action surrounding decarbonisation polemical, along with the interscalar tensions in doing so. As such, I consider how carbon accounting might become a more democratic practice. Empirically, I draw upon participation with the City of Manchester CO₂ Monitoring Group, an auto-ethnoaccountancy (MacKenzie, 1996) of conducting a carbon footprint inventory for the City of Manchester, interviews with activists, organisations and policy-makers in a UK context and a review of grey literatures.

“Why isn’t my love for nature shared?” Nature conservation and the affective valuation of ecosystem services.

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This paper investigates how the Ecosystem Services (ES) notion, highlighting the benefits provided by ecosystems to human societies, has been used in French national parks and urban areas. Drawing on the case studies of Port-Cros national park and two real estate companies working with the Mission Economie de la Biodiversité, and informed by interviews and document analysis, it demonstrates how ES valuation and accountability practices have been targeted by affective powers and have interacted with collective affective conditions.

In both national parks and urban contexts, the notion has resonated with a taste for measuring ecosystems, also called measurementality by other scholars. It has led to precise assessments of the functioning of ecosystems and to the integration of ecosystems into accounting mechanisms through economic valuation studies. By so doing the notion has changed affects triggered by nature conservation. Instead of love and amazement of nature it has given room to opportunistic affects and hope of halting nature degradation.

In Port-Cros national park, ES valuation studies aimed to improve the sense of credibility and legitimacy among the park’s territorial partners. They also responded to a collective state phobia, actualising in a need for justification and rationalisation of the state’s spending. In urban areas, ES valuation studies reinforced a sense of reconciliation of humans and nature and targeted the interest of private sector actors by fostering a desire to seize opportunities.

However, the collective appreciation for measuring, assessing and commodifying nature was not equally shared. In Port-Cros, it has demanded emotional management strategies to reassure the park’s nature managers and calm down their fears towards the environmental metrics based approach in conservation. In urban areas, the economic measurementality seemed to be more easily accepted by the actors. In addition, ES valuation studies have had performative effects. While they have induced fleeting atmospheres of interest in Port-Cros, they have led to a desire to control, manipulate and secure nature in urban areas.

The Contribution of Non-State Actor Initiatives to Legal Accountability Regarding the *Paris Agreement*

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A central trait of the Paris Agreement is its potential to orchestrate transnational climate governance. Orchestration can be defined as a capacity “to steer nonstate and subnational initiatives towards public goals and to assist them in addressing the complex problems of mitigation and adaptation”. The most explicit manifestation of such an interaction between legal and non-legal systems is that the treaty’s Adoption Decision “welcomes” and “invites” climate action by non-Party stakeholders. A more subtle one is the emergence of a plethora of initiatives that build on the legal principles found in the climate regime, experiment with new approaches, and can be in turn scaled up by the climate regime. For example, the UNFCCC Secretariat has affirmed that “ISO 14080, if aligned with UNFCCC standards, could play a pivotal role [...] in bringing consistency across future methodologies regardless of which organization develops them.”

In this paper, I will assess prominent transnational climate governance initiatives that are orchestrated by the *Paris Agreement*. Non-state actors can be considered as “implementers and governors of climate action in their own right,” but what form of accountability applies to the parties and non-party stakeholders involved in these governance initiatives? And how does shifting authority within the climate regime towards these multi-actor platforms influence the legal accountability of parties with regard to the *Paris Agreement*? My paper will distinguish the approaches to accountability embedded in the selected initiatives, on the basis of the three practices identified by Grant and Keohane: 1) providing justifications, 2) assessing such justifications, and 3) imposing consequences when the circumstances require it. Initiatives that promote the legal accountability of parties regarding the *Paris Agreement* have the potential to strengthen their sense of legal obligation, with important implications for compliance. My paper will also identify in what circumstances these governance experiments fall short of doing so.

“Smart” Decarbonisation? The Political Economy of Smart Meter Provisioning for Low Carbon Transitions

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In this paper I argue that the potential for decarbonization through “smart” technologies must be contextualized in the political economy of regulated and unregulated markets for meters and energy consumption data. This requires much greater scrutiny of the meaning and implications of so-called “smart” metrics for environmental governance.

Advanced (“smart”) meters are a critical technology that enable the measurement and management of energy use at multiple scales. In theory, the granular measurements of everyday practices can play a major role in decarbonization: co-producing energy conscious, economizing end users (Caliskan and Callon 2010) and creating accumulation opportunities for low carbon, demand management businesses (Clastres 2011). Some industry actors now predict that electricity kilowatt hours will eventually be free and consumption data will be the valuable tradeable commodity.

However, these “smart” future visions are premised on highly decentralized two-way flows of knowledge, and flexible, networked agencies. What remains under analysed is the political economy of markets for metering and data, and how they shape decarbonisation potential. This paper shows how early state and market decisions about the nature and form of smart meter deployment shapes what can be measured, who can do the measuring, and who can access the metrics. This then influences the kinds of low carbon services that can be enabled, who captures value from these services, and new forms of vulnerability produced through the uneven deployment of these services.

The political economy of energy measurement devices and data and the implications for low carbon transitions will be examined through two case studies in Australia: a market led retailer roll out (in the States of NSW, Queensland, South Australia) and a state mandated distributor led roll out (Victoria). The paper will show that the so-called “smartness” of a meter and the ability to derive broad environmental benefits depends on the following factors. Firstly, the choice of functional specifications made by state and non-state actors which in turn determines what services the meter supports. This includes available and specified communications infrastructure. Secondly, the political economic model for deployment will have significant implications for ownership and control of meters, rates of deployment and replacement, and the kinds of services enabled. Thirdly, the regulatory framework for data ownership and access will influence roles, responsibilities and customer benefits as well as potential customer detriment.

Caliskan and Callon (2010) Economization parts 1 and 2 *Economy and Society* 39: 1-32

Clastres (2011) Smart Grids: Another Step Towards competition, energy security and climate change objectives *Energy Policy* 39: 5399-5408

Soft Targets: Negotiating International and Subnational Environmental Policy in India

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Numerical targets are a crucial technology of governing at a distance, and a hallmark of attempts to implement environmental policy across multiple scales. This paper explores the problem of multiscale environmental governance in India, the world's third-largest national emitter. To do this it examines two sets of major environmental targets that operate at different scales: India's intended nationally determined contribution (INDC) as declared before the 2015 Paris conference on climate change, and the renewable purchase obligations (RPOs) imposed on electricity distribution utilities at the subnational (state) level. Drawing on policymaker interviews and documentary evidence, it explores the creation and implementation of these targets, arguing that they enact ambition without accountability. Against existing sociologies of quantification, these government targets were produced not out of rational processes of measurement and commensuration, but political calculation. The INDC's energy targets include distinctively extreme forecasts and round numbers that testify to its shaping through inter-agency negotiations, but the overall emissions reduction goal was reverse-engineered to permit the Government of India substantial room to manoeuvre. The RPOs have proved equally difficult to enforce in the context of India's contentious federal system, with cash-strapped utilities and politicians often rejecting expensive renewable energy, especially in the poor eastern coal belt. Yet the Indian state is not simply a "paper tiger," as one common phrase has it, its numbers merely wishful fictions. In spite of weak enforcement mechanisms, these soft targets have helped to usher in a dramatic expansion of renewable energy, even if they leave defector regions and players behind. These targets thus illustrate the negotiated character of implementation, so that enforceability may be secondary to political signaling that can deliver real—if less than ideal—policy results. As such, the Indian case is an extreme case of a more widespread feature of climate governance across multiple scales: the soft, emphatically political, yet constructive character of climate targets.

The Paradox of Environmental Quantification

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Environmental quantification is widely recognized as a beneficial resource in governance. By representing environmental outcomes in numeric terms, quantification is embraced as a disruptive force that can enable more effective use of public resources. In this paper, I probe the possibilities of restructuring environmental regulations by using conservation measurement and ranking algorithms. I document the socio-technical negotiations that lead to the development of a quantification algorithm in the largest conservation program in US agriculture – the Conservation Stewardship Program (CSP). Paying attention to the interplay of technology, politics, and the bureaucracy, it is evident that quantifying environmental outcomes entailed not only developing tools but enlisting an entire “valuation infrastructure”. Through over 60 semi-structured interviews and extensive textual analysis, I examine how relevant policy actors – regulators, lobbyists, bureaucrats, and scientists position themselves in relation to the valuation infrastructure. I found that the CSP valuation infrastructure was built upon existing institutions: informational resources, organizational rules, networks, and divisions of responsibilities. The paper argues that to construct any valuation infrastructure inevitably requires preserving some institutions while reforming others. These institutional frictions highlight how the mobilization of quantification can successfully perform accountability, yet also paradoxically weaken demands for policy reform.

Appraising Conservation: Environmental Protection and the Politics of Value in Colorado's Tax Credit Market

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In 2001, the State of Colorado established a marketplace for conservation easement tax credits as a means of incentivizing land-rich, cash-poor individuals--primarily farmers and ranchers--to participate in private land conservation programs. Landowners would be allowed to keep their land, and by agreeing not to develop it, they would be compensated for the lost development potential of their properties. Recognizing that these types of actors have historically been unable to benefit from tax-based incentives to protect their land, the legislature made it possible for the recipients of tax credits to sell them through private brokerages to wealthy individuals looking to reduce their tax burdens. The market, which remained largely unregulated for nearly a decade, was thrown into chaos as the 2008/09 housing crisis generated major budgetary shortfalls and the Colorado Department of Revenue sought to reclaim revenue by undertaking comprehensive audits of all \$247 million worth of conservation tax credit transactions that had taken place. The audits focused on the veracity of property appraisals, setting off a chain of events that ultimately harmed the farmers and ranchers that the program intended to benefit, leading to widespread loss of land and livelihoods, bankruptcy filings, and even one suicide.

While the conservation easement tax credit market was plagued with regulatory and governance failures at a range of scales, I argue that understanding these failures requires close attention to the politics and methodologies of valuation, particularly when the biophysical world is valued through non-environmental methodologies. In this paper, I focus specifically on real estate appraisers, who play a critical role in delineating and verifying both conservation values and development potential. Given the centrality of appraisal methodology in conservation valuation, disputes between the state and landowners hinge primarily on the development potential of a given property. Conflicts over land use and environmental governance are "made bureaucratic" as the terms of the debate are reframed around appraisal and tax burden. The paper relies heavily on semi-structured interviews with real estate appraisers, tax credit brokers, landowners, and state officials, as well as relevant news articles, court documents, and state agency reports.

Toxic Entanglements: Chemical Governance and Extraction in Assembly

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Transparency is indispensable for environmental justice. However, in the perverse political climate of ‘post-truth’ politics and corporate personhood, fossil-fuel companies are empowered by the state to conceal the toxic chemicals necessary for extracting unconventional oil (Mooney, 2011). The development of extreme energy draws into tension the right for citizens to know about health and environmental hazards versus the protection of oil conglomerates’ capital gains (Cook, 2014). Chemicals required for fracking, oil sands mining, and deepwater drilling are sheltered as proprietary intellectual property thereby disenfranchising citizens and marking serious threats to public/environmental health and to justice and democracy. Drawing the scholarship of eco-governmentality (Luke, 1999) and biopower (Foucault, 2008) into conversation with a critical study of extraction and accountability, I addresses the problematic governance of chemicals accompanying extreme extraction. First, I consider the governance of wastewater from hydrofracking and highlight the tension between protection of trade secrets and states’ responsibility to protect citizens’ welfare (Maule, et. al., 2013). Second, I illustrate the struggle for transparency around the chemical dispersant Corexit in the aftermath of the Deepwater Horizon disaster and highlight the insufficiency of the Toxic Substances Control Act to prevent environmental/public health hazards (Lawrence, 2015). Finally, I discuss the opacity of knowledge around chemicals required for diluted bitumen, an oil-sands product that must be thinned with large quantities of chemicals so that it can flow through pipelines (McGowan et. al., 2012). Grounded through critical inquiry into the asymmetrical knowledge—governance—environment matrix, I demonstrate how the governmentality of toxic chemicals privileges state-sanctioned studies and corporate discourses, and routinely discounts or alters monitoring and accounting that substantiate the lived experience of citizens in relation to the effects of extraction. I argue that this governmentality of chemical and environmental governance ought to concede the systemic toxicity that defines the regulation of toxic chemicals.

The politics of expertise and carbon intensity metrics in the global regime complex for biofuels

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Low-carbon fuel mandates have generated new regulatory metrics to validate the claim that biofuels are more environmentally friendly than petroleum-based fuels. Carbon intensity (CI) metrics make the low-carbon value of ethanol and other biofuels visible for private biofuel sustainability certification schemes and public regulatory bodies charged with implementing low-carbon fuel mandates. CI is calculated using life cycle analysis (LCA), a methodology for estimating the aggregate quantity of greenhouse gases (GHGs) emitted over a particular biofuel's lifecycle. In general, a CI value includes *direct* effects (i.e. GHGs emitted from cultivating the agricultural feedstock; converting its biomass into transportation fuel; blending, storing and distributing the fuel to the end user; and, consuming the fuel in automotive engines), as well as any *indirect* effects, namely emissions from indirect land use change (iLUC).

This article examines the scientific and political controversies that emerged around the inclusion of iLUC variables in calculating CI values for the purposes of establishing regulatory thresholds. Policy disagreements over whether to include iLUC when calculating CI values pitted the interests of American corn ethanol producers against the interests of Brazilian sugarcane ethanol producers; the owners of first-generation ethanol production systems against the owners of second-generation (cellulosic) ethanol production systems; and low-carbon fuel boosters against critics who gave voice to a general public anxiety over the conversion of agricultural crops into transport fuel. The eventual inclusion of iLUC in CI calculations by major biofuel regulatory bodies in the United States and the European Union and by the Roundtable on Sustainable Biofuels (RSB) dealt a blow to American corn ethanol producers, owners of first-generation ethanol production systems and their industry boosters.

However, the validation of iLUC in multiple governance venues should not be read simply as one conglomeration of interests overpowering another. Viewing CI metrics as socially constructed "efficiency ratios" shines light on the technical and systemic ambiguities that render efficiency ratios amenable to the prerogatives of powerful experts who can advance certain interests over others.¹ In this case, one small cadre of pro-iLUC scientific advisors prevailed over anti-iLUC scientific advisors, despite the lack of scientific consensus on the accuracy of iLUC estimates. I argue that pro-iLUC experts were empowered by an "experimentalist" regime complex for biofuel governance.² Whereas scientific advisers are usually expected to express their findings without voicing their own political and moral values,³ the experimentalist structure of the biofuel regime complex enabled pro-iLUC scientists to garner political support for their ideas in multiple biofuel governance regimes. As part of a regime complex, these regimes sought to calibrate their standards and rules with each other in order to avoid future disputes at the World Trade Organization—a goal that helped generate further political support for the inclusion of iLUC in CI regulatory thresholds.

“Tools didn’t make decisions for us”: Modeling, metrics, and the state in Louisiana’s coastal master plan

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I explore what metrics calculated through computer modeling do for the state in environmental governance. Modeling mediates governance regimes and plays an intentional and unintentional part in legitimating state plans. However, while states have long justified their efforts through disinterested numbers, they also increasingly aim to engage “stakeholder” groups. The state walks a fine line between modeling objectively and modeling in response to stakeholder interests. In both substantive and procedural terms, the state’s responsive metrics produce winners and losers, and, as a result, contestation of its plans. Models and metrics are not tools the state simply deploys to achieve its will.

These conclusions are informed by a case study of the US state of Louisiana’s coastal Master Plan. The Master Plan revolves around simulating future wetlands loss and the effects of potential investments in ecological restoration. One of planners’ key claims is that “tools [models] did not make decisions for us....they just showed us the numbers.” Planners emphasize how they accounted for subjective interests or values in their decisions, while also justifying those decisions in disinterested and rigorous objectivity (“the numbers”). I illustrate how this dual defense plays out in modeling practice. Planners use model-calculated metrics to select the most valuable restoration projects (e.g. acres of land built around oil and gas infrastructure) and to operate projects (e.g. open diversions of the Mississippi River when river flow reaches x cubic feet per second). Through these metrics and the technical features of the models that calculate them, the Master Plan modeling effort mediates and plays a part in legitimating “petrostate” and “adaptive management” regimes of coastal governance. However, the modeling is contested because it produces winners and losers. In particular, the process of metricizing project operations benefits the state by enabling it to respond flexibly and quickly to landscape change, while making it harder for coastal fishers to plan over the long-term.

Metrics and accountability: Analysing change and inertia in energy transitions

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With recent advances in the capabilities and affordability of distributed energy, claims that the basis for monopolistic tendencies in the electricity sector is natural are ever more contested by those arguing that it is increasingly socio-legal. This debate is key in relation to sustainable energy transitions, because it pertains to drivers of change and inertia in specific contexts, namely power relations and their degree of institutionalisation or legitimation. This paper presents an analytical strategy to track legitimation by attending to accountability relations, as performed through metrics and claims based on expertise within changing topographies of power. This strategy aims to unpack how (i) metrics (systems of measurement privileged as standards) effect the dynamics of shifts and resistance, and (ii) the insufficient specification of metrics (the selective coverage of aspects by standards put in play) privileges an overly neat structural understanding of energy sectors, thereby leaving substantive gaps unaddressed.

Solar energy uptake in Portugal presents a case in point: the country boasts complementary renewable energy sources and optimal geophysical conditions for solar generation at cost parity with other sources. Having stepped away from an electricity sector monopoly, Portugal is caught up in a politicised discussion on electricity due to sectoral debt and high energy poverty. Fossil fuel plants display obduracy, as do electricity market and grid infrastructure use regulations. Mapping accountability relations to track legitimation in this context requires identifying how metrics limit solar uptake to being incremental rather than disruptive, and how claims based on expertise restrict Portugal's energy transition to achieving modest renewable energy targets rather than changing the logic of its electricity sector towards decentralised renewable energy generation as a public good. This analytical strategy implies a methodological commitment to the multi-sited, multi-scalar approach that characterises data collection on solar uptake for this study: interviews with over 40 experts and two months of field observations across various energy sector institutions. By tracking how legitimation practices limit sustainable energy transitions, accountability analysis makes a case for greater reflection on our choice of metrics, its drivers, and its impact on energy policy.

Cryptic invasions and invisible residence: politics, practices, and performance of uncertainties in invasive insect establishment and eradication

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Two questions emerge at the center of controversies over state attempts to eradicate invasive insects: how does a government know an insect exists in the wrong place, for too long? How do they know it no longer exists? Determining whether or not an invasive insect is already established should, in theory, be an *epistemic* uncertainty. More data from monitoring traps and genetic testing should reveal whether a population has been recently introduced or has existed locally for some time. In contrast, determining if an invasive insect is absent can only exist as an *ontological* uncertainty. There is no way to prove zero. Drawing on social studies of science and political ecology, this paper investigates the politics, practices, and performances of uncertainties in making and contesting invasive insect regulatory science. Ethnographic and archival research on recent eradication programs in California showcase how the practices of state actors to make invasive insects legible inevitably lead to growing epistemic uncertainties over population establishment. State actors can only pursue eradication if the target population is not yet established, therefore they produce metrics demonstrating the population is new, distinct, and delimited. Concerned residents, organic growers, and sympathetic entomologists dispute the processes and outputs of these metrics. These community coalitions attempt to leverage the epistemic uncertainties arising from population establishment metrics to challenge eradication programs that have forcibly brought pesticides into residential, wild, and non-conventional agricultural spaces. For the agricultural regulatory apparatus, these efforts threaten the flow of capital and agricultural goods. Having a debate over whether or not an invasive population has become established “puts doubts in the minds of our trading partners,” according to regulators. In a move that allays doubt but deepens conflict with concerned communities, state actors double- down on closing ontological uncertainty through the routinized performances of eradication.

Green bond ratings and the performance of low-carbon values

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This paper contributes to the body of research on metrics in market-based environmental by bringing together two conceptual perspectives (governmentality and sociology of markets) to explore the role of green bond ratings in performing low-carbon values.

I do so, by focusing on the case of FrieslandCampina, one of the largest dairy companies in the world. In 2016 they issued a €300million green Schuldschein (akin to a green bond) to fund carbon reduction initiatives in four of its factories. This was one of the first private companies, and the very first non-energy company, that had used such a mechanism to fund its 'green' activities. The use of this rather uncommon finance mechanisms therefore raises the question: how was 'low-carbon' made valuable/bankable?

In particular I focus on the role of green bond ratings in this process. I do this, by drawing on Foucauldian governmentality and STS literatures in order to conceptualise the role of ratings as a valuation device that helps create low-carbon values. Drawing on these two literatures enables a conceptualisation of ratings both as a device (tool), and as a technology of governance, i.e. to contextualise the political work the device does.

What is interesting about FrieslandCampina's green bond rating, is that it is attributed based on the sustainability performance of the producer/company rather than the initiative. It is thus the producer that is core to, and determinant of, a commodity's perceived low-carbon value. It thus shows how ratings act as a political technology that translates messy conjunctures into linear problems, interventions and results (Murray Li 2007), but also as a technology that actively (re-)constructs the field through this process (Lansing 2012; Bracking 2013), raising further interesting questions around the performance of rigor and legitimacy in the process.