Emissions Trading, New Enclosures and Eco-Social Contestation

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Abstract: The central operating strategy within the 1997 Kyoto Protocol and most of the advanced capitalist world's environmental policy is to address climate change through the market mechanism known as emissions trading. Based upon government issuance and private trading of emissions reductions credits and offsets, this approach quickly rose to $135 billion in annual trading. But in the wake of the collapse of climate negotiations in Copenhagen and a world financial crisis which undermined market faith in derivative investments, carbon trading has an uncertain future. Linkages between deep-rooted financial market and emissions market problems are revealing in spatio-temporal terms, especially in the context of a deeper overaccumulation crisis and investors' desperate need for new speculative outlets. It is in the nexus of the spatial and temporal aspects of carbon financing amidst resistance to "new enclosures" by adversely affected peoples, that broader-based lessons for global/local environmental politics and climate policy can be learned.

Keywords: carbon trading, financial crisis, externality, resource depletion, civil society

The political-economic branch of the geography discipline offers insights into the last decade's policy reactions to climate change, particularly because of its unique critique of mainstream economic approaches to greenhouse gas emissions mitigation. Systematically cutting emissions is vital to avoiding climate chaos, thereby maintaining the world's average temperature rise at 1°C this century, a level deemed necessary to avoid submersion of small islands and heavily inhabited coastland, and destruction of most African agriculture (that figure was formerly estimated to be 2°C but has since been lowered in demands made by the climate justice movement and tabled in the United Nations by the government of Bolivia in mid-2010). The radical tradition, as articulated most forcefully by David Harvey (1985, 1989, 1996, 2003, 2005, 2006, 2010), has tackled socio-economic phenomena including urbanization, political ecology, postmodernism, liberatory epistemology, imperialism and neoliberal public policy. What does this tradition warn us when contemplating the use of a market "solution"—carbon trading—to address a market problem: greenhouse gas emissions as an externality?

Matters are complex because the market does not map readily onto natural phenomena that are only now being understood by the world's leading climate scientists, e.g. sequestration of carbon in forests, oceans and grasslands. Thus Harvey (2006:123) warns that:

> the spatio-temporality required to represent energy flows through ecological systems accurately, for example, may not be compatible with that of financial flows through

Antipode Vol. 44 No. 3 2012 ISSN 0066-4812, pp 684–701 doi: 10.1111/j.1467-8330.2011.00890.x

global markets. Understanding the spatio-temporal rhythms of capital accumulation requires a quite different framework to that required to understand global climate change.

The challenge presented by the increased commodification of nature is that the spatio-temporal rhythms of financial markets now drive global-scale public policy for addressing global climate change, even in the wake of neoliberalism's crises, revisions, delegitimation and attempted relegitimation (Fine 2008; Foster and Magdoff 2009; Peck 2008).

As a result, the pages below attempt to elaborate, first, the context for the rise of emissions trading using historical-geographical materialism; second, the core theoretical propositions drawn from neoliberal ideology about carbon trading and the commodification of nature; third, the actual experiences with emissions trading including the carbon markets in the EU and Clean Development Mechanisms; fourth, political problems associated with US capital's (and US senators') failure to implement emissions trading; and fifth, eco-social resistance processes. The argument that follows is that spatio-temporal displacement capacities that emissions markets bring to the economic and ecological crises are attractive (to capital) in principle but difficult to implement in practice, largely because of ongoing disputes about how overaccumulation is displaced and ultimately devalued in uneven spatial and sectoral ways. That leaves a more hospitable terrain than previously considered for radical solutions that combine command and control with bottom-up climate activism, a much more effective mix than strategies on offer from elites.

Carbon Trading and Overaccumulation Crisis

The rise of carbon trading over the last decade is most compellingly understood through Marxian political economy. The two primary ways Harvey (1982) adds to Marx's crisis theory are through understanding space and time in part as displacement strategies during the capitalist "overaccumulation crisis". This perspective allows us to track several processes which overlapped, very dangerously, during the early twenty-first century (Bond 2009). Retracing to the late 1960s, a global economic slowdown began, as world GDP/per capita growth shrank from 3.6% during the 1960s to 2.1% during the 1970s to 1.3% during the 1980s to 1.1% during the 1990s. But while accumulation increased more rapidly during the late 2000s, it was only on the basis of untenable credit expansion, asset speculation and trade in (vastly overpriced) commodities, ultimately causing a major shock in 2007–2009, followed by a potentially long-term world stagnation similar to Japan's post-1990 crash. All of this occurred unevenly, as the spatial shift in industrial capital's location, to East/South Asian and Latin American emerging markets, also shifted the source of greenhouse gas emissions dramatically (Harvey 2010).

Financial markets evolved over the past three decades, once the temporal fix began in earnest with liberalization and a shift to a higher-interest rate regime in the late 1970s. As productive sector profit rates declined and financial returns boomed, the financial explosion in various kinds of derivative investments permitted virtually any notional value to be marketed as a credit for packaging and onward sale, including emissions of sulphur dioxide in the USA in the early 1990s and carbon in

Europe by the late 1990s. The commodification of the environmental commons proceeded apace, with water privatization, biopiracy, genetic modification and other processes controlled by multinational corporations generating expectations for what became the world's largest artificial market, that is, carbon emissions. But the financial markets overextended geographically during the 1990s–2000s as investment portfolios diversified into distant, risky areas and sectors. Global and national financial governance proved inadequate, leading to bloated and then busted asset values ranging from sub-prime housing mortgages to illegitimate emissions credits.

Likewise, geopolitical tensions emerged over which sites would be most vulnerable to suffer devalorization of overaccumulated capital after 2008, that is, which regions or countries would bear the brunt of the deep financial sector and real economic downturns. The global context in the 2000s was a sole military superpower oriented to neoconservative imperialism (especially in relation to US energy needs and corporate interests), but mitigated somewhat by a global class politics of neoliberalism. The neoliberal agenda was so dominant that notwithstanding the 2007–09 financial market crashes, the pseudo-Keynesian financial bail-out and public works strategies adopted in late 2008 were reversed in the USA just over a year later, as the Obama Administration announced a budget freeze and state and municipal governments engaged in drastic spending cuts. In the South, where the IMF quickly reverted to austerity mode, numerous economic pressures—debt repayments, current account deficits, rapidly slowing Foreign Direct Investment, more erratic portfolio capital flows and stagnant Overseas Development Aid—generated ever greater desperation for fresh financial capital inflows, including emissions mitigation investments.

Also by way of context, the resulting rise of civil society forces—the second half of the Polanyian "double movement" against excessive commodification—included organizations and networks dedicated to addressing climate change not through market mechanisms but instead through a "Climate Justice" approach. As discussed in more detail below, this entailed direct action against fossil fuel extraction and advocacy for national command-and-control emissions reduction strategies plus public works investments and regional/local utility and planning controls. Like global capitalism itself, this process developed extremely unevenly across space, with northern movements of radical environmentalists only fusing with southern economic justice advocates outside the 2007 Bali Conference of the Parties. The fusion of red and green influences was called the "Climate Justice Now!" network, and after the elites' Copenhagen summit fiasco in December 2009, gained momentum in an April 2010 "World Peoples Conference on Climate Change and the Rights of Mother Earth" in Cochabamba, Bolivia.

Given this background, how should historical-materialist-geographical analysis be applied? If the above contextual understanding is accepted, it helps provide critical perspectives about how space and time are mediated through financial mechanisms applied to greenhouse gases. The early evidence suggests that the externalities of market-created climate damages are not readily internalized through market mechanisms, but are instead *displaced*. The spatial displacement of overaccumulation entails new investment arenas at long geographical distance

and in new configurations of the built environment; while temporal displacement entails recourse to credit markets which permit payment later for the sake of present consumption (Harvey 1982). The application of these concepts to carbon markets requires consideration of several features.

For example, consider the market's triple troubles at the European, US and global scales. From mid-2008, the European Union Emissions Trading Scheme collapsed from levels around €30/tonne to below €9 before stabilizing in the €12–14 range in 2010, in the wake of December 2009 revelations that trading over the prior year and a half resulted in "losses of approximately €5 billion for several national tax revenues [with] . . . in some countries, up to 90% of the whole market volume caused by fraudulent activities", according to Europol (2009). Uncertainty over the potential development of emissions trading in the single largest market, the United States, is a major factor. From mid-2009, the US Senate came under pressure to pass legislation consistent with the House of Representatives, whose Waxman-Markey "cap and trade" bill (supported by President Barack Obama) entailed vast concessions to the financial markets and fossil fuel industries, yet which could not muster the 60 votes that Senator John Kerry required to pass a law given even more fierce right-wing opposition. At the end of 2009, the Copenhagen climate summit's collapse spooked the markets (resulting in large volume trades and another 10% loss in trades during 17–21 December), following an embarrassment for Third World emissions offsets in September when the United Nations disqualified its main verification agency (SGS UK) due to systemic irregularities in the firm's vetting of CDM projects and incompetent staff.

These were endogenous problems generated from above. From below, emissions markets came under attack from climate scientist James Hansen, environmental educationist Annie Leonard (whose 9 min film "The Story of Cap and Trade" received 400,000 hits in its first 2 weeks on the web in December 2009) and Friends of the Earth. More radical activists in Rising Tide, Platform, Climate SOS and Climate Pledge of Resistance increased protests at carbon markets and trading hubs including London, New York and Chicago in 2009–2010. The opposition was grounded in both practical experience and a sense that the world's most important ideological debates had suddenly moved into climate politics and environmental economics.

The Impeccable Logic of Pollution Trading

This sentence, by Lawrence Summers (1991:1) is amongst the most famous ever uttered: "I believe the economic logic behind dumping a load of toxic waste on the lowest-wage country is impeccable and we should face up to that." When, as World Bank chief economist, Summers signed a memo prior to the Rio de Janeiro Earth Summit endorsing the spatial displacement accomplished by markets to pollute, he helped us identify features of "enclosure" associated with commodification and primitive accumulation. Carbon trading fits the rubric of "accumulation by dispossession" that Harvey (2003) utilizes as an explanation for the desperate penetration of non-market spheres by capital under circumstances of both overaccumulation crisis and imperialist power. Several processes reflect this dispossession: a kind of "privatization of the air" through the allocation of pollution

rights as property rights; other enclosures of forests and land (and even landfills) that displace indigenous people and activities; the prevention of the South's potential development by buying up future emissions budgets; and the foregoing of any alternative strategy for capping, commanding and controlling emissions.

The origins of this process of dispossession are found, as Rosa Luxemburg (1968) puts it, in the uneven and combined way capital approaches the non-market terrain, by drawing it into the commodification process yet still permitting retention of "non-capitalist" features, albeit in a now distorted, degenerative form:

> Accumulation of capital periodically bursts out in crises and spurs capital on to a continual extension of the market. Capital cannot accumulate without the aid of non-capitalist organisations, nor . . . can it tolerate their continued existence side by side with itself. Only the continuous and progressive disintegration of non-capitalist organisations makes accumulation of capital possible.

If the atmosphere—specifically, a climate viable for human life and capital accumulation—is considered to be a "non-capitalist organization", then the commodification of the air itself (via the carbon markets) is a way for capital to accumulate on the one hand, yet on the hand, at the same time, to contribute to a liveable climate's continuous and progressive disintegration—since carbon markets are a "false solution" to the climate crisis.

Not only to capitalism in general but to financial markets in particular, carbon trading seemed to offer an attractive, fast-growing "green" investment, in a context of the crashes of overpriced property (2007–2009), equity markets (dot.coms in particular, 2000–2001), emerging markets (1997–1998) and other exotic, speculative investment outlets. The carbon traders' hope was that the market could generate high returns once global and national public policies aimed at pricing carbon were implemented. The base expectation had been $3 trillion in trades anticipated by 2020 plus trillions more in the derivatives business.

However, environmental and social consequences invariably arise, alongside the devastating breakdowns that bedevil financial markets as stores of wealth in such turbulent periods. Indeed, financial markets which most acutely combine space and time actually *amplify* uneven development when they operate more flexibly in geographical and temporal terms, under conditions of overaccumulation crisis (Bond 1999; Harvey 1982). As George Soros once wrote (*Financial Times,* 31 December 1997):

> The private sector is ill-suited to allocate international credit. It provides either too little or too much. It does not have the information with which to form a balanced judgment. Moreover, it is not concerned with maintaining macroeconomic balance in the borrowing countries. Its goals are to maximise profit and minimise risk. This makes it move in a herd-like fashion in both directions. The excess always begins with overexpansion, and the correction is always associated with pain.

Christian Suter (1992:41) explained the amplification of North–South unevenness in part through international financial flows: "first, intense core capital exports and corresponding booms in credit raising activity of peripheries; second, the occurrence of debt service incapacity among peripheral countries; and third, the negotiation of debt settlement agreements between debtors and creditors." To some extent

this is a consequence of excessive financial deregulation, especially applied to the "commodification of risk", as Larry Lohmann (2009a, 2009b) puts it. The invention of derivatives for energy-related investments that bear little relation to underlying "real" values was witnessed in the Enron disaster, yet carbon trading incentives have permitted new waves of overinvestment in risky emissions reduction outlets, followed by crashes. Michelle Chan (2009:3) shows how:

> The financial crisis was sparked by bad mortgages, and US carbon markets could pose similar problems through the creation of "bad carbon" or "subprime carbon". Subprime carbon contracts—called "junk carbon" by traders—are contracts to deliver carbon that carry a relatively high risk of not being fulfilled and may collapse in value.

The point, ultimately, is that deep-seated contradictions in industrial capitalism invariably bubble up into both financial and carbon markets. Hence, it is argued below, carbon trading represents at best a shifting of the deck chairs on both the climate and economic Titanics, and at worst—and most probably—will suffer from major new holes in the ships. Instead of displacing the crises by moving them around, the carbon markets have risen to attract hundreds of billions of dollars in trades, been corrupted as vehicles to genuinely solve economic and climate crises, and have sprung leaks that are so intimidating, even the US capitalist class has not found a way to patch up the idea of a market solution to a market problem.

The Carbon Market's Rise, Corruption and Fall

Although the point of this article is that dynamics of capital accumulation are creating a carbon space-economy based upon the enclosure (in 19th-century terms) of non-polluted air, oceanic carbon-absorption capacity, land, forests, social commons and indigenous knowledge, there is also a serious intellectual argument undergirding the carbon trade. John Dales (1968, 85) wrote "Pollution, Property, and Prices" as a way of reducing water pollution through waste quotas plus a market in "transferable property rights . . . for the disposal of wastes" interchangeable amongst firms.

However, it was only in 1990 that the US Environmental Protection Agency's (EPA's) Clean Air Act (CAA) was amended by Congress so as to establish a market for sulphur dioxide. Critics of emissions trading insist that sulphur dioxide continues to do harm because of the lack of strong regulation, itself a function of power relations in the US government–industry nexus. Instead, had command and control strategies—such as the 1999 EPA's New Source Review imposition of scrubbers on older plants (with a 95% sulphur dioxide removal record)—been applied, the results would have been far more impressive. To illustrate, command-and-control strategies in Europe had faster and more decisive results (87% reductions during the 1990s compared with 31% by the sulphur dioxide cap and trade), as they had as well in the USA from 1977 (when the CAA was passed) to 1990. Moreover, by addressing only a part of the sulphur dioxide from high-emissions sources (about 43% emissions reduction from 1990 to 2007), there were ongoing adverse local impacts of co-pollutants (e.g. mercury, lead, dioxin, nitrous oxide), especially in geographical areas with high concentrations of people of color. The coal industry initially succeeded in

grandfathering in plants built before 1977 so as to avoid CAA regulation, and these old plants were later brought into the cap and trade arrangement. Hence they were allowed to stay open longer by virtue of buying pollution allowances from more efficient plants. Activists at the US Public Interest Research Group and Clear the Air showed how ongoing environmental health hazards from these beneficiaries of sulphur dioxide cap and trade have a class/race bias (Ehrman 2010).

Seven years later, the Kyoto Protocol allowed "Annex 1" countries—wealthier states accepting binding constraints—to buy emissions credits if their emissions were higher than their share of the modest target of a 5.2% reduction on 1990 emissions levels by 2012. This allowed the sale of the "hot air"—excess permits—that Eastern Europe enjoyed because their industrial economies were reduced by 40% after 1990, during the transition to capitalism, and in turn allowed the Protocol to come into effect in 2005 after it was ratified by Russia (Prototype Carbon Fund 2005:45).

In addition to a general carbon trading framework which got its start in the European Union's Emissions Trading Scheme (ETS), two techniques were added to improve financing capacity for particular emissions-reducing projects: Joint Implementation between Annex 1 countries (with exceptions in the EU), and the Clean Development Mechanism (CDM) for Annex 1 country investors to fund emissions reduction or sequestration projects in non-Annex 1 countries (assuming that those projects demonstrably require "additional" finance beyond what can be done on a profitable basis without the CDM subsidy, and that they can claim to result in lower emissions than business-as-usual). A designated national authority—sometimes a state agency and sometimes a trusted consultancy—in each participating non-Annex 1 country reviews and approves such projects (most CDM applications have come from companies in India, China and Brazil, with the African continent severely underrepresented). If successful there, a CDM project moves to approval by a private-sector designated operational entity, which again verifies and certifies reduction claims, at which point a CDM Executive Board decision is made on a rubber-stamp basis aside from problem cases. Amongst the major catalysts of the CDM market is the World Bank's Prototype Carbon Fund. Most of the CDM certified emissions reduction permits have come from projects that reduce nitrogen and hydrofluorocarbons, which are much more potent greenhouse gases than carbon dioxide (Prototype Carbon Fund 2005). Landfill methane-to-electricity projects are most prevalent within the CDM trade, but are also controversial since the dumps sourced for methane often have dangerous incineration systems as well as informal-sector wastepickers whose livelihoods are threatened in the process, as discussed below.

It is ironic, given the role of Al Gore in catalyzing the market, that the most important missing force in the market, to date, is a US government commitment to carbon trading. In 2009 this commitment finally advanced in the House of Representatives through the Waxman-Markey bill aiming to cap and trade emissions. The law includes a pollution rights give-away, as well as a change to the CAA (which critics argue will gut the important law by exempting carbon as a pollutant from EPA oversight and regulation) plus a generous allowance of offsets which would

potentially delay actual US carbon dioxide reductions by two more decades. Such legislation stems from a firm belief in the efficacy of markets. As a presidential candidate, Barack Obama promised:

> We would put a cap and trade system in place that is as aggressive, if not more aggressive, than anybody else's out there . . . So if somebody wants to build a coal-powered plant, they can; it's just that it will bankrupt them because they're going to be charged a huge sum for all that greenhouse gas that's being emitted. That will also generate billions of dollars that we can invest in solar, wind, biodiesel and other alternative energy approaches (*San Francisco Chronicle* 2008).

In July 2008, the ETS price of carbon was €29.33/tonne, which probably gave Obama confidence in lucrative funding opportunities for renewables. But by election day in November that year, the price had crashed to less than €9/tonne (when, for example, €40–60/tonne was required to activate investments in carbon capture and storage, by which coal-fired stations could, theoretically, bury liquefied carbon emitted during power generation). Moreover, Obama dropped his promised "full auction" of emissions permits, meaning that polluters would have to bid against each other for a bigger share of the emissions allowed under an agreed cap, which in turn they could trade to each other so as to improve economic efficiency. Whether market forces could discipline polluters in the manner envisaged soon became academic, as Waxman-Markey reduced the auction amount to just 15% of permits.

The intrinsic problem in setting a market price for such an elusive commodity—green house gas emissions—had already been revealed when the ETS crashed in 2006 thanks to the EU's overallocation of pollution rights. The market regulators had miscalculated on how to set up the ETS from scratch, with electricity generation firms granted far too many permits (roughly €50 billion worth of pollution rights, if measured at €30 per tonne, were transferred to large European carbon dioxide emitters annually through the ETS). In April 2006, the carbon spot market price lost over half its value in a single day, destroying many carbon offset projects earlier considered viable investments.

Even after a price recovery, by 2007 it was apparent that Europe's carbon trading pilot was not working. As Peter Atherton (2007) of Citigroup conceded, "ETS has done nothing to curb emissions . . . [and] is a highly regressive tax falling mostly on poor people". Asking whether policy goals were achieved, he answered:

> Prices up, emissions up, profits up . . . so, not really. Who wins and loses? 'All generation-based utilities—winners. Coal and nuclear-based generators—biggest winners. Hedge funds and energy traders—even bigger winners. Losers . . . ahem . . . Consumers!

A *Wall Street Journal* (2007) investigation in March 2007 confirmed that emissions trading "would make money for some very large corporations, but don't believe for a minute that this charade would do much about global warming". The paper termed the carbon trade "old-fashioned rent-seeking . . . making money by gaming the regulatory process". Carl Mortished (2008) wrote in *The Times of London*:

> The ETS is making a mockery of Europe's stumbling attempts to lead the world in a market-based carbon strategy. It is causing irritation and frustration to the armies

> of advisers and investors who seek to cajole utilities into big investments in carbon reduction.

As *The Guardian* (Adam 2008) revealed, the ETS provided "hundreds of millions of pounds to some of Britain's most polluting companies, with little or no benefit to the environment". Added Jonathan Leake (2008) in the *London Times*:

> The incongruity of proposing that a brand new financial market might be able to save the world—when faith in every other kind of financial market is tumbling—needs no underlining. But there are plenty of other reasons for scepticism, too. Jim Hansen, director of the Nasa Goddard space centre and a renowned critic of global measures to combat climate change, believes carbon trading is a "terrible" approach. "Carbon trading does not solve the emission problem at all", he says. "In fact it gives industries a way to avoid reducing their emissions. The rules are too complex and it creates an entirely new class of lobbyists and fat cats."

Specific carbon offsets and CDMs fared no better in these investigations. *The Economist* (2008) hosted a debate on carbon offsets in December 2008, in which Michael Wara of Stanford and Kevin Smith of Carbon Trade Watch argued the proposition that they "undermine the effort to tackle climate change"—and by a readers' vote of 55–45, defeated Henry Derwent of the International Emissions Trading Association and carbon trader Mark Trexler. Not only were voluntary offsets increasingly dubious, but verified CDM projects in the Third World were also considered counterproductive. According to a *Newsweek* (Vencat 2007) magazine investigation in March 2007, the CDM concept "isn't working . . . [and represents] a grossly inefficient way of cutting emissions in the developing world". Notorious projects like the Bisasar Road toxic landfill in Durban and Plantar monocultural timber in Brazil were promised vast funds, with deleterious consequences for local communities and ecosystems. *Newsweek* (Vencat 2007) called CDMs "a shell game" which has already transferred "$3 billion to some of the worst carbon polluters in the developing world." In early 2009, the *London Times* (2009) uncovered problems in Mozambican tree planting investments supported by high-profile celebrities (eg Ronnie Wood of the Rolling Stones and actor Brad Pitt), including that "it is almost impossible to guarantee that the trees will survive the length of time needed to offset any significant carbon emissions". As a Transnational Institute Carbon Trade Watch (2009) report remarked:

> These failings are not caused by teething problems, but are symptomatic of the extreme difficulties of assessing the value of "carbon," which is a commodity that bears little relation to any single real world object. More generally, the scheme over-estimates the capacity of price to achieving structural change in energy production and industrial practice.

Markets work at the margins, and to solve the climate crisis, much more radical, transformative regulations and public investments are required to break through to new energy, extraction, production, distribution, consumption and disposal systems.

Post-Copenhagen Carbon Market Doldrums and US Capitalist Ambivalence

At the Copenhagen summit in mid-December 2009, the global climate governance elites simply could not generate the consensus required for a renewed carbon market initiative, particularly in the wake of the US Senate's failure to find 60 (out of 100) votes in favor of a scheme similar to Waxman-Markey. One reason the USA became the major brake on the system's global emergence was the difficulty in selling cap and trade legislation to the US public, as the main 2009 poll of popular support for carbon trading (by Hart Research Associates in August 2009) found only 27% of the 1000 people surveyed in support, half as much as a direct tax. As *Energy and Environment Daily* (2009) reported:

> When both concepts are explained, voters of all political affiliations and backgrounds favor the tax proposal by a significant margin. Sixty-six% of Democrats prefer the carbon tax, as do 58% of independents and 46% of Republicans. Overall, 57% of those surveyed say they would favor a carbon tax, while 37% are opposed . . . The poll's designers say support for the carbon tax proposal stems from a belief that it is far simpler than cap and trade, provides a revenue steam for tax refunds to offset consumer costs of the tax, offers a more direct incentive for businesses and consumers, and is less likely to be corrupted by loopholes for certain interests.

Financial Times climate finance reporter Kate Mackenzie (2010) explained:

> Most people just don't like the idea of carbon cap-and-trade schemes. Whether they object because it's like a tax, or because it's not like a tax, or because it only benefits those crooked financial types, or because it's too bureaucratic and expensive, or because they hate offsets, or free allowance giveaways to polluters . . . there's an objection for almost everyone. A pretty powerful constituency however does like cap-and-trade: (some) economists, financial industry types, policy wonks, and some big businesses.

And yet that constituency—those Harvey (1996) has described as "ecological modernizationists" and especially the financial markets which depended upon their policy advocacy—was not strong enough to buck climate denialists, other critics and a skeptical public. A much bigger problem was thus revealed, for indeed on every occasion since the mid-1990s—in 1996 the Montreal Protocol capped and began eliminating ChloroFluoroCarbons in order to close the ozone hole—elite political will was insufficient to address world crises and to give multilateral institutions the power to solve problems, whether through state action or markets. The failure to take forward the Kyoto Protocol's ambitions in subsequent Conferences of the Parties added to the overall malaise in global forums as well as more discrete gatherings such as the G8 and G20. The World Trade Organization could not follow through with its Doha Agenda, the Bretton Woods Institutions and Monterrey Financing for Development process did not succeed in lubricating flows to the South or shoring up a volatile world banking system. The United Nations itself became irrelevant when it came to geopolitical tensions. All these problems of achieving global-scale coordination reflected the internecine struggle of capitals, especially the power of recalcitrant fractions within US capital, at the centre of world power.

By the end of 2009, cap and trade was losing the support of a great many US Senators and even the leading Senator in favor of carbon trading, John Kerry, admitted in Copenhagen that he might have to switch to a carbon tax (Lerer 2009). As the e-zine Politico summed up in early 2010:

> Prospects for Senate passage of the legislation—already approved by the House last summer—have dimmed in recent months, with the bruising healthcare debate and looming midterm elections. Last month was particularly brutal, as environmental advocates fended off criticism of climate negotiations in Copenhagen that failed to produce a strong international agreement. Even some supporters now publicly doubt that the bill will get done this year. Senate Energy and Natural Resources Committee Chairman Sen. Jeff Bingaman (D-N.M.) told The Associated Press last week that passage of the legislation was unlikely.

Gridlock meant there was a good chance that legislated carbon trading would simply die, as two *Foreign Policy* writers, Ted Nordhaus and Michael Shellenberger (2010), anticipated:

> Midterm elections [in November 2010] are likely to bring large Democratic losses in the House, and, fairly or not, a hard vote for failed cap-and-trade legislation will take a fair share of the blame. For House Democrats it will be déjà vu all over again. In 1994 they went out on a limb and voted for an energy tax (known as the Btu tax) pushed by then-Vice President Al Gore and President Bill Clinton's White House only to see the Senate reject such a measure. Having been "BTUed" by two Democratic administrations, twice-fooled Democrats are unlikely to sign up for more of the same in the next Congress. And cap and trade's death in the Senate would likely signal its death everywhere—Australia, Japan, Canada, and eventually even Europe.

By January 2010, "moderate [Senate] lawmakers said the chances for enactment of any bill, regardless of its structure, were either nil or completely unpredictable in light of the election . . . of Sen. Scott Brown (R-Mass.) to replace the late Sen. Ted Kennedy" (Leber and Marshall 2010). Ironically, Brown had originally been a supporter of the Regional Greenhouse Gas Initiative in 10 northeastern US states, which in 2009 was valued at $2.5 billion, about 2% of the world market, but with prices of just €2.35/tonne (compared with Europe's €13/tonne). The mid-2010 death of the climate bill occurred within weeks of BP's Gulf Oil spill, which left Kerry, Lieberman and others unable to stitch together both energy and climate concessions sufficiently generous for the coalition of capitals required to move legislation through the Senate. Again, at a larger level, this reflected internecine battles over spatio-temporal fixes, and whether parts of the USA—both economically and geographically—would suffer devalorization as the cost of climate crisis management began to be felt. The overall view of US capitalists seemed to be clear: continue to pass the costs to the environment and to those parts of the world that would be most adversely affected by climate change.

Meanwhile, in the South, the CDM market shrank by 28% from 2008 to 2009, to €17.5 billion, about 15% of the total, with most of the activity in China and India. The JI market fell 38% in volume over the same period, and 45% in value, to €399 million. Utility stockpiles and Eastern European hot air sales were anticipated to cause further falls in 2010 (Sweet 2010). The other big factor is the extent to

which economic decline continued in Europe, for the continent's 2008–2009 year-on-year GDP fall was 4.1%; industrial output was down 12%, and carbon-intensive construction was also adversely affected by the real estate bubble's burst. Given these economic trends, the medium term is grim, with even Lord Adair Turner—chair of the UK Climate Change Committee—admitting, "the existing particular form of liberalised market structure has reached the end of its road . . . Prices [will] struggle to reach €20–30/tonne of CO2e by 2020." Just a year earlier Turner's committee had optimistically assumed a price of €50 by 2020, high enough to support many alternative energy projects (ENDS 2009).

Eco-social Justice Alternatives

Beyond the newspaper scandal investigations, it is interesting to consider just how far the critique of markets goes within the environmental and social justice communities. Perhaps the highest-profile environmentalist critic of carbon trading is Hansen (2009):

> Cap-and-trade is the temple of doom. It would lock in disasters for our children and grandchildren. Why do people continue to worship a disastrous approach? Its fecklessness was proven by the Kyoto Protocol. It took a decade to implement the treaty, as countries extracted concessions that weakened even mild goals. Most countries that claim to have met their obligations actually increased their emissions. Others found that even modest reductions of emissions were inconvenient, and thus they simply ignored their goals.

Already a half-decade earlier, a first generation of carbon trade critics—affected communities (from Indonesia, Thailand, India, South Africa, Brazil and Ecuador), academics and researchers, and radical environmentalists—took the name Durban Group for Climate Justice and issued the "Durban Declaration" in October 2004 to sound the alarm about ethical and economic shortcomings. The analysis was foregrounded in the Transnational Institute's Carbon Trade Watch (2003) report *The Sky is Not the Limit*, and was then produced as a seminal book, *Carbon Trading*, by Larry Lohmann (2006) for the Dag Hammarskjold Foundation. Campaigning in Durban itself was set back by the July 2007 death of meeting host Sajida Khan, who battled a CDM methane extraction proposal that kept open the Bisasar Road toxic dump next to her home and that caused the cancer that ultimately killed her. But by December 2007, the movement joined forces with broader global justice activism in the Climate Justice Now! network formed at Bali. As the Climate Justice Now! (2007) manifesto put it:

> Climate Justice Now! will work to expose the false solutions to the climate crisis promoted by these governments, alongside financial institutions and multinational corporations—such as trade liberalisation, privatisation, forest carbon markets, agrofuels and carbon offsetting.

At a micro level, the roles of wastepickers, indigenous people, forest dwellers, dam-affected communities, critical environmentalists and others threatened by enclosure processes associated with the carbon trade are diverse and even contradictory at times (eg in South Africa's main pilot project, the Bisasar Road methane-electricity

landfill, which was supported by some wastepickers against other community critics who aimed to close the dump) (Bond, Dada and Erion 2009). Most are critics, especially of the Reducing Emissions from Deforestation and Forest Degradation (REDD) programme and the World Bank's Forestry Carbon Partnership Facility (earlier CDMs also financed forest and timber projects). These emissions permits were criticized in Copenhagen by the Durban Group for Climate Justice (2009):

> Like CDM credits, they exacerbate climate change by giving industrialized countries and companies incentives to delay undertaking the sweeping structural change away from fossil fuel-dependent systems of production, consumption, transportation that the climate problem demands. They waste years of time that the world doesn't have. Worse, conserving forests can never be climatically equivalent to keeping fossil fuels in the ground, since carbon dioxide emitted from burning fossil fuels adds to the overall burden of carbon perpetually circulating among the atmosphere, vegetation, soils and oceans, whereas carbon dioxide from deforestation does not. This inequivalence, among many other complexities, makes REDD carbon accounting impossible, allowing carbon traders to inflate the value of REDD carbon credits with impunity and further increasing the use of fossil fuels.

The anti-enclosure narrative offered by Tom Goldtooth, director of the Indigenous Environmental Network, is telling: "Most of the forests of the world are found in Indigenous Peoples' land. REDD-type projects have already caused land grabs, killings, violent evictions and forced displacement, violations of human rights, threats to cultural survival, militarization and servitude" (2009). Goldtooth noted that Papua New Guinea native leader Abilie Wape "was forced at gun point to surrender the carbon rights of his tribe's forest". The London-based NGO Survival International confirms, REDD could leave Indigenous Peoples "with nothing" (Durban Group for Climate Justice 2009).

In contrast, there are market-oriented environmental organizations which have endorsed carbon trading as a step forward. According to Sierra Club Canada director Elizabeth May, for example, "I would have preferred a carbon tax, but that is not the agreement we have. The reality is that Kyoto is the only legally binding agreement to reduce greenhouse gasses. When you're drowning and someone throws you a lifeboat, you can't wait for another one to come along" (Athanasiou 2005). There are also African countries whose own future industrial development prospects are limited by eventual capping of carbon dioxide emissions, amongst which South Africa looms large given that as a measurement of carbon intensity, the energy sector's carbon dioxide emissions per unit of per capita GDP was 20 times that of the USA by the time of Kyoto (Bond 2002). One advocacy position that seeks to unite market environmentalists and Third World states is the demand for a notional per capita pollution rights grant, which in turn can be traded (eg Greenhouse Development Rights, and Contraction and Convergence).

Would the kind of carbon tax Hansen advocates satisfy the activist critics? Many have expressed ambivalence about the potential for a tax on greenhouse gas emissions, because this market-related approach would take the production system as given and alter the demand structure, again falling victim to the problem of

change merely at the margins. According to an assessment by the United States Congressional Budget Office (2008):

> A tax on emissions would be the most efficient incentive-based option for reducing emissions and could be relatively easy to implement. If it was coordinated among major emitting countries, it would help minimize the cost of achieving a global target for emissions by providing consistent incentives for reducing emissions around the world.

But aside from its failure to transform systems that generate emissions, major problems with taxation are tax avoidance capacities of influential industries, and incidence: who will pay the bill. There are certainly means of designing a tax system with a strongly redistributive outcome, and in the process incentivizing transformative economic strategies. However, a dramatic shift in political power is required for such an outcome. And if such a shift in power is achieved, there would quickly also arise more rapid alternatives to such market-based strategies. These typically include both state-oriented command and control, and fenceline/grassroots "direct action". Command-and-control strategies for emissions reductions include some important victories such as the banning of chlorofluorocarbons in the 1996 Montreal Protocol in order to prevent ozone hole destruction, and many European emissions regulations. Moreover, a national state strategy known as "leave the oil in the soil" (and "leave the coal in the hole") entails both state prohibition of fossil fuel extraction and direct grassroots action against greenhouse gas emission points. Direct actions are increasing: environmentalists in dinghies harassing vast coal ships in Newcastle, Australia; blockaded British power plants; campaigns against the Alberta Tar Sands in Canada; and sit-ins against coal extraction in West Virginia and coal-based power generation in Washington, DC in 2009. This crucial step in Northern environmentalism followed Al Gore's remark in August 2007: "I can't understand why there aren't rings of young people blocking bulldozers and preventing them from constructing coal-fired power plants" (cited by Kristoff 2007). In March 2010, days after a direct action protest at the Environmental Protection Agency, the West Virginians won a commitment from its director, Lisa Jackson, that mountain top removal would end, via enforcement of the Clean Water Act in view of the destruction of myriad water courses in the mountains.

The South also offers very serious leadership in Polanyian "double-movement" politics, such as from indigenous people and environmental and community activists in the Niger Delta and Ecuadoran Amazon. Accion Ecologica persuaded Ecuadoran president Rafael Correa to consider an oil-in-the-soil plan to prevent drilling in the Yasuni National Park in 2007, which by June 2009 was rewarded with a $50 million/year commitment by the German government and in July 2010 by the establishment of a United Nations trust fund that activists believe can be kept free of the carbon markets. Most spectacularly, Niger Delta activists kept vast amounts of oil in the soil through both non-violent and armed struggle. In the former category, Environmental Rights Action in Port Harcourt insisted on an end to extraction and exploration. In the latter, the Movement for the Emancipation of the Niger Delta continued to kidnap foreign oil workers, demanding they vacate the Delta for good. Thanks in part to organizing by the Ogoni Solidarity Forum, Shell Oil was kicked out of Ogoniland in June 2008, 13 years after the company arranged for Ken Saro-

Wiwa's execution, an act for which they settled an Alien Tort Claims Act lawsuit out of court in June 2009 for $15.5 million. In South Africa, the Pietermaritzburg NGO groundwork linked OilWatch to several dozen anti-oil activists' groups from across the continent at a September 2008 conference, and a month later, citing climate concerns, the South Durban Community and Environmental Alliance began a legal appeal to the national government, aiming to reverse a $2 billion Durban–Johannesburg pipeline investment which would double oil refining in the polluted community. These are examples of serious strategies in place to halt climate change at the supply side, and proponents believe that though they are still microscopic in nature, these strategies and tactics could be much more effective than carbon markets. Many have been inspired by Alaskan and Californian environmentalists' ability to withstand US oil company pressure to drill in the tundra and off the coast.

To be successful beyond "Not In My Back Yard" politics, such individual sites of environmental injustice, where markets penetrate and societies resist, require broader, deeper linkages of eco-social contestation. Climate Justice Now! (2007) emerged with these kinds of strategies in mind, in December 2007, issuing five demands: reduced consumption; huge financial transfers from North to South based on historical responsibility and ecological debt for adaptation and mitigation costs paid for by redirecting military budgets, innovative taxes and debt cancellation; leaving fossil fuels in the ground and investing in appropriate energy-efficiency and safe, clean and community-led renewable energy; rights-based resource conservation that enforces Indigenous land rights and promotes peoples' sovereignty over energy, forests, land and water; and sustainable family farming, fishing and peoples' food sovereignty.

These principles were further fleshed out in Cochabamba, where the April 2010 conference declared the emissions market had become "a lucrative business of commercializing our Mother Earth. Instead of tackling climate change, it is an act of looting and ravaging the land, water and even life itself". As Naomi Klein (2010) summarized, that event generated:

> four big ideas: that nature should be granted rights that protect ecosystems from annihilation (a Universal Declaration of Mother Earth Rights); that those who violate those rights and other international environmental agreements should face legal consequences (a Climate Justice Tribunal); that poor countries should receive various forms of compensation for a crisis they are facing but had little role in creating (Climate Debt); and that there should be a mechanism for people around the world to express their views on these topics (World People's Referendum on Climate Change).

No matter that the Climate Justice component movements are disparate, these are the kinds of narratives that link spatio-temporal resistances amongst diverse eco-social forces during a period of austerity, civil society weakness and repression. The agents of social and environmental change can take advantage of neoliberalism's discredited ideological status, and demand from the next global and national negotiations a strategy not based upon commodifying carbon. But to do so they still need to generalize an innovative critique that has emerged over time, as the emissions trading strategy rose, peaked and then apparently fell during the frenzy of Kyoto–Copenhagen climate politics. From the common critique will come more

confidence in the types of strategies, tactics and alliances that appear to be taking a distinct, multi-layered form of "scale politics" for much of the CJ network. It is too soon to say whether these too become generalized but at least in mid-2010, they can be grouped into five coherent levels of action.

First, on a global scale (the next COPs in Mexico and South Africa), the CJ movement and its components will continue to make demands—albeit unwinnable in the foreseeable future given the adverse balance of forces in the UN and G8/G20—for huge emissions cuts (45% of industrial economy greenhouse gases by 2020), climate debt payments (scaling up to $400 billion/year by 2020), and carbon market decommissioning, along with the visionary global-governance arrangements proposed in Bolivia. Second, on a national scale, movements will continue to make demands—also unwinnable in most settings, where due to adverse power balances, unacceptable legislation and/or gridlock are most likely—for industrial economies to make cuts of the same magnitude, climate debt payments and carbon market decommissioning, as well as providing massive state investments in transformed, decentralized energy systems, transport and infrastructure. On a national scale in semi-industrialized economies (eg especially BASICs), demands will be made for emissions cuts based upon reversing their growing fossil fuel addictions, and in some cases (eg South Africa) for payment of a climate debt to poorer neighbors, and for the rejection of CDMs and offsets.

Third, beyond making unwinnable demands, the CJ movements will pressure national states to create or strengthen national environmental regulatory agencies, and challenge these institutions to restrict greenhouse gas emissions as dangerous pollutants (for example, as in the USA after lawsuits and direct action protests against the EPA). Fourth, at regional/provincial/state/municipal scales, the movements will engage public utility commissions and planning boards to block climate-destructive practices and projects. And fifth, at even more local scales, CJ movements will identify point sources of major greenhouse gas emissions, power consumption or excessive transport, and raise consciousness and the cost of business-as-usual through direct action and other pressure techniques.

The point about these kinds of reform demands and concrete actions is that they replace what is now obviously a myopic reliance on emissions markets—and the fractions of capital (in finance, energy and agriculture) and political forces promoting markets—with state command-and-control functions plus direct action. The successes noted so far with this set of bottom-up strategies, tactics and alliances are small, fragmented and potentially unsustainable (the outcome of the Yasuni Park financing struggle will be most revealing). But nevertheless these appear to be the bases upon which a serious climate justice political project will stand. The urgency of gaining traction for the sake of making substantial cuts in emissions is obvious enough, but the danger of moving too urgently with a climate politics that takes on board emissions markets simply because the Kyoto Protocol set them up is far more damaging. As shown in the pages above, the danger comes from the unworkability of emissions markets even though they appear attractive to elites (North and South) in part as a spatio-temporal displacement technique for overaccumulated capital. The evidence suggests, however, that the markets have had their chance, and for all manner of reasons have failed. The next step beyond realizing this is to gather

a much broader coalition of forces working at the various scales above, and build a climate justice movement that can assure the survival of all life on the planet, not just those very few who, through success in the markets and other sites of accumulation, will retain some degree of insulation.

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