Studying a (contested/ concerned) market in the making

Voluntary offsetting, from UN climate talks to corporate sustainability departments

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Since the 1990s, carbon markets have been embraced as a policy tool to address climate change. As mentioned by Anita Engels in her editorial to the previous Newsletter, the design of emissions trading markets, where companies buy and sell allowances, requires significant work from legislators and regulators. In economic sociology, carbon markets tend to be associated with the idea of a "government by markets" (Ansaloni, Trompette, and Zalio 2017) and the task of the sociologist is to attend to the interplay between market dynamics and political decision-making (Engels 2006; Mackenzie 2009; Ehrenstein and Neyland, forthcoming). We propose here to expand the study of carbon markets by looking at the way in which "voluntary" offsetting operates. To participate in this market, you can visit the website of an offsetting organization, where a calculator helps you quantify how much carbon dioxide (CO_2) you release into the atmosphere in a year, from the energy needed to heat and light your home to your car mileage and air travel. The interface then allows you to make an online payment in exchange for a certificate, usually referred to as a carbon offset or carbon credit. You might be offered different projects to buy emissions reductions from, for example a "reforestation initiative in Kenya," "community projects" financing efficient cook-stoves and filtered water in India and Uganda, or a rather generic "portfolio of activities in the Americas" (from websites specialized in carbon footprint). Our aim in this piece is to explore some of the ways in which studying voluntary offsetting can contribute to a broader reflection in economic sociology on the rise of private governance and voluntary regulation based on the construction of new markets.

Public authorities do not directly regulate the voluntary carbon market, even though, as we shall see, its existence is the result of some form of policymaking at the international level. Demand for voluntary offsets mostly comes from corporate buyers. These are large companies in the energy, banking, and consumer goods sectors, headquartered in Europe, North America, and Australia. Compared to other commodities like oil, cotton, or specialty coffee, this global market is tiny, both in value and volume. It is also saturated with moral controversies. Critics argue that this market does not address the sources of greenhouse gas emissions, but allows carbon offset sellers to make money off the climate crisis as they undertake a highly speculative economic activity, with detrimental consequences (especially in the case of forestry projects where land grab can take place, Bisserbe 2011; Yee 2016). From that perspective, it is a "contested market" (Steiner and Trespeuch 2019; Valiergue 2019). But if we look at carbon market proponents, they might describe voluntary offsetting as a "concerned market" (Geiger et al. 2014), a market where sellers and buyers align an economic activity with a certain understanding of the common good, namely here reduce greenhouse gas emissions and contribute to local development. Our intention is not to evaluate this market and

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add to existing critiques. Instead, we want to understand where this market comes from, how it has evolved, and what the practices of sellers and buyers of voluntary offsets are.

This piece draws on the research we did on carbon offsetting at two different moments in the short history of this market. Véra Ehrenstein examined the turbulent development of carbon offsetting as an international market-based policy within United Nations (UN) climate talks since the early 1990s. She carried out fieldwork primarily between 2010 and 2012 and followed the negotiations regarding whether reducing deforestation and increasing reforestation in the Global South should be allowed to yield marketable offsets – what has come to be referred to as REDD+. Her research also included a case study of a reforestation project implemented by a local social enterprise in a Central African country and ethnographic observations within the country's environment ministry as it prepared for regulating future offsetting projects in the forest sector. Alice Valiergue focused on the emergence and consolidation of the voluntary offsetting market, in parallel to UN negotiations, from the late 2000s onwards. Her fieldwork took place between 2013 and 2015, when she interviewed a large number and diverse range of market participants in France, the UK, Germany, the Netherlands, Belgium, Switzerland, and the United States (e.g., companies and non-governmental organizations developing projects and/or selling offsets; corporate clients, auditors, standardization bodies, think tanks, public authorities, and consultants). Her research also included case studies of three projects – clean cook-stoves, filtered water, and forest conservation – developed in an East African country. We both engaged in extensive documentary research as well, to collect the vast documentation through which carbon markets are given effect, regulated, and contested. Bringing together these multi-sited research projects provides insights into a market in the making. Our approach is to study voluntary offsetting as an ongoing collective doing (Callon 2009).

From compliance to voluntary market and back

To understand the emergence of voluntary offsetting, we need to turn to its model: the Kyoto Protocol agreed by almost all the world's nations at the UN climate talks in the late 1990s. The Protocol committed the so-called developed countries to meet greenhouse gas emissions targets. "Flexibility mechanisms" were established to facilitate their task. In particular, the Clean Development Mechanism (CDM) allowed for projects implemented in a country with no obligations under the Protocol (in the Global South) to claim emissions reductions, which could be bought and used to comply with the emissions targets (in the Global North). A UN bureaucracy was put in place to operate the CDM, regulate the selection of projects, ensure that national governments in host countries authorize them, and certify the production of carbon offsets eligible to compensate for emissions released in buyer countries. The UN treaty and the rise of compliance offsetting contributed to making climate change a concern for a wider range of businesses, in Europe, North America, and Australia. In places, such as the United States, which dropped out of the Kyoto Protocol, interest in voluntary offsetting was strong, partly in anticipation of potential future legislation. More generally, for many Euro-American consumer-facing firms, reducing greenhouse gas emissions became synonymous with sustainability. In the mid-2000s, emissions reporting started featuring pre-eminently in corporate responsibility strategies and demand for voluntary offsets grew.

A critique frequently articulated in the press, when voluntary offsetting started developing as a potentially lucrative business, concerned the unregulated nature of the market. The dismissive term "carbon cowboys" came to be widely used to refer to organizations and individuals "looking to make a quick buck" (Harvey 2007), committing violence to acquire land and forest resources, selling fake offsets, or running scams targeting the elderly (in the United Kingdom, for example, multimillion pound scams occurred; Levene 2011; BBC News 2013; Press Association 2013). In response to such a bad press, business associations (representing corporate offset buyers), offsetting companies, and non-governmental organizations collaborated to set up voluntary certification systems. The CDM provided the blueprint. The Verified Carbon Standard, now known as "Verra" and now the most widely used scheme, literally built on the CDM by de facto accepting its "methodologies" and accredited auditors (more on this later). Borrowing the procedures of the UN bureaucracy was expected to lend credibility to the voluntary standard.

The interplay between business initiatives and UN regulation does not end here. Controversial subjects in the diplomatic arena could find a place within the voluntary carbon market. Private regulation based on standards consolidated the idea that contested environmental solutions can be partially contained. Our research showed that forest projects (planting trees to store carbon or protecting a piece of forest at threat of deforestation) are a good illustration of this (Ehrenstein 2018a). They have been extremely popular in the

offsetting market ("people love it," to quote an offset seller quoted in the press, Davies 2007) and relentlessly opposed. Their controversial nature dates back to the early 2000s and the UN climate talks. As negotiators were negotiating the rules of the CDM, they disagreed on the possibility of selling emissions reductions from planting trees and protecting forests. Arguments were made about the uncertainty surrounding the estimation of carbon storage in living things, non-permanence (a fire can destroy the vegetation and release the carbon into the atmosphere), leakage (a piece of forest might be protected but the deforestation threat would have moved elsewhere), and concerns about national sovereignty over a strategic resource (particularly strong in Brazil). As a result, the CDM only authorized afforestation and reforestation projects. A couple of years later, a coalition led by the delegations of Papua New Guinea and Costa Rica suggested a new UN mechanism that would provide "incentives" for "reducing emissions from deforestation and forest degradation in developing countries" (REDD+). It revived debates about forest conservation projects. In the end, the mechanism did not fully materialize, partly because no consensus was reached on whether it could be financed through offsetting (Ehrenstein 2018b). This, however, did not prevent conservationists and offsetting companies from branding "REDD" offsets, and some jurisdictions, like California, have considered integrating these credits into their carbon market legislation.

Counterfactuals, costs, geographical consequences

To keep carbon cowboys at bay, certification schemes, such as Verra and like the CDM, require expertise and paperwork. Project developers must complete a 50 to 100 page-long form, where the envisioned activity is detailed: duration, location, type of project, technology used, baseline, projected emissions reductions, organizations involved, groups of people affected, etc. A key requirement is to project and anticipate how things will happen. In the case of a reforestation activity, this includes predicting the growth rate of the planted trees and their carbon storage capacity. A "virtual forest" is brought about on paper, where a scenario with the project is compared to a baseline without the project in a "counterfactual display" (Ehrenstein and Muniesa 2013). What is sold in the offsetting market is a quantity of CO_2 equivalent that has *not* been emitted. To compute such a number, offset producers must imagine what would happen if their project were not implemented, estimate how much greenhouse gas emissions would be released, and that is the baseline. The performance of, say, tree planting is calculated on that basis, by subtracting the quantity of carbon stored in the vegetation that the plantation is replacing. To compensate for emissions elsewhere, emissions reductions must be "additional." It must somehow be demonstrated that without the market offering the possibility to sell carbon credits, the activity would not have been carried out (e.g., because without the income from the sale it would not be a viable business proposition). The language used to describe the baseline scenario is value-laden. In one of the reforestation projects we studied, the current savanna land cover, the baseline scenario, was described as "degraded" due to the regular spread of fire, a component of a well-functioning savanna ecosystem. In this same project, the tree planting activity had to be defined as reforestation. The developer and the consultants hired to complete the paperwork were not able to find sufficient proof that in 1960 the area was not covered with trees. They only had a satellite image from the late 1980s. Consequently, the activity did not fit the afforestation category, even though it seemed unlikely that there had been a forest there in the past. By valuing trees and the carbon they store, the "methodologies" used to calculate offsets simultaneously devalue other ecosystems, here savannas which are reduced to "degraded" land that is to be reforested (for a similar point see Collard and Dempsey 2013).

Paperwork and expertise are costly. Complying with the requirements of certification schemes often involves feasibility studies, further adding to the cost. In an afforestation/reforestation project, for example, planting experiments with different tree species might be undertaken. In a cook-stove project, laboratory tests would be conducted with different stoves to assess their fuel efficiency – the offsetting rationale here is that improved stoves reduce fuel consumption and CO_2 emissions. Another cost incurred throughout the project is monitoring, that is, the actions taken to measure the climate performance as well as other impacts (cf. the co-benefits below). In a cook-stove project, field agents would interview participant households about their use of the clean stoves and record the data on smartphones. In a reforestation project, staff would be trained to measure tree diameters and use software to estimate the plantation's carbon storage. Offset producers then also need to pay for audits. Flying auditors from Europe to spend a few days on site, in Central or Eastern Africa for example, is how third-party verification usually works. Finally, offsets must be stored on registers managed by firms specialized in financial services, an additional cost borne by offsetting firms. Based on our estimates, the cost of running the activity (e.g., manufacturing and distrib-

uting cook-stoves; buying seedlings and planting trees) might represent half the total cost of production of certified offsets. Anticipating these expenditures and the prices at which future credits might be sold, cost calculations inform investment decisions. This tends to draw the attention of carbon offset producers towards certain locations. Places ranking high in terms of "country risk," where projects are expected to be associated with high costs, are sometimes chosen. For example, the Democratic Republic of the Congo hosts a few offsetting projects, even though it provides a rather challenging implementation environment. But its status as "postwar" makes it worth trying, as any initiative there will have "a huge social impact," argued a retailer who was buying offsets from an agroforestry project and had already resold them to an agribusiness multinational. Our research, however, suggests that the development of the voluntary carbon market produces a more selective geography, where preferred locations can be described as *not-just-yet-sufficiently-developed*.

Offset producers draw the contour of the tacit category of not-just-yet-sufficiently-developed, when they consider where to invest, by taking into account a series of characteristics, e.g., local industry relevant to the project, business environment, reliable infrastructures, political security, and available statistics. For example, the CEO of an offsetting company explained why they changed their mind about a clean cook-stove project in Niger as follows: "No one had ever manufactured improved stoves there." To calculate certifiable emissions reductions, the stoves must be standardized. The energy performance of a single stove can then be multiplied by the number of stoves used in a project. The corresponding emissions level is then compared to what would happen with the use of traditional stoves. Before giving up on Niger, the CEO even considered importing stoves from China. While the idea sounds surprising, its impact in terms of CO_2 emissions was not the reason why it was abandoned. Instead, the developer mentioned the costs, risks, and hassle associated with long-distance transport (ceramic stoves break easily) and concerns over the arbitrariness of customs controls. In the geography of offsetting, East Africa appears, in contrast, ideal for such entrepreneurial activities. Offsetting organizations that are active there evoked several reasons for choosing the location: stoves could be manufactured at a low cost locally, infrastructures like electricity and transport are (more) reliable, and the region has a dense economic network. Such a geographical effect, as well as the ecological hierarchy evoked earlier, are two aspects of the market that deserve more research.

Buying an imagery

Carbon offset producers and retailers sell their products wrapped up in communication materials. Offsets have increasingly been associated with bundles of local positive consequences called "co-benefits." One might argue that what is traded in the voluntary market is an imagery. The portfolio manager of a retail company listed the following range of useful communication supports: "It can be a story of a family or a video, or it's an impact report and quantification." The market being under constant public scrutiny, communication is sensitive, and profitable, territory. In the literature, it has been suggested that voluntary offset buyers "want to feel a connection," and while "carbon is so abstract," offsetting projects can be "colourful and personable," involving "real people" (manager of an offsetting organization quoted in Lovell and Liverman 2010, 266). But this connection is a mirage as, on the contrary, it is great distance that allows the win-win "spectacle" – offsets are good for the climate and the poor – to be successfully performed for clients kept ignorant of the messy details (Canavagh and Benjaminsen 2014). Even when they get to see the activities "on the ground," a performance is staged. Therefore, despite an apparent diversity of offsets, the stories and iconography representing the projects and their co-benefits use a limited range of stereotypes (Lehmann 2019). Cook-stoves projects, for example, are usually described as benefitting poor women in charge of their households. Testimonials displayed online by certification schemes attest to that: "Using the stove has made a big difference to our households. It does not emit smoke and is very light, which enables us to move it from one location to another as we wish. Smoke used to bother us a lot, irritating our eyes, chests, and making our kids sick. Now you wouldn't know where was one cooking as there is no soot nor a lot of ash." The quote from "Nadia, a Shagra project beneficiary in North Darfur"[1] (another "postwar" location) is illustrative of the storytelling, and stereotypes, deployed to sell offsets, which is reminiscent of the marketing of Fair Trade, organic, and *terroir* products (e.g., coffee, see West 2010; on "fair carbon" see Howard et al. 2015).

Thinking of offsets-with-co-benefits as emissions reductions associated with stories and visuals led us to turn to the buyers. Companies' sustainability departments are well aware of greenwashing accusations and seldom do they purchase offsets just to improve their corporate image. But they do buy an imagery. Offsetting is useful to obtain more leverage internally. Corporate sustainability officers tend to have a high hierarchical position but without the financial means

to do their job (Carollo and Guerci 2018). Offsets help them draw attention internally to environmental issues, and communication supports were said to be particularly useful in this respect. They give flesh to climate mitigation. Internal seminars can be organized where images of African women forced to walk far to get wood might raise awareness among executives, so that "they understand it is important for the company to invest in the environment," explained a sustainability officer. Executives are expected to make the case to shareholders. Offset sellers are sometimes invited to narrate the local challenges addressed by the offsetting activity from which the company buys emissions reductions. Promotional films are screened, Q&A sessions facilitated. For sustainability departments, buying offsets-with-co-benefits appears to be an effective awareness-raising tool, whether it is to target shareholders, executives, or employees. It introduces the idea that greenhouse gas emissions have a cost. Within companies, carbon credits and their stories might then lead to doing more and further internalizing the externality. Offsetting organizations can expand their services into setting an internal carbon price or assigning emissions reduction targets to departments. Besides supporting a discourse of corporate morality (Shamir 2008), our work indicates that in some cases buying offsets helps empower sustainability departments. Offsetting, therefore, is not always solely a cost-minimization strategy to offshore climate action – "a spatial fix" of capitalism (Bumpus and Liverman 2008).

Conclusion

Let us consider as economic sociologists how to respond to a question often raised about carbon markets: Should I offset my emissions? Recent newspaper articles ask the same question (e.g., in *National Geographic*, Gibbens 2019; *The Guardian*, Vidal 2019; *The New York Times*, Mock and Tabuchi 2019). In a morally charged language, the journalists acknowledge that voluntary offsetting is hard to navigate. Advice is given on how to do it properly: by buying certified offsets. Our research has highlighted three dynamics that help position this answer within a broader (critical) perspective. First, being seen as a legitimate business, selling valuable products, is precisely the effect offsetting organizations have sought to have. One sees here how "concerned" markets and "contested" markets are two sides of the same coin: critiques and disputes that render the market contested are a concern for market agents who do not want to be dismissed as carbon cowboys nor accused of greenwashing. To address criticisms, concerned market agents try to further legitimize their activity by selling and buying morality (co-benefits and associated imagery). Secondly, and relatedly, appearing to be morally good relies on ever more certification. New standards are created to address emerging concerns (e.g., the Climate, Community & Biodiversity [CCB] Standards, which aim to guarantee that offset producers support, or at least consult with, people that might be affected by their activity). The development of the voluntary offsetting market develops other markets, for certification, audits, and expertise. Buying emission reductions results in financing the auditing and consultancy industry and many long-distance flights (cf. the high cost of certification). Finally, voluntary offsetting is intertwined with climate legislation and compliance carbon markets. While we saw that, in the mid-2000s, nascent private certification schemes imitated the UN offsetting mechanism, the trend has now reversed. For new market-based climate legislation, building on existing voluntary standards is an attractive option to quickly become operational. But, ultimately, the value of offsets still depends on the priority that public authorities give to climate change. More than a decade ago, the financial crisis and the economic recession had detrimental impacts on voluntary offsetting. The 2020 coronavirus pandemic might have a similar effect on both compliance and voluntary carbon markets, especially as a couple of years ago a new international regulation of aviation emissions was agreed, and it was envisioned that it would provide a large demand for offsets in the near future (a hybrid of compliance and voluntary market). If economic times are enduringly bad, companies in other sectors could also cut their sustainability expenditures, including offsets. The compensatory, low-involvement logic of offsetting might be blamed for undermining the urgency of addressing climate change. But if businesses, and people, continued to willingly bear a cost to offset their emissions, despite economic gloom, it may help make it more of a priority. So, should you offset your emissions? Well, that remains an open question.

Endnote

1 https://www.goldstandard.org/projects/fuel-efficient-stoves-north-darfur-women, last accessed June 6, 2020 (page discontinued).

References

Ansaloni, Matthieu, Pascale Trompette, and Pierre-Paul Zalio. 2017. "Le marché comme forme de régulation politique". *Revue française de sociologie* 58 (3): 359–374.

BBC News. 2013. "Elderly investors warned over £24m carbon credit scam." BBC News, 6 November. Available at: https://www.bbc.com/news/business-24828797
(accessed 23 June 2020).

Bisserbe, N. 2011. "Les chasseurs de carbone. Les entreprises à l'affût des forêts africaines." *Revue* XXI (16), oct.-nov.-déc.

Bumpus, A., and D. Liverman. 2008. "Accumulation by Decarbonization and the Governance of Carbon Offsets." *Economic Geography* 84 (2): 127–155.

Callon, M. 2009. "Civilizing markets: Carbon trading between in vitro and in vivo experiments. Accounting." *Organizations and Society* 34 (3): 535–548.

Carollo, L., and M. Guerci. 2018. "'Activists in a Suit': Paradoxes and Metaphors in Sustainability Managers' Identity Work." *Journal of Business Ethics* 148: 1–20.

Cavanagh, C., and T. Benjaminsen. 2014. "Virtual nature, violent accumulation: The 'spectacular failure' of carbon offsetting at a Ugandan National Park." *Geoforum* 56: 55–65.

Davies, N. 2007. "The inconvenient truth about the carbon offset industry." *The Guardian*, 16 June 2007.

Ehrenstein, V., and F. Muniesa. 2013. "The Conditional Sink: Counterfactual Display in the Valuation of a Carbon Offsetting Reforestation Project." *Valuation Studies* 1 (2) : 161–188.

Ehrenstein, V. 2018a. "The friction of the mundane: on the problematic marketization of the carbon stored by trees in the tropics." *Journal of Cultural Economy* 11 (5): 404–419.

Ehrenstein, V. 2018b. Carbon sink geopolitics. *Economy and Society* 47 (1): 162–186.

Ehrenstein, V., and D. Neyland. Forthcoming. "Economic under-determination: Industrial competitiveness and free allowances in the European carbon market." *Journal of Cultural Economy.*

Engels, A. 2006. "Market Creation and Transnational Rule Making: The Case of CO2 Emissions Trading". In *Transnational Governance: Institutional Dynamics of Regulation*, edited by Marie-Laure Djelic, and Kerstin Sahlin-Andersson, 329–348. Cambridge: Cambridge University Press.

Collard, R. C., and J. Dempsey. 2013. "Life for sale? The politics of lively commodities." *Environment and Planning* 45 (11): 2682–2699.

Geiger, Susi, Debbie Harrison, Hans Kjellberg, Alexandre Mallard. 2014. *Concerned markets. Economic Ordering for Multiple Values.* 2nd Interdisciplinary Market Studies Workshop, Dublin, Ireland. Cheltenham, UK: Edward Elgar: 269.

Gibbens, S. 2019. "What are carbon offsets? Here's why travelers are buying them." *National Geographic*, 10 December.

Harvey, Fiona. 25th April 2007. "Beware the carbon offsetting cowboys." *Financial times*.

Howard, R. J., A. M. Tallontire, L.C. Stringer, et al. 2016. "Which "fairness", for whom, and why? An empirical analysis of plural notions of fairness in fairtrade carbon projects, using Q methodology." *Environmental Science and Policy* 56: 100–109.

MacKenzie, Donald. 2009. "Making things the same: Gases, emission rights and the politics of carbon markets." *Accounting, Organizations and Society* 34 (3–4): 440–455.

Mock, J., and H. Tabuchi. 2019. "How to Buy Carbon Offsets." *The New York Times*, 24 July.

Lehmann, I. 2019. "When cultural political economy meets 'charismatic carbon' marketing: A gender-sensitive view on the limitations of Gold Standard cookstove offset projects." *Energy Research and Social Science* 55: 146–154.

Levene, T. 2011. "FSA warning over carbon credit trading schemes." *The Guardian*, 5 August 2011.

Lovell, H., and D. Liverman. 2010. "Understanding Carbon Offset Technologies." *New Political Economy* 15 (2): 255–273.

Press Association. 2013. "Carbon credit fraud firms closed." *The Guardian*, 6 November 2013.

Shamir, R. 2008. "The age of responsibilization: on market-embedded morality." *Economy and Society* 37 (1): 1–19.

Steiner, P. and M. Trespeuch. 2019. "Contested Markets: Morality, Market Devices, and Vulnerable Populations." In *The Contested Moralities of Markets* (Research in the Sociology of Organizations 63), edited by S. Schiller-Merkens, and P. Balsiger, 31–48. Bingley, UK: Emerald Publishing Limited.

Valiergue, A. 2019. "Relational Work as a Market Device: An Analysis of the Contested 'Voluntary' Carbon Offset Market." In *The Contested Moralities of Markets,* edited by S. Schiller-Merkens, and P. Balsiger, 49–66. Bingley, UK: Emerald Publishing Limited.

Vidal, J. 2019. "Offsetting carbon emissions: 'It has proved a minefield'." *The Guardian*, 2 August.

West, P. 2010. "Making the Market: Specialty Coffee, Generational Pitches, and Papua New Guinea." *Antipode* 42: 690–718.

Yee, A. 2016. "Changing Kenya's landscape for wildlife and jobseekers." 8 June 2016. *The New York Times*.