

## **International Conference**

### **Finance as a response to environmental crises? Critical analysis of the ‘economicization’ of carbon emissions and biodiversity**

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*- List of Abstracts in alphabetical order -*

## **The financial dimension of the EU ETS: a critical analysis**

*Nathalie Berta (Reims University) and Ozgur Gun (Reims University)*

### **Abstract**

From a theoretical point of view, carbon emissions trading schemes are justified by economic efficiency: allowances trading is supposed to bring the equalization of polluters' abatement marginal costs, that is to achieve the total abatement cost minimization. In other words, trading emission allowances is supposed to help polluters to reach compliance at least cost (since they have to cover each emission with an allowance). Yet, in practice, these trading schemes are financial markets. This financial dimension is justified by the practical necessity for polluters to hedge the carbon price risk they now face. Indeed, as soon as trading schemes are created, polluters face a new price risk and they need financial instruments (derivatives) and purely financial actors to bear the risk (banks, carbon funds, traders). So, this financial dimension of carbon trading is a solution (hedging and liquidity) to a problem that it has itself created (the price risk).

Our purpose is twofold. First, we show that the carbon market activity is mainly driven by its financial dimension and not by the compliance function that has initially justified its creation – so that transactions for compliance are totally drowned in a whirlpool of speculation. Second, we provide a critical survey of the literature that estimates the carbon price drivers and that tries to show that the carbon price actually reflects its fundamentals (e.g., economic activity, weather, marginal abatement costs, etc.). And we show that the carbon price is poorly related to these fundamentals – a conclusion that suggests that the price rather reflects – in a Keynesian perspective – the market psychology and is thus a highly self-referential valuation.

## **Extra-terrestrial finance? Land and the hustle to make for-profit conservation assets**

*Patrick Bigger (Lancaster University) and Jessica Dempsey (University of British Columbia)*

### *Abstract*

Increasingly, private sector financiers are attempting finding solutions to various social and socio-ecological problems using practices familiar in the financial world. One such approach is what we call 'for-profit biodiversity conservation', wherein impact investors and entrepreneurial NGOs search for profitable investments that also contribute to the amelioration of the sixth extinction. Attempts to make conservation pay its own way are nothing new, as initiatives like eco-tourism and bioprospecting attest. Conservation, for-profit or otherwise, has generally been predicated on enclosures – most often of land, as in fortress conservation and game parks but also in other forms, as in the enclosure of genetic information through bioprospecting. Further, the explicit enclosure of land is a regular feature of footloose financial capital's incursions into the Global South more broadly, most clearly witnessed in ramped-up capital flows into farmland and mineral extraction (Fairbairn 2015; Svampa 2015). These practices have been discussed as the financialization of nature, indicating a new and dangerous relationship between financiers and socionatural spaces and processes (Büscher 2014, Sullivan 2013).

Our research into for-profit conservation is animated by the following questions: are investors profiting from efforts to mitigate the sixth extinction? If so, how are they doing this? And to what extent do these processes re-play or re-format enclosure and accumulation by dispossession? In answering these questions, our three-year research project has followed the money (Christophers 2011), sticking close to the everyday practices of biodiversity asset-making while situating those practices in broader systems of capital accumulation. We have conducted 44 interviews with actors along the biodiversity investment chain from fund managers based in New York City, London and Nairobi to its placement into three very different projects in rural Kenya. These projects aim to return profits to investors through the production of commodities on or near land that provides habitat for endangered species; specifically, these projects produce cattle, timber, and carbon credits. Our research focused on project developers and middle managers at these conservation investments, honing in on intimate mediations and everyday practices needed to bring shadow economies into the formal circuits of global capital (Roy 2010). However, we also remain attentive to the longer histories of capital flows and power relations across time and space manifest in the particularities of the land on which for-profit conservation is undertaken.

Based on this fieldwork and analytical approach, we argue that for-profit biodiversity conservation seeks to manage the complicated historical relations inscribed on the land by making conservation, rather than land, the object of investment. This paper

will examine the land and property relations that underlie these three biodiversity assets. As noted above, “selling nature to save it” (McAfee 1999) has long been implicated in new forms of land enclosure. We find that profit-seeking conservationists are pursuing a new strategy for protecting significant species that mobilizes private-equity investment strategies through divergent and refashioned relationships to land than what has come before (Li 2014, Goldstein and Yates forthcoming). The businesses we visited actively avoid land ownership, preferring to build new governance structures for sustainable commodity production onto existing social relations of land that – it is hoped - will result in decreased species loss and positive development outcomes for local communities. The emerging land tenure arrangements range from fee simple to the creation of a capitalist common property system.

The profitability these arrangements are complicated by social relations of land, in which project managers must contend not only with the challenges of linking marginalized spaces of commodity production to regional or global markets while returning surplus to investors, but with highly fragmented, colonial-inflected, and deeply-peopled property relations of the land on which profitable conservation is meant to enacted. In order to make conservation investable, first existing social relations must come to be regarded as wasteful- wasted lands, deficient people, and poorly deployed capital. In order to rectify these waste (a long preoccupation of not just capitalism, but liberalism more broadly), actors up and down the value chain must 'hustle' to produce for-profit conservation enterprises. These enterprises must produce not only commodities, but also legitimacy or the social license to operate on contested lands. Finally, conservation must be rendered an investable asset, relying on the subjectivities and practices of financiers to achieve not only financial returns, but conservation returns as well.

## **Slicing the pie in the sky: The science and politics of carbon commensuration**

*Ricardo Coelho (Carbon Trade Watch)*

### **Abstract**

Following the Kyoto Protocol, multiple carbon markets were created to allow polluters to trade in emissions rights. The question that is rarely asked, while numbers flow from one computer to another, is what exactly is being traded in such markets. This article engages with this important question by shedding some light on how carbon market numbers are produced and how they relate to carbon emissions.

Carbon trading is a form of governing and managing carbon as a financial commodity. Turning carbon into a commodity, in turn, requires abstracting carbon from its social, historical and political context, which is achieved by commensurating carbon across space and time. Carbon commensuration, as the social process that creates equivalences between carbon emissions by measuring them according to conventions of quantification, transforms the complex phenomenon of anthropogenic climate change into a simple, quantifiable problem of too much (abstract) carbon emissions (Lohmann 2011). Following a Sociology of Quantification approach, we argue that this transformation is not without its costs, as the use of numbers can obfuscate the uncertainties and assumptions that influenced calculations (Espeland and Stevens 2008).

Commensuration is the process of using a common metric to measure different entities (namely persons, countries or institutions), in order to compare them according to intervals or ratios. By transforming qualities into quantities and delivering numbers that can be easily compared, the quantification inherent to commensuration produces (apparently) objective, rational and impersonal knowledge, which can then be used to legitimize and simplify decision-making (Porter, 1996). Objectifying knowledge through numbers, however, is costly because “it implies the existence of a heavy socio-technical infrastructure that can assure its production” but also “in terms of reducing the normative complexity of phenomena” (Centemeri, 2008: 119). Furthermore, by creating “relationships between virtually anything”, commensuration “simultaneously overcomes distance (by creating ties between things where none before had existed) and imposes distance (by expressing value in such abstract, remote ways)” (Espeland and Stevens, 1998: 324).

Carbon commensuration follows from the quantification of emissions using methodologies grounded in scientific knowledge, but goes beyond this measurement to create equivalences between emissions attached to different realities (MacKenzie, 2009). This process is central to carbon trading. Setting up a carbon market involves firstly creating the carbon commodity, which is specified both by its boundaries of tradability and by its connection with carbon emissions. Creating the carbon commodity, in turn, necessarily involves commensurating carbon emissions across space and time, a

process that can be described as a “black box”, to borrow Latour and Woolgar's (1986) term, that abstracts carbon emissions from their context.

Carbon commensuration is also fundamental for to make carbon “manageable”. Following the old management adage “you cannot manage what you cannot measure”, many corporations, under the guise of Corporate Social Responsibility, are measuring their carbon emissions, in order to plan and enact actions to reduce them. The resulting carbon accounting, which can be seen as a tool to generate knowledge, frame policy debates and/or governing people (Lovell and MacKenzie, 2011), is able to generate sustainability reports for corporations only at the expense of leaving out what cannot be translated as physical information (Lippert, 2012). Likewise, “carbon footprints” value individual human actions using abstract carbon as the commensurator, resulting in a measure of individual responsibility that ignores social, political and historical constraints (Dalsgaard, 2013).

Because the numbers produced by the carbon commensuration black box are fundamental to carbon trading, we propose to open it and explore the accuracy and accountability of the quantification of carbon emissions, as well as expose the political assumptions that lie at its core. This exploration follows four critical issues: greenhouse gas (GHG) measurement methodologies, the use of Global Warming Potentials (GWPs) to convert non-CO<sub>2</sub> greenhouse gases to CO<sub>2</sub>-equivalent, indirect effects of ancillary pollutants and quantification of carbon sinks.

Analyzing the scientific literature on these issues, we expose the uncertainties and the politics behind carbon measurement methodologies, showing how, two decades after Kyoto, measuring emissions with a high degree of precision and objectivity is still impossible, even though this was supposedly a major precondition for the implementation of emissions trading. Moreover, we argue that measurement errors do not merely reflect scientific uncertainties but also deep uncertainties regarding the evolution of societies and political choices regarding the objectives of climate policy.

A climate policy that acknowledges uncertainties as a fact of life would lead to following the precautionary principle and committing to deep emissions reductions, steering climate policy into the lower end of the interval of possible climate change impacts. Clearly, none of this is compatible with the underlying principles and assumptions of carbon trading.

## **Intimate Mediations of For-Profit Conservation Finance: Waste, Improvement, and Accumulation**

*Jessica Dempsey (University of British Columbia) and Patrick Bigger (Lancaster University)*

### **Abstract**

How might we understand the marriage of accumulation and conservation? In this paper we present an approach to “for-profit conservation finance” (FPCF) that is attentive to the relentless work required to align accumulation with non-profit-seeking values, logics, and relations. The paper draws from extensive research into one investment chain, from the broker based in New York City to the investment into a cattle business in the central-northern rangelands of Kenya, a social enterprise that aims to foster a more wildlife-friendly pastoralism. The enterprise involves cattle market rationalization entwined with intensive attempts to transform conduct toward three ideal types: *NGO economicus*, *homo economicus plus*, and *bos Taurus economicus*. Drawing from post-colonial and feminist theorists of capitalism, we conceptualize for-profit biodiversity finance as a part of the ongoing liberal project to transform wasteful conduct into capitalist value, a project that is challenged at every turn, including by previous regimes of accumulation that it relies on but also wants to overcome.

## **Geopolitics of carbon sinks (or the negotiation of REDD-plus)**

*Véra Ehrenstein (Goldsmiths - University of London)*

### **Abstract**

Shifting away attention from climate models, scientific expertise, and evidentiary disputes, this paper attends to the modalities and outcomes of United Nations negotiations on global warming. More precisely, the paper ethnographically traces how the capacity of tropical forests to be carbon sinks has become a matter of global concern. The focus is on a negotiated policy called REDD-plus and its anchoring in the Democratic Republic of the Congo whose territory hosts the second largest area of rainforest after Brazil. The paper identifies three moments and sites of geopolitical re-composition: the formulation of international consensus, the work of preparatory agents, and the quest for metrological inclusiveness. It points to the theatricality and semi-secrecy of UN negotiations, the mobilising activity of overseas aid consultants, and the unruliness of living trees. It discusses the importance of the promissory, the multivalence of what is at stake, and the porosity and resilience of national demarcation in this geopolitics of carbon sinks.



## **A self-critical analysis of a transformative sovereign wealth fund: The Value of Prices**

*Katharine N. Farrell, (Humboldt University Berlin, Universitat Autònoma de Barcelona, and Universidad del Magdalena) and David Löw Beer, (IASS Potsdam)*

### **Abstract**

In the current period of oversupply of private (and in some countries of public) capital, accumulated capital, as discussed at length by Schumpeter (1949) and Marx (1974 [1858]) and confirmed many times over, is once again incentivising the development of new investment opportunities. Among these are newly created markets and financial products designed around investing in biologically viable natural systems and the provision of associated ecosystem services (ES). In our research, we critically examine the potential consequences, for conservation and for socio-ecological transformation, when speculation driven investment, focused on financial returns, is targeted to lead the development of new solutions to socio-ecological problems. We compare this with the potential consequences of employing, instead, context appropriate sovereign wealth fund (SWF) investments.

In general SWFs are “special-purpose investment funds or arrangements that are owned by the general government” (International Working Group of Sovereign Wealth Funds, 2008, p. 3). Ideally, a SWF can produce investment for needed and desired new economic processes (Georgescu-Roegen, 1971) and associated social progress. The basic legitimation of such a transformative SWF is that it might provide multiple dividends, particularly ecological (e.g. ecosystem conservation and regeneration), social (e.g. income and wealth redistribution), and economic (e.g. future-oriented jobs). The Santiago Principles for SWF, which have been drafted by the IMF’s International Working Group of Sovereign Wealth Funds (2008) are agreed upon by many of the leading SWFs. They are basically a proposal for the fiduciary terms of SWFs and are based upon the idea that SWFs should function similarly to regular investment funds, with their focus on maximization of a defined risk/reward ratio and limitation of the political influence in the operation of the SWF. These terms provide guidelines for what counts as a ‘well-functioning’ fund. They are a measure of quality, i.e. of the fitness for purpose (Funtowicz & Ravetz, 1997) of the fund. They implicitly presume that the purpose of these funds is unambiguous and apolitical. We argue that they are neither. Firstly, for the generally agreed purpose of ensuring ecological conservation and transformation, the Santiago Principles are insufficient: they do not safeguard against violating safe ecological minimum standards (SMS) (Bishop, 1978; Müller, 2000) Secondly, determining which ecological features should be conserved and which should not, is not only an economic question, but also a technical and a political matter of concern (Dryzek et al., 2009; Farrell, 2008; 2014; Habermas, 1984; Latour, 2004). Using Georgescu-Roegen (1971) concept of economic *Anschauung*, which links economic practice to economic purpose, we develop a set

of criteria for complementing the Santiago Principles with ecological and social referents that address the specific fiduciary duties appropriate for a sustainability oriented SWF. We use an empirical case to explore how to include reference to technical expertise regarding which ecologies need to be conserved, which combinations of conservation are best for achieving this and how to include reference to political decisions regarding how to handle incommensurable and lexicographical trade-off dilemmas. In so doing, we apply an alternative to conventional capital theory, developed by Nicholas Georgescu-Roegen (1971), in which financial and physical capital are classified as special cases of the more general category of fund elements, which facilitate the movement of flow elements consumed and created in the course of economic processes. We thereby further develop classical (Ricardo, Smith, Keynes) and contemporary (Cambridge School, Hodgson) capital theory.

In order to illustrate the theoretical argument being developed in our research, we employ the empirical case of mangrove conservation in Colombia, which represents a complex suite of socio-ecological problems and is an investment environment currently being targeted for ecosystem services speculation. We look specifically at the ecological economics of mangrove recuperation and conservation along the northern coast of Colombia, which is much more deteriorated than the Pacific coast, turning at the close to consider implications also for the latter, which is already exposed to ecosystem services speculation in non-mangrove forested areas. This case provides a strong biological referent, the mangrove, as well as a representatively complex social context, including extreme poverty, ecological collapses, water diversion for irrigation, contamination from industry and agriculture and a history of armed conflict. In addition, the mangrove case allows us to include a key element of ES speculation and its SWF alternatives, as it incorporates both local (fishing and wood) and international, “from a distance,” (carbon sequestration) use of these planet level relevant ecosystems (K. N. Farrell, 2014). Mangroves are widely discussed in the ES literature, with many researchers arguing that a monetarisation of their ESs will lead to increased conservation. However, local economic factors frequently incentivize mangrove destruction. We approach the challenge of reconciling the associated local and global incentives structures as a transformative SWF programme area, in which we complement our use of conventional capital theory with Georgescu-Roegen’s (1971) flow-fund theory of economic process. Through this approach, we address the challenge of advancing democratically legitimized ecological viable transformations through the stimulation of appropriate innovation. In this way, we critically examine the idea of a transformative SWF, proposed by the WBGU (2016).

## Can Accounting Save Nature? The Case of Endangered Species

*Delphine Gibassier (Toulouse Business at Toulouse University) and Diane-Laure Arjaliès (Ivey Business School at Western University)*

### Abstract

**Purpose:** This study examines one of the first performance indices developed by conservationists to assess their effectiveness at saving endangered species. It enriches previous research on biodiversity accounting and its consequences for the conservation of species.

**Design/Methodology/Approach:** The study employs a qualitative approach. Data were collected through semi-structured interviews with the zoo that first developed the performance index examined in this study and with external stakeholders. Documentary evidence includes internal documents related to the performance index presented in board meetings and workshops. Secondary data involve public data related to the organization and media output concerning the launch of the Index.

**Findings:** The article demonstrates that conservationists use the performance index to select the species to be saved. This selection, however, tends to be informed by financial reasoning rather than by an analysis of the species' contribution to the broader ecosystem.

**Contributions:** The article makes two key contributions. First, it enriches previous research on biodiversity accounting by discussing how conservation performance is accounted for and the effects of the conservation performance index on the conservation of species. Second, it enriches previous research on financialization by demonstrating that the involvement of external stakeholders in the accountability process does not necessarily prevent the transformation of environmental concerns into financial ones.

**Practical Implications:** The article demonstrates that the use of a conservation performance index based on human incentives might encourage conservationists to focus their efforts on the animals that are most popular or likely to survive at the expense of other faunae. Based on these findings, it discusses the conditions under which the use of financial incentives can help a society address environmental concerns.

**Keywords:** Biodiversity, Conservation Financialization, Visuals

## **Mobilizing investment in the ‘new’ forest-landscape restoration economy: Critical insights from Indonesia**

*Jenny Goldstein (Cornell University)*

### **Abstract**

Following a decade of Reducing Emissions from Deforestation and Degradation (REDD+) projects, forest-landscape restoration has emerged as a next wave of transnational green economy regimes that seek to commodify tropical landscapes for carbon sequestration. In Indonesia, forest-landscape restoration has emerged out of, and in some cases been embedded in, REDD+ projects in which wealthy countries attempt to pay developing but forest-rich countries for conservation. Yet restoration, with an emphasis on fixing already degraded landscapes rather than conserving intact forests, does not exactly follow the contours of REDD+ or other payment for ecosystem services schemes. Based on qualitative research conducted between 2011 and 2017, including semi-structured interviews and participant observation in Jakarta and Central Kalimantan province on the island of Indonesian Borneo, as well as analyses of NGO, government, and scientific documents, this paper investigates how previously forested landscapes in general, and peatlands in particular, are being assembled to attract private and public investment for restoration in Indonesia.

## **Catastrophe merchants: the convergence of risk analytics and climate data in the estimation of disaster loss**

*Ian Gray (UCLA)*

### **Abstract**

In the summer of 1992, Hurricane Andrew made a direct landfall as a Category 5 hurricane in Monroe County, crippling communities and infrastructure across southern Florida. Andrew revealed that insurance companies across the country had vastly underestimated the exposure on their books. Property losses exceeded capital reserves and, in addition to 22 insurance companies going bankrupt, roughly one million homeowners lost their coverage. In response, insurers became ardent adopters of a new form of risk analytics called catastrophe modelling. Developed by third-party companies, cat models combined historical data on infrequent natural disasters (e.g. hurricanes) with advances in computing and statistical expertise to generate thousands of simulated hazards that would allow insurers to estimate the probability of catastrophe losses in much the same way they estimated losses from more dependable events for which they had accumulated extensive and relatively consistent datasets (e.g. life-tables or auto accidents). Transforming natural disasters into probabilistic loss events, cat models quickly became an embedded element of the insurance underwriting process, playing a significant role in setting premium rates for homeowner policies. But with the advent of climate change and concerns that extreme events in certain parts of the globe begin to diverge from past records (Melillo et al, 2014), cat modeling firms have struggled to include new information about climate variability into their models. Acting as calculative devices (Callon & Muniesa, 2005) that format collective understandings about the probability of future disasters, these changes to standard model design have also generated contentious reactions among citizens and regulators affected by the changes. This project looks at catastrophe models as a site where actors are struggling to make climate change impacts both perceivable and calculable to financial markets. In doing so, it also foregrounds the question of whether the distribution of additional layers of “climate risk” through insurance or other risk-transfer mechanisms actually helps communities prepare to withstand these kinds of catastrophic events and/or recover as quickly as possible once they have passed. In other words, what kind of catastrophes do catastrophe models help perform (MacKenzie, 2009)?

## **Sustainability's Landnahme: economization, commodification and financialization in the Round Table on Responsible Soy**

*Juan Ignacio Staricco (National University of Cordoba)*

### **Abstract**

From the 1990s South America has been the land of the “soy boom” (Carter et al., 1996). Soy cultivation has grown frenetically, based on its expansion over fields previously used for other crops or at the expense of formerly virgin lands. In a country with a long agricultural tradition such as Argentina, for example, the soy revolution produced an extraordinary change of landscape: production boosted from only 3.7 million tons in 1980 to 50 million tons in 2012, while its share of the total cultivated surface moved from 20% in 1996 to 53% in 2012 (Giarraca y Teubal, 2013:26- 7). This trend was common to other South American countries, making the region one of the main producing poles: in the period between 2000 and 2009 the production of Brazil, Argentina and Paraguay accounted for over 70% of the global, non-US, total (Elgert, 2012).

While the ‘soy boom’ made possible for South American countries to increase their exports and use the resulting extraordinary incomes in redistributive policies – what some describe as a neo- extractivist development strategy (cf. Burchardt and Dietz, 2014) – many critical voices have pointed out the serious sustainability deficits inherent to the socio-economic model on which this phenomenon has been based. Among the main ones, it can be highlighted: the serious threats to biodiversity and food security posed by the excessive specialization in a commodity for exports (Palmisano, 2016:27); a strong tendency towards concentration, as soy production is increasingly dominated by big capitalist groups that buy or lease land from smaller producers, displacing peasant and family agriculture (Craviotti and Gras, 2006); the deforestation of native forests, the destruction of autochthonous biomes, the replacement of extensive for intensive cattle raising and the displacement of aboriginal groups, all as a consequence of the “soy-ization” of previously non- agricultural lands (Altieri and Pengue, 2006).

It is against this backdrop that a variety of initiatives have begun to spring with the goal of securing more sustainable conditions of production, trade and consumption in the global value chain of soy. Probably one of the best known global initiatives for the regulation of the soy sector is the certification put forward by the Round Table on Responsible Soy (RTRS), which has stated as its mission to “encourage current and future soybean is produced in a responsible manner to reduce social and environmental impacts while maintaining or improving the economic status for the producer” (<http://www.responsiblesoy.org/english-rtrs-implements-worlds-first-zero-deforestation-standard-for-soy-production/?lang=en>, 15 May 2017). While its motto of “socially equitable, economically feasible, environmentally sound soy” points towards a multidimensional approach, the most detailed and demanding regulations of

the voluntary standards created by this multi-stakeholder initiative are related to the environmental conditions of soy production. Hence, after its latest round of reviews, RTRS has proudly announced that they are “the only multi-stakeholder certification scheme that guarantees zero deforestation in responsible soy production” granting certifications only to those producers whose “operations have not impacted on any native forests, wetlands or riverbanks” (<http://www.responsiblesoy.org/english-rtrs-implements-worlds-first-zero-deforestation-standard-for-soy-production/?lang=en> 15 May 2017).

RTRS appears as a paradigmatic example of those governance initiatives that seek to tackle economic problems with the same tools provided by the dominant economic system – in this case, the creation of a market for “sustainable soy”, to be accessed through a certification, where incentives for producers are found in the form of access to market niches or economic premiums. The proposed paper, consequently, will examine the initiative put forward by RTRS by answering the following question: *what are the economic and political implications of the certification system developed by the Round Table on Responsible Soy?* My working hypothesis is that the market-based, consumption-led strategy put forward by RTRS can be best characterized as an example of a *Landnahme*, as conceptualized by Klaus Dörre (Dörre et al., 2015). The idea of a *Landnahme* seeks to explain the dynamic nature of capitalism and its need to economize and commodify previously non-economic spheres of social life. Hence, the proposed paper will explore: (a) the process of *economization* put forward by RTRS by treating a problem of (environmental) sustainability in economic terms; (b) the *commodification* entailed in the creation and exchange of a commodity called “responsible soy”; (c) the *financial-like logic* adopted by the system, best evidenced in the creation of purchasable and tradable “credits”, which make possible to detach “sustainability” from any specific commodity.

This paper is part of my ongoing postdoctoral research. The empirical analysis will be based on a variety of documents produced by RTRS (standards, explanatory documents, diffusion materials, minutes) and interviews with RTRS relevant actors.

# **Actuarial responses to global environmental crisis: climate risk, investment and the insurance industry**

*Nick Taylor (Goldsmiths, University of London)*

## **Abstract**

The insurance industry has recently been identified by the Bank of England as an important site for the management of climate-related financial risk and instability (Carney 2016, 2015) and representative bodies for the actuarial profession in Britain such as the Institute and Faculty of Actuaries (IFoA) are seeking to encourage their members to consider climate risks in their valuations and the risk management work they perform (IFoA 2017; The Actuary 2015). This paper considers the way in which climate change and the environment generally are (and are not) being considered by the actuarial profession in the UK. In doing so it explores how, and to what extent the profession is expanding its jurisdictional reach in the area of climate-related financial risk, and relatedly, what hope there is for actuaries to affect a transition to a low carbon economy. Currently, many of the models that actuaries employ come from financial economics, and render their analyses of assets and liabilities blind to certain forms of risk, such as those associated with 'stranded assets' (Silver 2017a). The research is in part based on semi-structured interviews with members of the IFoA across different areas of actuarial expertise which explored their understandings of risk and uncertainty, and how these might relate to issues of social and environmental responsibility that the profession bears. The paper focuses on the active role the profession is attempting to take in regard to the management and governance of climate-related financial risk, on the issue of modelling in actuarial work and on the prospects of disclosure as a means to effectively tackle climate change.



## **Capturing clients in a contested market: analysis of the relational work of carbon offset sellers in the voluntary carbon offset market**

*Alice Valiergue, Center for Sociology of Organization (Sciences Po & CNRS)*

### **Abstract**

In the “voluntary” carbon offset market, firms buy carbon credits without any legal obligation to do so. For the actors of this market, one carbon credit equals a ton of CO<sub>2</sub> that has been reduced through a project in a developing country. The principle of developing carbon emission reduction projects in developing countries, is at heart of the Clean Development Mechanism (CDM), a flexible mechanism of the Kyoto Protocol adopted in 1997 that requires carbon emissions reductions objectives for developed countries. Carbon offsets exchanged on the voluntary carbon market or in the CDM framework are both contested. The critics are linked to the fight against climate change and the survival of humanity. The actors (environmental NGOs, journalists, scientists) denouncing the voluntary carbon market actually account for moral controversies since they consider it will not be the best way to fight climate change and save the people and the planet’s integrity. Since enterprises have been sensitive to NGOs’ messages on sustainable development since the 1990s (Aggeri and Godard 2006), we ask in this paper how carbon credits producers and sellers for the voluntary carbon market manage to sell their contested product to firms. Because of these barriers to the purchase of voluntary carbon credits by firms, we propose to explore the social mechanisms through which carbon credits producers and sellers manage to get clients on the voluntary carbon market. This paper proposition based on a Ph. D. research on the voluntary carbon market argues that the actors of the voluntary carbon market manage to sell carbon offsets partly because of their relational work focused on capturing and attaching clients to themselves.

# **“Economizing” carbon emissions by reducing future deforestation to promote sustainability: critical analysis of a local indigenous voluntary REDD+ project**

*Claudia Suzanne Vitel<sup>1,2</sup>, Maya Leroy<sup>2</sup>, Philip Martin Fearnside<sup>1</sup>*

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## **Abstract**

Deforestation rates in the Brazilian Amazon declined from 2004 to 2012, in part due to the implementation of governmental measures and market-tools. However, in contrast to the regional decreasing trend, deforestation progressed inside the protected areas, including indigenous lands. Since 2005, Reduction of Emissions from Deforestation and Forest Degradation (REDD+) has been seen as a promising option to support implementation of sustainable plans in protected areas and indigenous lands. This paper analyzes the implementation of a voluntary REDD+ project in an indigenous land of 250 000 hectares, focusing on three essential environmental issues: responsibility, accountability and legitimacy. After several years of implementation of the Suruí Forest Carbon Project (SFCP), it is now possible to analyze the establishment of this new “managerial arrangement.” Our results showed that local deforestation is closely linked to cattle-ranching activity, which has a strong productive chain that combines private investments and public support. We showed that the SFCP initially gained in legitimacy, both at the international and local scales but that the drop in the voluntary carbon market and the confusing legal status concerning REDD+ in Brazil undermined the efforts of the SFCP coalition. Discontent from unrealistic expectations regarding the rapidity and magnitude of the SFCP’s financial benefits, combined with disagreements among the four Suruí clans, now pose a threat to the SFCP and to the Suruí’s Fifty-Year Sustainability Plan.

# **Aligning Economic Growth & Environmental Protection: the social life of the corporate carbon footprint**

*Jayme Walenta (University of Texas)*

## **Abstract**

The corporate carbon footprint is a technology that allows companies to draw links between atmospheric emissions and those who produce them. The tool's purpose is to facilitate the eventual trading of those emissions on the market, and/or to direct corporate climate investments into low carbon solutions in key emission hotspots. The most notable of these footprint tools, used by thousands of companies in the voluntary realm since 2001, is the World Resource Institute's (WRI) GHG Protocol (hereafter Protocol). The Protocol frames an encounter between businesses and climate change. Guided by the Protocol's rules, this encounter takes a very specific shape, fundamentally reordering relationships between companies and *their* greenhouse gas emission sources. Effectively, the Protocol draws clear lines for companies distinguishing where their climate change responsibilities lay in relation to the responsibility of other companies. This in turn has repercussions for how and where corporations respond to climate change.

The Protocol achieves a designation in emission responsibility through the concept of scoping, or the ranking of emissions based on degrees of legal ownership or private property. Once scoping is accomplished, companies then quantify their climate impact, and plan for a carbon constrained future through climate infrastructure investments into activities that lie within their individual boundaries. Commonly, this results in attributing emission responsibility to locations that are company owned, and usually in the Global North. Responsibility for emissions that are outsourced, often in the Global South, are relegated to far away entities. The end result is an uneven distribution of climate responsibility across space, which poses implications for where billions of dollars of corporate climate infrastructure investments are made.

Little has been written on the Protocol's formation, how it emerged, and why it frames emission responsibility in the manner that it does. This paper investigates origins of the Protocol as a tool that measures corporate climate impacts and puts companies on a path of continuous climate improvement. Specifically, I reveal the institutions and stakeholders involved in the development of the tool, as well as the processes behind how the Protocol came to structure emission responsibility, that is privileging emissions that are corporately owned, and neglecting emission from outsourced activities. My focus centers on pinpointing the conditions under which emission responsibility as a concept aligned with financial accounting practices emerged.

The research for this paper involved both archival work at the WRI headquarters in Washington, DC, as well as semi-structured interviews with key members of the steering committee. Archival documents include steering committee working papers,

papers developed by sub-committees, and comments by the wider public generated during the open comment period. Using these documents, I trace the evolution of the concept of emission ownership and responsibility as related to the tool's development over time. Interview data is used to situate archival documents within larger cultural and political contexts, and clarify various narratives that emerged within those documents. Providing further context to my analysis, I draw on my 6 years of experience as carbon management consultant, where I helped hundreds of companies assess their corporate carbon footprint using the Protocol.

In line with my research questions, the paper is tentatively organized into the following sections, (1) the broader cultural and political context surrounding the early discussions to develop a business focused carbon footprint tool, (2) discussion of the key institutions and stakeholders involved in the Protocol's formation and their relationship to one another, (3) how the tool ultimately frames emission responsibility, and the origins of this concept, (4) additional conceptualizations of emission responsibility put forth in development discussions, and (5) implications of this approach towards emission framing for climate investments and climate justice.

The contributions of this project are to challenge our understanding of a seemingly innocent and neutral tool used to respond to climate change, and to open up the process behind how emission responsibility is attributed through particular climate assessment and management tools. To seal off discussions around the tool's formation hides the fact that such logics and internal technologies must be written. And, that authorship is often the product of negotiations and contestations of the actors involved in the process. Revealing the process of how the Protocol came to look the way it does, we establish the prospect to dialogue on changing the device's logics to embrace a new ethic towards emission calculation and boundary drawing, one that may better facilitate climate responsibility and investment across space.