When the climate change center cannot hold

By Patrick Bond

ZNet commentary, 24 October 2009

On a day that 350.org and thousands of allies are valiantly trying to raise global consciousness about impending catastrophe, we can ask some tough questions about what to do after people depart and the props are packed up. No matter today's activism, global climate governance is grid-locked and it seems clear that no meaningful deal can be sealed in Copenhagen on December 18.

The recent Bangkok negotiations of Kyoto Protocol Conference of Parties functionaries confirmed that Northern states and their corporations won't make an honest effort to get to 350 CO2 parts per million. On the right, Barack Obama's negotiators seem to feel that the 1997 Kyoto Protocol is excessively binding to the North, and leaves out several major polluters of the South, including China, India, Brazil and South Africa.

Kyoto's promised 5% emissions cuts (by 2012, from 1990 levels) are impossible now. Obama's people hope the world will accept 2005 as a new starting date; a 20% reduction by 2020 then only brings the target back to around 5% below 1990 levels. Such pathetically low ambitions, surely Obama knows, guarantee a runaway climate catastrophe – he should shoot for 45%, say the small island nations.

The other reason Kyoto is ridiculed by serious environmentalists is its provision for carbon trading rackets which allow fake claims of net emissions cuts. Since the advent of the European Union Emissions Trading Scheme, the Chicago exchange, Clean Development Mechanism projects and offsets, vast evidence has accumulated of systemic market failure, scamming and inability to regulate carbon trading (see a website launched today www.350reasons.org).

A final reason we need to rapidly transcend Kyoto's weak, market-oriented approach is that devastation caused by climate change will hit the world's poorest, most vulnerable people far harder than those in the North. Reparations for the North's climate debt to the South are in order. The European Union offered a pittance in September, while African leaders are stiffening their spines for a fight in Copenhagen reminiscent of Seattle a decade ago.

Since discussing this threat six weeks ago in a ZNet column, subsequent Bangkok negotiations and web traffic offered me a sobering reminder of Northern stubbornness, on two fronts – those whose interests are mainly in short-term capital accumulation, but also the mainstream environmentalists who are only beginning to grasp the huge strategic error they made in Kyoto.

In the first camp, Obama's people are hoping non-binding national-level plans will be acceptable at Copenhagen. But their case is weaker because at home, the two main proposed bills - Waxman-Markey which passed in the US House of Representatives and Kerry-Boxer which is under Senate consideration – will do far more harm than good.

Don't take it from me; the best source is Congressman Rich Boucher, from a coal-dominated Southwestern Virginia district. Boucher supported Waxman-Markey, he told a reporter last month, precisely because it would not adversely affect his corporate constituencies. The two billion tons of offset allowances in the legislation mean that 'an electric utility burning coal will not have to reduce the emissions at the plant site,' chortled Boucher. 'It can just keep burning coal.'

Boucher was one of the congressional rednecks who wrecked Obama's promise to sell – not give away – the carbon credits, and then bragged to his district's main newspaper, the Times News, that 'this helps to keep electricity prices affordable and strengthens the case for utilities to continue to use coal.'

Boucher and co are also working hard to disempower the Environmental Protection Agency from regulating CO2. This was accomplished in Waxman-Markey, and upon introducing his legislation, Senator John Kerry gave the game away by noting EPA regulatory authority is not gutted in his bill now, only so that it can be gutted later, so as to provide 'some negotiating room as we proceed forward.'

The Senate bill has all manner of other objectionable components, which hard-working activists from Climate SOS, Rising Tide North America, Friends of the Earth, the Center for Biological Diversity, Biofuelwatch and Greenwash Guerrillas have been hammering at.

Hence in the US, the balance of forces is fluid. On the far-right, the fossil fuels industries are intent on making Obama's climate legislation farcical – and have so far succeeded. In the centre, the main establishment 'green' agencies – such as the Environmental Defense Fund and Natural Resources Defence Council – are plowing ahead with carbon trading strategies, hoping to salvage some legitimacy for Obama, because these bills are a 'first step' to more serious emissions reducation, they claim.

Yet US negotiators will go to Copenhagen (as they did in Bangkok and will next month in Barcelona) with the aim of smashing any residual benefit of the Kyoto

Protocol – such as potential binding cuts with accountability mechanisms - and then allow these US dynamics to play out in a manner that locks in climate disaster.

So just as in 1997, when Al Gore introduced carbon trading into the initial deal – and subsequently broke an implicit promise by failing to get the US (under both Clinton and Bush) to ratify the Protocol - there is every likelihood that if an agreement in Copenhagen were reached, it would be as worthless as Kyoto.

Which brings us to quandaries faced by two other forces: the ordinary environmentalist in the US – perhaps a typical fan of useful www.grist.org blogs – and activists based in the so-called Third World who have to deal with the most adverse impacts of climate chaos in coming decades.

Grist's Jonathan Hiskes recently reacted to the first dilemma by characterizing Goddard Institute for Space Studies director James Hansen – the most celebrated US climate scientist – as 'especially troublesome.' Hansen not only put his body on the line this year in a high-profile arrest at a West Virginia coal generator, and testified repeatedly against carbon trading, but also endorsed Climate SOS, to Hiskes' dismay.

Why rail against Hansen? Hiskes claims that when describing Obama's bills as 'worse than nothing', Hanson and other 'no-compromise types' ignore 'the historical precedent of legislation that is deeply flawed at first evolving into something effective and durable. The original Clean Air Act did not address the acid rain crisis, an omission not corrected until 1990. The original Social Security Act did not include domestic or agricultural workers, effectively excluding many Hispanic, black, and immigrant workers.'

The obvious difference is that those two laws empowered environmentalists and workers against enemies. They had universalizing potential and could be incrementally expanded. In contrast, Obama's climate legislation is so far off on the wrong track – by commodifying the air as the core climate strategy and empowering the fossil fuel industries – that the train cannot be steered away from its over-the-cliff route. Just let it crash.

(Oh bummer, the same seems to be true of 2009 legislation and fiscal programs for the economy and healthcare, which empower banksters, derivative financiers, energy firms, insurers and others who caused the problems in the first place.)

The second force caught in the quandary of climate politics is Penang-based Third World Network (TWN) and its many admirers, who insisted at Bangkok that the Kyoto Protocol be retained because, first, at least it offers the possibility of a binding framework, and second, countries not presently liable under Kyoto should still have the right to increase emissions so as to 'develop.'

I'll grant the first point, for if US negotiators block Kyoto's extension, then national-level agreements could indeed be much weaker. On the other hand, if the EPA actually used its powers to reduce the top 7500 or so largest point-sources of US carbon pollution, that would be far stronger than carbon trading legislation which lets polluters off the hook.

The main problem with TWN's 'development' argument is that a great deal of CO2-emitting economic activity and resource extraction in the Third World are better considered 'maldevelopment' – and for environmental, socio-economic and moral reasons should halt.

Here in South Africa, a long-term (apartheid-era) state relationship to the so-called 'minerals-energy complex' generated a political bloc so powerful that it is now in the process of building $100 billion in new coal-fired and nuclear plants. Their strategy is to keep offering the cheapest electricity in the world to UK/Australian (formerly SA) mining/metals firms, including Anglo, BHP Billiton, Lonplats and Arcellor-Mittal.

By way of background, state supplier Eskom lost $1.3 billion last year gambling on aluminum futures. Forty percent of SA's CO2 emissions can be traced to a handful of the largest firms, including the dangerous oil-from-coal/gas operator Sasol. And cheap electricity for the mining/metals firms contrasts with wickedly-high price hikes (a 250% projection from 2008-11) for ordinary people, which in turn contributes to the intense demonstrations now destabilizing dozens of municipalities (the Centre for Civil Society documents these daily in our Social Protest Observatory, at http://www.ukzn.ac.za/ccs).

Moreover, as corporations export profits and dividends to London/Melbourne headquarters, our vast balance of payments deficit gives The Economist magazine cause to rate South Africa the world's riskiest emerging market. In sum, it is impossible to argue that SA's world-leading per capita CO2 emissions represents 'development'.

One way to address this maldevelopment - especially from exports of CO2-intensive minerals and cash crops, as well as manufactured goods transported by air and ship - is import/export taxation.

French president Nicolas Sarkozy proposed a small import tariff (the equivalent of 4 cents per litre of petrol) last month: 'Most importantly, a carbon tax at the borders is vital for our industries and our jobs'. In the US, the energy secretary and organized labor are also making noises along these lines.

Sarkozy's small incremental tax will not change consumption patterns. Explains Soumya Dutta from the People's Science Movement, 'In India, a far less affluent society, whenever gasoline or diesel prices are raised by even 6-10 %, there is an initial hue and cry. Within a month, things settle down and the consumption keeps growing – invariably.'

The South Centre's Martin Khor condemns Sarkozy's move as 'climate protectionism', remarking, 'It would be sad if the progressive movement were to support and join in the attempts by those who want to block off products from developing countries in the name of climate change.' He is correct to label such taxes 'self-interested and selfish bullying acts'.

More generally, says Khor, 'We shouldn't give the powerful countries an excuse and legitimacy to use climate or labour or social issues to block our exports and get away with it through a nice sounding excuse.'

Of course, the details of the French strategy, and indeed its protectionist orientation, must be criticized. But the most crucial factor when imposing any kind of sanctions - whether a carbon tax or trade sanctions against Burmese regime or Zimbabwe's main ruling party - is the consent of those affected who are themselves struggling for change, a point Sarkozy hasn't factored in.

How might one? Turning a carbon tax into a positive funding flow for the Third World is a suggestion by Daphne Wysham of the Institute for Policy Studies. Proceeds should go directly to the countries whose products are being taxed, for the purposes of explicit greenhouse gas reduction.

These nuances in national-level strategic debates should be tackled by Northern activists bearing in mind the Global South's genuine development aspirations.

Regardless, core principles of the progressive movement are non-negotiable. In advance of Copenhagen Bella Center protests, here are demands articulated by Climate Justice Action:

- leaving fossil fuels in the ground;
- reasserting peoples' and community control over production;
- relocalising food production;
- massively reducing overconsumption, particularly in the North;
- respecting indigenous and forest peoples' rights; and
- recognising the ecological and climate debt owed to the peoples of the South and making reparations.

If the center is not holding, that's fine: the wave of courageous direct-action protests against climate criminals in recent weeks – and the prospect of seattling Copenhagen on December 16 - is an inspiring reflection of left pressure that will soon counteract that from the right. It's our only hope, isn't it.

(Patrick Bond directs the University of KwaZulu-Natal Centre for Civil Society.)

Lessons for Copenhagen from Seattle via Addis Ababa

By Patrick Bond

23 October 2009

The decade since the Seattle World Trade Organisation (WTO) fiasco taught civil society activists and African leaders two powerful lessons. First, working together, they have the power to disrupt a system of global governance that meets the Global North's short-term interests against both the Global South and the longer-term interests of the world's people and the planet.

Second, in the very act of disrupting global malgovernance, major concessions can be won.

The spectacular November 30 street protest against the WTO summit's opening ceremony is what most of us recall about Seattle: activists 'locking down' to prevent entrance to the conference centre, a barrage of tear gas and pepper spray, a sea of broken windows and a municipal police force later prosecuted for violating US citizens' most basic civil liberties.

That was outside. Inside the convention centre, negotiations belatedly got underway, and African leaders quickly grew worried that further trade liberalisation would damage their tiny industrial sectors.

The damage was well recognized – an OECD study found Africa to be the continent that would suffer the worst net losses from corporate-dominated free strade. The US trade representative, Charlene Barchefsky, repeatedly insulted African elites who raised this point.

With the exception of South Africa's Alec Erwin, who enjoyed Green Room status hence an insider role to promote self-interest, the delegations from the Organisation of African Unity (OAU, since renamed the African Union) were furious.

As OAU deputy director general V.J.McKeen told journalists: "They went out to a dinner in a bus, and then were left out in the cold to walk back. To tell you to the extent that when we went into the room for our African group meeting, I mean, there was no interpretation provided. And we are - you know, at least the English and French interpretation should have been there, so one had to improvise. And then even the facilities, the microphone facilities were switched off."

Tetteh Hormeku, from the African Trade Network of progressive civil society groups, picks up the story: "By the second day of the formal negotiations, the African and other developing-country delegates had found themselves totally marginalised. This arose mainly from the non-transparent and, some would say, unlawful practices adopted by the powerful countries, supported by the host country and the WTO secretariat."

According to a statement by civil society, "African countries were not getting their positions and issues on the table for the simple reason that the table had been shifted away from the place where the negotiations were supposed to be taking place - the working groups - into exclusive Green Room discussions where they had no equal access."

Hormeku recalls that African Trade Network members "began to demand that their Northern NGO counterparts help focus attention on the outrageous practices of their various governments. The first concrete result was a joint press conference by the African Trade Network, Friends of the Earth, South Centre, Oxfam, the World Development Movement, Focus, Consumers International and New Economics Foundation. Here developing-country negotiators like Sir Sonny Ramphal (former Secretary-General of the Commonwealth) joined hands with NGO representatives to denounce the big-power manipulation of the WTO process. Many more African civil society organisations and governments spoke out."

At that point, says Hormeku, "African countries thus joined the other developing-country groups in threatening to withdraw the consensus required to reach a conclusion of the conference. By this time, even the Americans and their supporters in the WTO secretariat must have woken up to the futility of their 'rough tactics'."

This strong will by Africans at least earned major concessions in the next WTO summit, in Doha, in November 2001. At the same time as the global justice movement began widening into an anti-imperialist movement in the wake of the USA's post-9/11 remilitarization, African activists were delving deeper into extreme local challenges, such as combating AIDS. In Doha, African elites joined forces with activists again.

On this occasion, the positive catalyst was a South African government law – the 1997 Medicines Act promoted by then health minister Nkosazana Dlamini-Zuma – which permitted the state's compulsory licensing of patented drugs. In 1998, the Treatment Action Campaign (TAC) was launched to lobby for AIDS drugs, which a decade agoi were prohibitively expensive - $15,000 per person per year - for nearly all South Africa's HIV-positive people (roughly 10% of the 50 million current population).

That campaign was immediately confronted by the US State Department's attack on the SA Medicines Act - a "full court press", as bureaucrats testified to the US Congress. Their aim was to protect intellectual property rights and halt the emergence of a parallel inexpensive supply of AIDS medicines that would undermine lucrative Western markets. US Vice President Al Gore directly intervened with SA government leaders in 1998-99, aiming to revoke the law.

Then in mid-1999, Gore launched his 2000 presidential election bid, a campaign generously funded by big pharmaceutical corporations (which in that election cycle provided $2.3 million to the Democratic Party). As an explicit counterweight, TAC's allies in the US AIDS Coalition to Unleash Power began to protest at Gore's campaign events.

The protests ultimately threatened to cost Gore far more in adverse publicity than he was raising in Big Pharma contributions, so he changed sides.

By 2001, even during the reign of president George W. Bush and his vicious trade representative, Robert Zoellick (now World Bank president), the WTO's Trade Related Aspects of Intellectual Property Rights system (TRIPS) was amended to permit generic drugs to be used in medical emergencies, such as AIDS. This was a huge victory for Africa, removing any rationale to continue to deny life-saving medicines to the world's poorest people.

Then in 2003, with another dreadful WTO deal on the table in Cancun, and 30,000 protesters outside, once again the African leadership withdrew consensus, wrecking the plans of the US and Europe for further liberalization.

These are the precedents required to cut through the three huge challenges we face in Copenhagen – and forever after in climate negotiations:

- northern countries should cut emissions by 2020 by at least 45% through an international agreement;
- they should not rely on carbon markets or offset gambits when making these cuts; and
- they should pay the ecological debt they owe to victims of climate change.

Tragically, the adverse balance of forces currently prevailing will not permit victories on even one, much less all three.

Recall that Africa is the worst-affected continent. According to UN Intergovernmental Panel on Climate Change director R.K. Pachauri, "crop net revenues could fall by as much as 90% by 2100.” The ecological debt the North owes Africa alone is estimated at $67 billion/year (minimum) by 2020.

What response is logical if the North fails to address these three basic challenges? In early September 2009, Ethiopian Prime Minister Meles Zenawi issued this threat about Copenhagen from Addis Ababa: “If need be we are prepared to walk out of any negotiations that threatens to be another rape of our continent.”

Indeed, that is the main lesson from Seattle: by walking out - alongside civil society protesters - halting a bad deal in Copenhagen now paves the way for subsequent progress, once our forces reassemble.

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'Seattle' Copenhagen, as Africans demand reparations

By Patrick Bond

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Here's a fairly simple choice: the Global North would pay hard-hit Global South sites to deal with climate crisis either through complicated, corrupt, controversial 'Clean Development Mechanism' (CDM) projects with plenty of damaging side effects to communities, or instead pay through other mechanisms that must provide financing quickly, transparently and decisively, to achieve genuine income compensation plus renewable energy to the masses.

The Copenhagen climate summit in December is all about the former choice, because the power bloc in Europe and the US have put carbon trading at the core of their emissions reduction strategy, while the two largest emitters of carbon in the Third World, China and India, are the main beneficiaries of CDM financing.

What that means is that problems caused when Al Gore's US delegation brought pro-corporate compromises to Kyoto in 1997 - promising US sign-on to Kyoto (hah, what a lie) in exchange for carbon trading - are going to now amplify, and haunt us for a very long time, unless serious reforms are achieved in Copenhagen.

They won't be, and nor will any substantive agreement emerge, hinted the new UN Development Programme director, New Zealand's neoliberal former prime minister Helen Clark, this week: 'The success of the Copenhagen summit on climate change in December will not depend on a final international deal being sealed there.'

In other words, prepare for a stalemate by a coalition of selfish, fossil-fuel addicted powers. Terribly weak targets may get a mention (or even no mention, as last time at Bali), but market mechanisms will be invoked as the 'solution' so as to appease polluting capitalists and the governments under their thumb, especially Barack Obama's.

In contrast, there are attractive, simple mechanisms for financing Africa's survival, including the militant 'ecological debt' (or 'climate reparations') demands now being made by environmental leaders of the African Union (AU), as well as Jubilee Africa's request to just remove the damn boot from Africa's financial neck by canceling ongoing debt repayments.

On that score, in 2009 the lowest-income African countries are suffering a 50% increase in debt repayments (as a percentage of export earnings), according to the International Monetary Fund (IMF).

As noted four years ago in this space, that means the 'Make Poverty History' NGO-rockstar campaign was a farce. The only debt written off wasn't possible to repay anyhow, so for low-income Africa, 'debt relief' was just an accounting gimmick and the G8's real Gleneagles debt strategy was to squeeze Africa even tighter, as the IMF data now show.

But, you may well ask, should anyone take anything said by the AU leadership seriously, since that would be a mistake when it comes to malevolent leaders of the G8, G20, etc? The AU typically serves, as Zimbabwe's new finance minister Tendai Biti once put it, as the continent's 'trade union of dictators.'

Heading the AU climate team is Ethiopian strongman Meles Zenawi, who also chairs South Africa's subimperialist New Partnership for Africa's Development and thus gets invited to G20 gatherings along with Pretoria (better him than AU chair Moammar Gaddafy, reckon the others).

Sometimes seen merely as a US puppet - thanks to the disastrous, Washington-sponsored 2007 invasion of neighboring Somalia - Zenawi is rather more complex. He was once a self-described Marxist but is now a brutal tyrant whose troops killed scores of students and other democrats, and who has just imposed a ban on international funding of local civil society aimed to intimidate critics.

Quite ridiculous, isn't it, for Zenawi to lead the charge, reportedly demanding a minimum of $65 billion - and up to $200 billion - annually from the North by 2020?

Well, no, not considering how much Africa will be devastated. Even Zenawi's voice, and role in Copenhagen are potentially crucial in the struggle ahead.

What a struggle it is. The most shocking probable outcome of climate change is that 90% of the African peasantry will be out of business by 2100 due to drought, floods, extreme weather events, disease and political instability, according to UN experts.

The Climate Change Vulnerability Index, calculated in 2009 'from dozens of variables measuring the capacity of a country to cope with the consequences of global warming', listed 22 African countries out of 28 across the world at 'extreme risk', whereas the United States is near the bottom of the world rankings of countries at risk even though it is the leading per capita contributor to climate change.

There is no question that those most responsible should pay reparations, now that we are aware of the damage being done by rising greenhouse gas emissions, and by the ongoing stubborn refusal by the rich - especially Obama and his people - to cut back.

The amounts can be debated, for of course $65 billion/year for Africa is way too low, given how many incalculably valuable species will be lost, how much devastation to individuals and communities is already underway, how many economies will falter, how much ecology is threatened.

But in addition to AU leaders, the world is awakening. After several years of hard work by World Council of Churches members and staff, on September 2, the Council's Central Committee adopted a formal statement on the North's 'deep moral obligation to promote ecological justice by addressing our debts to peoples most affected by ecological destruction and to the earth itself.'

The Council slams 'the agro-industrial-economic complex and the culture of the North, characterized by the consumerist lifestyle and the view of development as commensurate with exploitation of the earth's so-called natural resources,' and cites the eco-debt definition pioneered by Accion Ecologica of Quito: 'historical and current resource-plundering, environmental degradation and the dumping of greenhouse gases and toxic wastes.'

Like the USA's 'Superfund' legislation or any other damages paid by corporations for messes made - such as Thor Chemicals' notorious mercury spillage a few dozen kilometers from my Durban home, now leaking into the city's bulk water supply at the Inanda Dam - the point is to get a general estimate of clean-up costs and a rough estimate of damages done.

As compensation, flows of grant funding are required - hopefully via an accountable, fair, transparent system such as a Basic Income Grant for all residents of Africa (a Namibian pilot is showing excellent results) - instead of the kinds of corrupting carbon trade financing that dictators or big corporations currently grab hold of and redirect to adverse ends.

What is a carbon market regime and why is it counterproductive? This is the heart of the debate about the merits of a Copenhagen deal.

Carbon trading allows corporations and governments generating greenhouse gases to seemingly reduce their net emissions. They can do this, thanks to the Kyoto Protocol, by trading for others' reductions (e.g. CDM projects in the Third

World) or emissions rights (e.g. Eastern Europe's 'hot air' that followed the 1990s economic collapse).

Why do they do it? The pro-trading rationale is that once property rights are granted to polluters for their emissions, a 'cap' can be put on a country's or the world's total emissions (and then progressively lowered if there is political will). So as to minimize adverse economic impact, corporations can stay within the cap even by emitting way above it, by buying others' rights to pollute.

But the carbon market isn't working, for several reasons:

* the idea of inventing a property right to pollute is effectively the privatization of the air;
* the corporations most responsible for pollution and the World Bank - which is most responsible for fossil fuel financing - are behind the market, and can be expected to engage in systemic corruption to attract money into the market even if this prevents genuine emissions reductions;
* many of the offsetting projects - such as monocultural timber plantations, forest 'protection' and landfill methane-electricity projects - have devastating impacts on local communities and ecologies;
* the price is haywire, having crashed by half in a short period in April 2006 and by two-thirds in 2008;
* there is a serious potential for carbon markets to become an out-of-control, multi-trillion dollar speculative bubble, similar to exotic financial instruments associated with Enron's 2002 collapse (indeed, many Enron employees populate the carbon markets);
* as a 'false solution' to climate change, carbon trading encourages merely small, incremental shifts, and thus distracts us from a wide range of radical changes we need to make in materials extraction, production, distribution, consumption and disposal; and
* the idea of market solutions to market failure is an ideology that rarely makes sense, and especially not following the world's worst-ever financial market failure.

Recall that scientists insist an 80% drop in emissions will be necessary within four decades at most, with the major cuts before 2020. To achieve this, carbon markets won't work, as the leading US climate scientist, James Hansen, remarked in opposition to Barack Obama's cap and trade scheme.

Obama's legislation - the Waxman-Markey bill that passed the house in June - is so profoundly flawed it should be scrapped. Some excellent movements have sprung up to try to prevent US carbon trading and the destruction of Environmental Protection Agency powers to regulate carbon pollution, on which

Waxman-Markey is especially wicked (please help by joining scores of groups disgusted with Obama's legislation, at http://www.biologicaldiversity.org/action/toolbox/ACESA/sign-on_letter.html and http://www.climatesos.org - and do give a miss to pro-Hopenhagen campaigners like Avaaz, the World Wildlife Federation, the 'Climate Action Network' and other deal-doers who either haven't thought through the issues properly or who wallow in conflicts of interest as carbon-traders themselves).

In sum, the emissions trade is a bogus, 'false solution'. Very different forms of climate finance are required at the Copenhagen Summit in December, including the North's payment of ecological debt. But Zenawi and others from Africa - especially civil society - will have to work much harder to put climate compensation on the agenda (and to ensure that governments corrupted by the fossil fuel industry and other TNCs, as well as local elites, do not become the vehicle for distributing the compensation).

While carbon trading is at the heart of Copenhagen negotiations, any deal done will be a step backwards. The Durban Group for Climate Justice - founded in 2004 in South Africa - is the main civil society network explicitly fighting carbon trading; a superb analysis by Larry Lohmann is available from the Dag Hammarskjold Foundation:
http://www.dhf.uu.se/pdffiler/DD2006_48_carbon_trading/carbon_trading_web_HQ.pdf

One of our other gurus, University of KwaZulu-Natal honorary professor Dennis Brutus, puts the challenge ahead quite frankly: 'My own view is that a corrupt deal is being concocted in Copenhagen with the active collaboration of NGOs who have been bought off by the corporations, especially oil and transport. They may even be well-intentioned but they are barking up the wrong tree.'

Instead of a bad deal, Brutus recommends that we all 'seattle Copenhagen', i.e. the AU insiders work with civil society outsiders to prevent the North from doing a deal in their interests, against Africa's. A decade ago, that formula stopped the World Trade Organisation's Millennial Round from succeeding in Seattle, and in 2003 the feat was repeated in Cancun.

'We're outta here' Zenawi may well say in Copenhagen, for on September 3, he issued a strong threat from Addis Ababa: 'If need be we are prepared to walk out of any negotiations that threatens to be another rape of our continent.'

To seattle Copenhagen would entail civil society protesting outside and African governments working for Africans' interest inside, to halt a dirty deal that makes matters worse. Even with less than 100 days to go, Brutus insists it's feasible, and would then allow us to move on to the real emissions reduction and alternative energy and production systems the world desperately needs.

(Patrick Bond, director of the Centre for Civil Society in Durban, is co-editor of the UKZN Press book Climate Change, Carbon Trading and Civil Society: Negative Returns on South African Investments.)

Repaying Africa for Climate Crisis:
'Ecological Debt' as a Development Finance Alternative to Emissions Trading

By Patrick Bond

forthcoming in S. Böhm and S. Dabhi (Eds),
Upsetting the Offset: The Political Economy of Carbon Markets
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ABSTRACT
The 'ecological debt' that the Global North owes the Global South for excessive use of the environmental space plus damages done to Third World ecology became a global concern in 2009 as it entered the Copenhagen Conference of Parties (COP) negotiations. The willingness of African rulers to raise this in preliminary meetings – and the European Union's acknowledgement of compensation payments but at grossly inadequate levels - reflected how much damage was already done. It also suggested that a configuration similar to the Seattle World Trade Organisation summit might emerge (if not at Copenhagen then in subsequent negotiations), with discontented elites inside and angry protesters outside. Other faith-based and advocacy groups in civil society took up the demand as well, suggesting the potential for a global movement which would generate the resources thus far missing from Africa's plans to finance development aspirations – and also to change those aspirations into strategies that can transcend the Western model of capitliast industrialism and mass consumption.

Introduction

Carbon trading is under attack, but is there an alternative strategy to transfer resources to the Global South to support a different model of development? Is it reasonable to make calls for 'ecological debt' or 'climate compensation' in the form of a fund that would justifiably exceed $100 billion/year within a decade, without tendentious reliance upon emissions trading brokers, offset salesmen, futures and options, 'additionality' requirements, corruption, and the 'commodification of the air' associated with the Kyoto Protocol and its likely successor regime?

There is a fairly simple financial choice facing those advocating global climate governance: the Global North would pay hard-hit Global South sites to deal with climate crisis either through 'Clean Development Mechanism' (CDM) projects and declining overseas development aid – both entailing plenty of damaging side effects - or instead, pay through other mechanisms that must provide financing quickly, transparently and decisively, to achieve genuine income compensation plus renewable energy to the masses. The Kyoto Protocol – and its potential Copenhagen COP successor - is all about the former choice, because the power bloc in Europe and the US put carbon trading at the core of their emissions reduction strategy, while the two largest emitters of carbon in the Third World, China and India, are the main beneficiaries of CDM financing. What that means is that problems caused when Al Gore's US delegation brought pro-corporate compromises to Kyoto in 1997 – deceitfully promising US sign-on to Kyoto in exchange for carbon trading – will now amplify and haunt this debate for a long time to come. For what we have witnessed since Kyoto came into effect in February 2005 is a climate-reduction stalemate by a coalition of selfish, fossil-fuel addicted powers. Terribly weak targets may get a mention (or even no mention, as at the Bali 2007 Conference of Parties), but market mechanisms will be invoked as the 'solution' so as to appease polluting capital and associated governments, especially Washington. Some of the less principled environmental NGOs and opportunistic Third World elites will sign up, as has become a habit in such global governance gambits.

Market mechanisms – especially carbon trading and offsets – allow corporations and governments generating greenhouse gases to seemingly reduce their net emissions. They can do this, thanks to the Kyoto Protocol, by trading for others' 'certified emissions reductions' (e.g. CDM projects in the Third World) or emissions rights (e.g. Eastern Europe's 'hot air' that followed the 1990s economic collapse). The pro-trading rationale is that once property rights are granted to polluters for these emissions, even if given not auctioned (hence granting a generous giveaway), a 'cap' can be put on a country's or the world's total emissions. It will then be progressively lowered, if there is political will. So as to minimize adverse economic impact, corporations can stay within the cap even by emitting way above it, by buying others' rights to pollute.

But critics[1] argue that the carbon market isn't working, for several reasons:

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1. The analysis generated by Larry Lohmann is probably the most sophisticated, e.g., Lohmann, L. (2006), *Carbon Trading,* special issue of *Development Dialogue,* Dag Hammarskjold Foundation, http://www.dhf.uu.se/pdffiler/DD2006_48_carbon_trading/carbon_trading_web_HQ.pdf and more recently, Lohmann, L. (2010), 'Uncertainty markets and carbon markets: Variations on Polanyian themes', *New Political Economy;* Lohmann, L. (2009a), 'Climate as investment', *Development and Change;* Lohann, L. (2009b), 'Neoliberalism and the calculable world: The rise of carbon trading', in K. Birch, V.Mykhnenko and K.Trebeck (Eds.), *The Rise and Fall of Neoliberalism: The Collapse of an Economic Order*?, London, Zed Books; Lohmann, L. (2009c), 'Regulatory challenges for financial and carbon markets,' *Carbon & Climate Law Review*, 3, 2; and Lohmann, L.

- the idea of inventing a property right to pollute is effectively the 'privatization of the air';
- greenhouse gases are complex and their rising production creates a non-linear impact which cannot be reduced to a commodity exchange relationship (a tonne of CO2 produced in one place accommodated by reducing a tonne in another, as is the premise of the emissions trade);
- the corporations most guilty of pollution and the World Bank – which is most responsible for fossil fuel financing – are the driving forcesbehind the market, and can be expected to engage in systemic corruption to attract money into the market even if this prevents genuine emissions reductions;
- many of the offsetting projects – such as monocultural timber plantations, forest 'protection' and landfill methane-electricity projects – have devastating impacts on local communities and ecologies, and have been hotly contested;
- the price of carbon determined in these markets is haywire, having crashed by half in a short period in April 2006 and by two-thirds in 2008, thus making mockery of the idea that there will be a sufficient market mechanism to turn the society towards renewable energy;
- there is a serious potential for carbon markets to become an out-of-control, multi-trillion dollar speculative bubble, similar to exotic financial instruments associated with Enron's 2002 collapse (indeed, many Enron employees populate the carbon markets);
- as a 'false solution' to climate change, carbon trading encourages merely small, incremental shifts, and thus distracts us from a wide range of radical changes we need to make in materials extraction, production, distribution, consumption and disposal; and
- the idea of market solutions to market failure ('externalities') is an ideology that rarely makes sense, and especially not following the world's worst-ever financial market failure, and especially not when the very idea of derivatives – a financial asset whose underlying value is several degrees removed and also subject to extreme variability – was thrown into question..

Most scientists insist that at least an 80% drop in emissions will be necessary within four decades, with the major cuts before 2020. To achieve this, carbon markets won't work, as the leading US climate scientist, James Hansen, concluded in leading the intellectual opposition to Barack Obama's cap and trade scheme. Obama's legislation – the Waxman-Markey bill that passed the US House of Representatives in June 2009 (with similar Senate legislation bogged

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(2009d), 'Toward a different debate in environmental accounting: The cases of carbon and cost-benefit', *Accounting, Organisations and Society*, 34, 3-4.

down at the time of writing in September 2009) – was so profoundly flawed that the more ambitious wing of environmental civil society argued it should be scrapped, especially because of the legislation's destruction of Environmental Protection Agency powers to regulate carbon pollution. [2]

Even the financial speculator George Soros criticizes cap and trade:

> The cap and trade system of emissions trading is very difficult to control and its effects are diluted. It is pretty much breaking down because there is no penalty for developing countries not to add to their pollution. You count the saving but you don't count the added pollution going on. As a world, I don't think we are getting our act together on climate change at the moment… [CDMs] are not effective: you buy credits in third world countries that don't have a cap on emissions and you can get carbon credits whether you can sell them or not… It is precisely because I am a market practitioner that I know the flaws in the system. [3]

To be sure, one wing of civil society – e.g., campaigners Avaaz, the World Wildlife Federation and the Climate Action Network – endorsed a Copenhagen deal no matter such flaws, which can be partially explained by the fact that some in the latter group have substantial conflicts of interest as carbon-traders themselves. According to Michael Dorsey, professor of political ecology at the US's Dartmouth College, these include CAN board member Jennifer Morgan of the Worldwide Fund for Nature, who took leave for two years to direct work on Climate and Energy Security at carbon trading firm E3G, Kate Hampton, formerly of Friends of the Earth, who joined Climate Change Capital as head of policy while simultaneously advising the EU on energy and the environment, working for the California Environmental Protection Agency, and acting as president of International Carbon Investors and Services, and several others. Dorsey concludes: 'After more than a decade of failed politicking, many NGO types... are only partially jumping off the sinking ship – so as to work for industries driving the problem. Unfortunately, many continue to influence NGO policy from their current positions, while failing to admit to or even understand obvious conflicts of interest'. [4]

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2. See, e.g, the groups Biological Diversity, Climate SOS and the Sustainable Energy and Economy Network, at http://www.biologicaldiversity.org/action/toolbox/ACESA/sign-on_letter.html, http://www.climatesos.org and http://www.seen.org .
3. Wheelan, H. (2007), 'Soros slams emissions trading systems: Market solution is "ineffective" in fighting climate change', *Responsible Investor*, 18 October, http://www.responsible-investor.com/home/article/soros_slams_emissions_cap_and_trading_systems/
4. Bond, P. (2009a), 'A timely death?', *New Internationalist*, January, http://www.newint.org/features/2009/01/01/climate-justice-false-solutions/

Critics condemn carbon trading for these and many other reasons, and term the emissions trade a 'false solution'. In contrast, central to a genuine solution to climate crisis is the task of raising the world's standards of living in a manner not characterized by the fossil fuel addiction of industrial society. Climate-related finance will be required, and this might logically begin with the North's payment of ecological debt to the South for excess use of environmental space and for the damage done to many ecosystems already, and in future when vast damages are anticipated especially in Africa.

Ecological debt defined

According to the Quito group Accion Ecologica: 'ecological debt is the debt accumulated by Northern, industrial countries toward Third World countries on account of resource plundering, environmental damages, and the free occupation of environmental space to deposit wastes, such as greenhouse gases, from the industrial countries.' [5] The term came into professional use in 1992 at the Earth Summit of the United Nations in Rio de Janeiro of 1992, with NGOs promoting the concept through an 'Alternative Treaty'. An initial voice was the Institute of Political Ecology in Santiago, Chile, and contributed to world consciousness about ChloroFluoroCarbon damage to the ozone layer. A Colombian lawyer, José María Borrero, wrote a 1994 book on the topic, and further research and advocacy was provided by the Foundation for Research on the Protection of the Environment. By 1999 Friends of the Earth International and Christian Aid agreed to campaign against Ecological Debt, especially in relation to climate damage.

The leading scientist in the field, Autonomous University of Barcelona's Joan Martinez-Alier, calculates ecological debt in many forms: 'nutrients in exports including virtual water, the oil and minerals no longer available, the biodiversity destroyed, sulphur dioxide emitted by copper smelters, the mine tailings, the harms to health from flower exports, the pollution of water by mining, the commercial use of information and knowledge on genetic resources, when they have been appropriated gratis ('biopiracy'), and agricultural genetic resources.' As for the North's 'lack of payment for environmental services or for the disproportionate use of Environmental Space,' Martinez-Alier criticizes 'imports of solid or liquid toxic waste, and free disposal of gas residues (carbon dioxide, CFCs, etc).' According to Martinez-Alier:

> The notion of an Ecological Debt is not particularly radical. Think of the environmental liabilities incurred by firms (under the United States

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5. Accion Ecologica (2000), 'Trade, climate change and the ecological debt,' Unpublished paper, Quito.

> Superfund legislation), or of the engineering field called 'restoration ecology', or the proposals by the Swedish government in the early 1990s to calculate the country's environmental debt. [6]

The sums involved are potentially vast. As Martinez-Alier puts it, 'tropical rainforests used for wood exports have an extraordinary past we will never know and ongoing biodiversity whose destruction we cannot begin to value.' However, 'although it is not possible to make an exact accounting, it is necessary to establish the principal categories and certain orders of magnitude in order to stimulate discussion… If we take the present human-made emissions of carbon, [this represents] a total annual subsidy of $75 billion is forthcoming from South to North.' [7]

Leading ecofeminist Vandana Shiva[8] and former South Centre director Yash Tandon[9] estimate that wild seed varieties alone account for $66 billion in annual biopiracy benefits to the US. Examples of biopiracy in Africa, according to a 2005 study commissioned by Edmonds Institute, African Centre for Biosafety, include:

- three dozen cases of African resources – worth $billions - captured by firms for resale without adequate 'Access and Benefit Sharing' agreements between producers and the people who first used the natural products;
- diabetes drug produced by a Kenyan microbe and Libyan/Ethiopian treatment;
- antibiotics from Gambian termite hill and giant West African land snails;
- antifungal from Namibian giraffe and nematocidal fungi from Burkina Faso;
- infection-fighting amoeba from Mauritius;
- Congo (Brazzaville) treatment for impotence;
- vaccines from Egyptian microbes;
- South African and Namibian indigenous appetite suppressant Hoodia;
- drug addiction treatments, multipurpose kombo butter from Central, W.Africa;
- beauty, healing treatment from Okoumé resin in Central Africa;
- skin and hair care from the argan tree in Morocco, Egyptian 'Pharaoh's Wheat', bambara groundnut and 'resurrection plant';
- endophytes and improved fescues from Algeria and Morocco;
- groundnuts from Malawi, Senegal, Mozambique, Sudan and Nigeria;

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6. Martinez-Alier, J. (2003), 'Marxism, Social Metabolism and Ecologically Unequal Exchange', Paper presented at Lund University Conference on World Systems Theory and the Environment, 19-22 September.
7. *Ibid.*
8. Shiva, V. (2005), 'Beyond the WTO Ministerial in Hong Kong', ZNet Commentary, 26 December.
9. http://www.globalpolicy.org/socecon/develop/devthry/well-being/2000/tandon.htm

- Tanzanian impatiens; and
- molluscicides from the Horn of Africa.[10]

A partial ecological debt accounting was published by environmental scientists in early 2008, and counted $1.8 trillion in concrete damages over several decades.[11] According to co-author Richard Norgaard, ecological economist at the University of California, Berkeley, generated a crucial finding: 'At least to some extent, the rich nations have developed at the expense of the poor, and, in effect, there is a debt to the poor. That, perhaps, is one reason that they are poor. You don't see it until you do the kind of accounting that we do here'.[12] The study included factors such as greenhouse gas emissions, ozone layer depletion, agriculture, deforestation, overfishing, and the conversion of mangrove swamps into shrimp farms, but did not (so far) succeed in calculating other damages, e.g. excessive freshwater withdrawals, destruction of coral reefs, bio-diversity loss, invasive species, and war.

Another route into the intellectual challenge of calculating ecological debt was taken by the World Bank (2006) in its estimates of tangible wealth (in the book *Where is the Wealth of Nations?*). In addition to resource depletion and rent outflows, there are also other subsoil assets, timber resources, nontimber forest resources, protected areas, cropland and pastureland to account for. The 'produced capital' normally captured in GDP accounting is added to the tangible wealth. In the case of Ghana, to consider one example, that amounted to $2,022 per person in 2000. The same year, the Gross National Saving of Ghana was $40 and education spending was $7. These figures require downward adjustment to account for the consumption of fixed capital ($19), as well as the depletion of wealth in the form of stored energy ($0), minerals ($4) and net forest assets ($8). In Ghana, the adjusted net saving was $16 per person in 2000. But given population growth of 1.7%, the country's wealth actually shrunk by $18 per person in 2000. Notwithstanding the World Bank's conservative counting bias,[13]

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10. McGown, J. (2006), 'Out of Africa: Mysteries of Access and Benefit Sharing', Edmonds Washington, the Edmonds Institute and Johannesburg, the African Centre for Biosafety.
11. Srinivasan, U., S.Carey, E.Hallstein, P.Higgins, A.Ker, L.Koteen, A.Smith, R.Watson, J.Harte and R.Norgaard (2008), 'The debt of nations and the distribution of ecological impacts from human activities', *Proceedings of the National Academy of Sciences of the United States of America*, 105, 5, http://www.pnas.org/content/105/5/1768.
12. *Guardian* (2008), 'Rich countries owe poor a huge environmental debt', 21 January, http://www.guardian.co.uk/science/2008/jan/21/environmental.debt1.
13. The Bank's estimates are conservative for at least three reasons: a minimalist definition based upon international pricing in 2000 (not potential future values when scarcity becomes a more crucial factor, especially in the oil industry); the partial calculation of damages to the local environment, to workers' health/safety, and especially to women in communities around mines; and the Bank's use of average – not marginal – cost resource rents also probably leads to underestimations of the depletion costs.

Africa shows evidence of net per capita wealth reduction, largely traceable to the extraction of nonrenewable resources that is not counterbalanced by capital investment from those firms doing the extraction (Table 1).

Table 1: African countries' adjusted national wealth, 2000[14]

	Income per capita before adjustment ($)	**Change in wealth per capita after adjustment ($)**
Benin	360	-42
Botswana	2925	814
Burkina Faso	230	-36
Burundi	97	-37
Cameroon	548	-152
CapeVerde	1195	-81
Chad	174	-74
Comoros	367	-73
Rep of Congo	660	-727
Côte d'Ivoire	625	-100
Ethiopia	101	-27
Gabon	3370	-2241
The Gambia	305	-45
Ghana	255	-18
Kenya	343	-11
Madagascar	245	-56
Malawi	162	-29
Mali	221	-47
Mauritania	382	-147
Mauritius	3697	514
Mozambique	195	-20
Namibia	1820	140
Niger	166	-83
Nigeria	297	-210
Rwanda	233	-60
Senegal	449	-27
Seychelles	7089	904
South Africa	2837	-2
Swaziland	1375	8
Togo	285	-88
Zambia	312	-63

14 . World Bank (2006), *Where is the Wealth of Nations?*, Washington, DC, p.66.

Zimbabwe	550	-4

African leaders united?

How is Africa reacting? Generally the leadership of African countries has cooperated with those doing the resource extraction and utilizing Africa's ecological space, with only complaints by exploited communities, by workers subject to safety/health violations and exploitation, and by environmentalists. However, finally in mid-2009, the African Union's leadership on climate issues became a force to be reckoned with, thanks to Ethiopian prime minister Meles Zenawi, who also chaired the New Partnership for Africa's Development and thus was invited to G20 gatherings along with the South African government. Sometimes seen merely as a US proxy power in the Horn of Africa – thanks to the disastrous, Washington-sponsored 2007 invasion of neighboring Somalia – Zenawi is rather more complex. He was once a self-described Marxist but became a tyrant whose troops killed scores of students and other democrats. It is ironic, thus, for Zenawi to lead the ecological debt charge, reportedly demanding a minimum of $67 billion – and up to $200 billion – annually from the North by 2020.[15]

Ironic or tragic, nevertheless this voice must be heard, considering how much Africa will be devastated by the climate crisis. The most shocking probable outcome of climate change is, according to the UN Intergovernmental Panel on Climate Change director R.K. Pachauri, 'that there could be a possible reduction in yields in agriculture of: 50% by 2020 in some African countries... In Africa, crop net revenues could fall by as much as 90% by 2100, with small-scale farmers being the most affected.' [16] The Climate Change Vulnerability Index, calculated in 2009 'from dozens of variables measuring the capacity of a country to cope with the consequences of global warming', listed 22 African countries out of 28 across the world at 'extreme risk', whereas the United States is near the bottom of the world rankings of countries at risk even though it is the leading per capita contributor to climate change. [17]

There is no question that those most responsible should pay reparations, now that there is near-universal awareness of the damage being done by rising greenhouse gas emissions, and by the ongoing stubborn refusal by the rich to cut back. The amounts can be debated, for of course $67 billion/year for Africa is

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15. McLure, J. (2009), 'Ethiopian leader chosen to represent Africa at climate summit,' Addis Ababa, 1 September.
16. Pachauri, R.K. (2008), 'Summary of testimony provided to the House Select Committee on Energy Independence and Global Warming,' US Congress, Washington DC, globalwarming.house.gov/tools/assets/files/0342.pdf.
17. Agence France Press (2009), 'Albania to Zimbabwe: the climate change risk list', 2 September.

way too low, given how many incalculably valuable species will be lost, how much devastation to individuals and communities is already underway, how many economies will falter, how much ecology is threatened.

The question is not mainly a technical one, but related to power. Behind African elites' considerations are the threat to repeat their performance in Seattle in 1999 and Cancun in 2003, when denial of consent in World Trade Organisation negotiations were the proximate cause of the summits' collapse on both occasions. On September 3, 2009, Zenawi issued a strong threat from Addis Ababa about the upcoming Copenhagen conference: 'If need be we are prepared to walk out of any negotiations that threatens to be another rape of our continent.' [18]

To gather that power, Zenawi established the Conference of African Heads of State and Government on Climate Change: chairpersons of the AU and the AU Commission, representatives of Ethiopia, Algeria, the Democratic Republic of Congo, Kenya, Mauritius, Mozambique, Nigeria, Uganda, Chairpersons of the African Ministerial Conference on Environment and Technical Negotiators on climate change from all member states. They met at the AU Summit in Sirte, Libya in July 2009, agreeing that Africa would have a sole delegation to Copenhagen with a united front and demands for compensation. According to AU official Abebe Hailegabriel, 'Trillions of dollars might not be enough in compensation. Thus there must be an assessment of the impact before the figure.' Added AU head Jean Ping, 'Africa's development aspirations are at stake unless urgent steps are taken to address the problems of climate change. Climate change will fundamentally affect productivity, increase the prevalence of disease and poverty... and trigger conflict and war'. [19]

The most important African negotiator – and largest CO_2 emitter (responsible for more than 40% of the continent's CO_2) – is South Africa. [20] Long seen as a vehicle for Western interests in Africa, Pretoria's negotiators have two conflicting agendas: increasing Northern payments to Africa (a longstanding objective of the New Partnership for Africa's Development, which requested $64 billion per annum in aid and investment concessions during the early 2000s); and increasing CO_2 outputs through around 2050, when the Long-Term Mitigation Scenario – South Africa's official climate cap - would come into effect and emissions declines are offered as a scenario. In the meantime, Pretoria has earmarked more than $100 billion for emissions-intensive coal and nuclear fired electricity generation plants due to be constructed during 2010-15, which would amplify

18. Ashine, A. (2009), 'Africa threatens withdrawal from climate talks', *The Nation,* 3 September.
19. Bond, P. (2009b), 'Don't play games with humanity's future', *The Mercury,* 2 September.
20. Bond, P., R.Dada and G.Erion (2009), *Climate Change, Carbon Trading and Civil Society,* Pietermaritzburg, University of KwaZulu-Natal Press.

Africa's climate crisis, requiring more resources from the North for adaptation. South Africa does not, officially, see itself as an ecological creditor; As the environment minister, Buyelwa Sonjica put it in September 2009: 'We expect money. We need money to be made available... we need money as of yesterday for adaptation and mitigation.'[21]

South African negotiators also lead the G77, and are on record from August 2009 demanding that 'at least 1% of global GDP should be set aside by rich nations' so as, according to one report,

> help developing countries conduct research, improve flood control, protect their coastlines, create seed banks and take other steps to cope with the severe storms and droughts linked to climate change. The money also could help poor countries obtain technology to reduce their carbon emissions. Alf Wills, a top South African environmental official, summed up the position going into Copenhagen: 'No money, no deal.' [22]

There are other allies, especially Bolivia, whose submission to the UNFCCC in 2009 made the ecological debt demand explicitly:

> The climate debt of developed countries must be repaid, and this payment must begin with the outcomes to be agreed in Copenhagen. Developing countries are not seeking economic handouts to solve a problem we did not cause. What we call for is full payment of the debt owed to us by developed countries for threatening the integrity of the Earth's climate system, for over-consuming a shared resource that belongs fairly and equally to all people, and for maintaining lifestyles that continue to threaten the lives and livelihoods of the poor majority of the planet's population. This debt must be repaid by freeing up environmental space for developing countries and particular the poorest communities. There is no viable solution to climate change that is effective without being equitable. Deep emission reductions by developed countries are a necessary condition for stabilising the Earth's climate. So too are profoundly larger transfers of technologies and financial resources than so far considered, if emissions are to be curbed in developing countries and they are also to realise their right to development and achieve their overriding priorities of poverty eradication and economic and social development. Any solution that does not ensure an equitable distribution

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21. Sapa (2009a), 'SA not "compromising anything" at climate change negotiations – Sonjica," 15 September.
22. Sapa (2009b), 'SA on climate change: "No money, no deal"', 5 August.

> of the Earth's limited capacity to absorb greenhouse gases, as well as the costs of mitigating and adapting to climate change, is destined to fail. [23]

Bolivia's government is generally driven by left-leaning popular forces in the rural and urban social movements. Other countries that have expressed similar sentiments include Venezuela, Paraguay, Malaysia and Sri Lanka. In Africa, where most countries do not have such strong movements, what is the state of play around civil society's ecological debt demands?

Civil society reactions

The threat of a walkout at Copenhagen was contemplated with interest by civil society groups, both in Africa and across the world. The former became increasingly active in August 2008 when Africa chapters of Jubilee South converged in Nairobi to debunk limited 'debt relief' by Northern powers and to plan the next stage of financial campaigning. Nairobi-based Africa Jubilee South co-coordinator Njoki Njehu concluded, 'Africa and the rest of the Global South are owed a huge historical and ecological debt for slavery, colonialism, and centuries of exploitation.' Njehu says Jubilee's challenge as it rebuilds is to link issues as diverse as food sovereignty, climate change, trade and EU Economic Partnership Agreements and continuing debt bondage. 'From the initial 13 countries that participated in the Jubilee South founding conference in Johannesburg in 1999, the Africa Jubilee South network has grown to organizations and movements from 29 countries.' [24]

A year later in Nairobi, the Africa Peoples Movement on Climate Change, pronounced:

- We reject the principle and application of Carbon Trading, which is a false solution based on inventing a perverse property right to pollute, a property right to air;
- We demand that human rights and values be placed at the centre of all global, national and regional solutions to the problem of climate change;
- We call on colleagues in the social and economic justice movement globally to rigorously campaign against the undemocratic corporate led agendas which will dominate the deliberations and processes at COP 15;

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23. Republic of Bolivia (2009), 'Submission to the Ad Hoc Working Group on Long-term Cooperative Action under the UN Framework Convention on Climate Change,' La Paz, April.
24. Bond, P. and D.Brutus (2008), 'Ecological debt and our centre's survival', ZCommentaries, 21 August, http://www.zcommunications.org/zspace/commentaries/3594.

- We emphasize that ecological, small holder, agro-biodiversity based food production can ensure food and seed sovereignty and address climate change in Africa;
- We support the call by African leaders for reparations on Climate Change and support the initiative of the upcoming AU ministers of environment meeting and call for African governments to embrace more people centered alternatives for the African peoples;
- We urge African governments to engage civil society groups positively and collaborate with them to build common national and international responses on the problems of climate change. [25]

Another node of ecological debt organizing is the World Council of Churches (WCC), whose Central Committee adopted a formal statement in September 2009 on the North's 'deep moral obligation to promote ecological justice by addressing our debts to peoples most affected by ecological destruction and to the earth itself.' It is useful to consider the WCC's analysis because it does not stop at the debt, but attacks the mode of production itself:

> We call for the recognition, repayment and restitution of ecological debt in various ways, including non-market ways of compensation and reparation, that go beyond the market's limited ability to measure and distribute... This warrants a re-ordering of economic paradigms from consumerist, exploitive models to models that are respectful of localized economies, indigenous cultures and spiritualities, the earth's reproductive limits, as well as the right of other life forms to blossom. And this begins with the recognition of ecological debt. [26]

The WCC Central Committee made several requests, including:

- Urges Northern governments, institutions and corporations to take initiatives to drastically reduce their greenhouse gas (GHG) emissions within and beyond the United Nations Framework Convention on Climate Change (UNFCCC), which stipulates the principles of historical responsibility and 'common, but differentiated responsibilities' (CDR), according to the fixed timelines set out by the UNFCCC report of 2007.
- Urges WCC member churches to call their governments to adopt a fair and binding deal, in order to bring the CO2 levels down to less than 350 parts per million (ppm), at the Conference of Parties (COP 15) of the UNFCCC in Copenhagen in December 2009, based on climate justice

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25. Africa Peoples Movement on Climate Change (2009), 'Confronting the Climate Crisis: Preparing for Copenhagen and Beyond', Nairobi, 30 August.
26. World Council of Churches Central Committee (2009), 'Statement on eco-justice and ecological debt,' Geneva, 2 September.

principles, which include effective support to vulnerable communities to adapt to the consequences of climate change through adaptation funds and technology transfer.

- Calls upon the international community to ensure the transfer of financial resources to countries of the South to keep petroleum in the ground in fragile environments and preserve other natural resources as well as to pay for the costs of climate change mitigation and adaptation based on tools such as the Greenhouse Development Rights (GDR) Framework.
- Demands the cancellation of the illegitimate financial debts of Southern countries, most urgently for the poorest nations, as part of social and ecological compensations, not as official development assistance. [27]

It is evident at this writing (September 2009) that the COP15 – or its immediate successors - will not make the urgent progress required on cutting emissions to the levels at which climate disaster can be averted; or on providing restitution and reparations to Third World peoples, or even canceling their illegitimate debts. To be sure, in September 2009, a desire by the European Union to begin paying its ecological debt was recorded, but only up to $22 billion annually to fund adaptation, roughly 1/7th of what EU environment commissioner Stavros Dimas observed would be required by 2020 ($145 bn). Some of that would be subtracted from existing aid. The EU damage estimates were considered far too conservative, as China's mitigation and adaptation costs alone would be $438 bn annually by 2030, according to Beijing. According to one report, the EU view is that emissions trading should be the basis of 'much of the shortfall': 'The international carbon market, if designed properly, will create an increasing financial flow to developing countries and could potentially deliver as much as €38bn per year in 2020.' [28] As noted above, however, this strategy is replete with fatal flaws.

Because of the influence of big capital and pro-market ideology on Northern governments in the Kyoto process to date, not only will emissions continue rising and the ecological debt not be properly paid, carbon trading will not be dropped as a central EU and US strategy. As a result, critical narratives will become more common, and in turn will force serious advocates of environmental justice to raise very important strategic issues about how to get the North to repay the ecological debt.

Conclusion: Repaying the debt?

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27. *Ibid.*
28. Chaffin, J. and E. Crooks (2009), 'EU sets out €15bn climate aid plan', *Financial Times,* 8 September.

Existing North-South redistributive processes are not effective. Northern foreign aid to the South goes only a small way towards ecological debt repayment. It is a far lower sum (and falling) than military spending (which is rising), and in any case 60% is 'phantom aid', according to the Johannesburg-based agency Action Aid. [29] Aid is also a tool of imperialism. Other North-South payments to Africa are yet more dubious, including the debt relief promised in 2005. In spite of enormous hype at the Gleneagles G8 meeting, the International Monetary Fund calculates that notwithstanding a lower debt stock, the actual debt repayments of the lowest-income African countries stayed stable from 2006-08 and then increased 50% in 2009 as a percentage of export earnings.[30] So although there was debt cancellation, it was on unrepayable debt, with debilitating debt servicing charges for low-income African countries still preventing local accumulation and provision of social services, much less financing preparations for climate change adaptation.

There are important debates about who should pay what share. But in general, it is important to note that ecological debt results from the unsustainable production and consumption systems adopted by elites in the Northern countries, which are to some extent generalized across the Northern populations. Hence even poor and working-class people in the North, often through no fault of their own, are tied into systems of auto-centric transport or conspicuous consumption, which mean that they consume far more of the Earth's resources than do working-class people of the South.

Hence, recalling the WCC position in favour of a 'Greenhouse Development Rights' framework, it is worth considering that a per capita 'right to pollute' – and to trade pollution rights – will have some of the same dubious outcomes. The bigger questions which GDRs pose are whether environmental justice can be measured merely in terms of formal 'equality'; whether environmental justice is instead historical, political-economic, and grounded in social struggles of those adversely affected; and in turn, whether environmental justice should not aim higher, for a broader, deeper eco-social transformation? The WCC hints at such a perspective, but the GDR approach may foreclose it by reducing the challenge to incremental reformism. When it comes specifically to GDRs as a methodology for calculating debt liabilities and beneficiaries, Larry Lohmann of The Cornerhouse (a British development institute) critiques the model's

> tacit endorsement of a long-discredited concept of 'development' that condescendingly sees 'resilience' as 'far beyond the grasp of the billions of people that are still mired in poverty', and that singles out for special

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29. Action Aid (2005), *Real Aid: An Agenda for Making Aid Work*, Johannesburg.
30. International Monetary Fund (2009), 'The implications of global financial crisis for low-income countries', Washington, DC.

> climate blame 'subsistence farming, fuel wood harvesting, grazing, and timber extraction' by 'poor communities' awaiting Northern tutelage in capital flows, social networking, carbon trading and methods for holding policymakers accountable. [31]

Is a rights-based approach to environmental services preferable, as a strategy for demanding and properly redistributing ecological debt payments from North to South? South Africa's 'Free Basic Services' provide insights into the possibilities and limitations of rights discourses for redistributing wealth from North to South. In 2000 (just after Nelson Mandela left the presidency), the ruling party's municipal campaign platform highlighted this promise: 'African National Congress-led local government will provide all residents with a free basic amount of water, electricity and other municipal services, so as to help the poor. Those who use more than the basic amounts will pay for the extra they use.' But as can be shown in excruciating detail, it was the failure to move beyond individualized nuclear-family household units and tokenistic amounts of free basic water (6 kl/household/month) and electricity (50kWh/household/month) that led to many 'service delivery protests' during subsequent years, contributing to South Africa's standing as the country with the most per capita social unrest. Attempts to gain justice in these cases through the court system - even the Constitutional Court in September 2009 – proved extremely frustrating.[32]

Juridical approaches to ecological debt may not be optimal, although interesting precedents have emerged. In November 2008 a San Francisco court began considering an ecological debt and reparations lawsuit – under the Alien Tort Claims Act - filed by Larry Bowoto and the Ilaje people of the Niger Delta against Chevron for involvement in 1998 murders reminiscent of those that took the life of Ken Saro-Wiwa and eight other Ogoni leaders on November 10, 1995. The first judgments went against Bowoto et al but appeals are in process. In June 2009, Shell Oil agreed in a similar lawsuit to an out-of-court settlement with reparations payments of $15.5 million. Although representing just four hours' worth of Shell profits, it was considered a crucial step in establishing liability and disincentivising corporate exploitation of people and nature. In late 2009, further reparations lawsuits were expected in the New York Second District Court by victims of apartheid who initially requested $400 billion in damages from US corporations which profited from South African operations during the same period. Supreme Court justices had so many investments in these companies that in 2008 they bounced the case back to a lower New York court to decide,

31. Lohmann, L. (2009, personal correspondence. pdf
32. Bond, P. (2010), 'South Africa's "rights culture" of water consumption: Breaking out of the liberal box and into the commons?', in B.Johnston, L.Hiwasaki, I.Klaver, and V.Strang (Eds), *Water, Cultural Diversity & Global Environmental Change: Emerging Trends, Sustainable Futures?*, Paris, UNESCO.

effectively throwing out an earlier judgment against the plaintiffs: the Jubilee anti-debt movement, the Khulumani Support Group for apartheid victims, and 17 000 other black South Africans. When Judge Clara Scheindlin replaced the late John Sprizzo, the case suddenly was taken seriously and in March 2009 moved a step closer to trial when she rejected the corporations' attempt to have it dismissed. [33]

Beyond these kinds of tort actions, will courts start declaring climate-related ecological debt a valid concept? Environmental rights to protection from climate change were explored in a court case filed by Friends of the Earth, Greenpeace and the cities of Boulder, Colorado, Arcata, Santa Monica and Oakland in California, against the US Export- Import Bank and Overseas Private Investment Corporation, which had invested, loaned or insured $32 billion in fossil fuel projects from 1990–2003 without regard to the US National Environmental Policy Act (NEPA). At present, only US cities have formal standing to sue for damages from climate change under NEPA, in the wake of a 2005 federal ruling. The out-of-court-settlement in February 2009 meant that the defendants will in future incorporate CO2 emissions into planning, but there are prospects for further suits that extend into identification and payment of damages.[34]

There are quite obvious limits to prospects for court relief under the Alien Tort Claims Act or NEPA, the two most advanced areas. Hence it would be consistent to also proceed with more immediate strategies, as well as direct action tactics. As Al Gore expressed it in 2007, 'I can't understand why there aren't rings of young people blocking bulldozers and preventing them from constructing coal-fired power plants'.[35] Arguing that 'Protest and direct action could be the only way to tackle soaring carbon emissions,' the US National Aeronautic and Space Administration's leading climate scientist, James Hansen, 'The democratic process is supposed to be one person one vote, but it turns out that money is talking louder than the votes. So, I'm not surprised that people are getting frustrated. I think that peaceful demonstration is not out of order, because we're running out of time.'[36] Hansen himself moved to direct action in 2009, demonstrating at coal-fired power plants in Coventry, England and West Virginia (where at the latter site he was arrested).

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33. Bond, P. and K.Sharife (2009), 'Apartheid reparations and the contestation of corporate power in Africa', *Review of African Political Economy,* 119.
34. Friends of the Earth (2009), 'Landmark global warming lawsuit settled', Washington, DC, 6 February.
35. Kristoff, N. (2007), 'The big melt', *New York Times,* 16 August.
36. Adam, D. (2009), 'Leading Climate Scientist: "Democratic Process Isn't Working"', *The Guardian,* 18 March.

But the most effective examples of direct action come from the Global South, especially the Niger Delta. In January 2007, at the World Social Forum in Nairobi, many other groups became aware of this movement thanks to eloquent activists from the Delta, including the Port Harcourt NGO Environmental Rights Action (ERA). In separate disruptions of production (including armed interventions), the Movement for the Emancipation of the Niger Delta prevented roughly 80% of the country's oil from being extracted, although a cease-fire was called in mid-2009.[37] The strategy is consistent with the grassroots, coalface and fenceline demands of civil society activists in the Oilwatch network (headquartered at ERA) to *leave the oil in the soil, the coal in the hole, the tar sand in the land.* Activists from Accion Ecologica popularized this approach in their struggle to halt exploitation of the oil beneath the Yasuni park in the Ecuadoran Amazon. The German state development agency GTZ conceded to a $50 mn/year grant, although Yasuni may become a pilot carbon trading case unless Ecuadoran environmental and indigenous rights activists can resist.[38]

The legacy of keeping oil in the soil includes Alaskan and Californian environmentalists who halted drilling and even exploration. In Norway, the global justice group, ATTAC, took up the same concerns in an October 2007 conference and began the hard work of persuading wealthy Norwegian Oil Fund managers that they should use the vast proceeds of their North Sea inheritance to repay Ecuadorans some of the ecological debt owed via a Yasuni grant. In Australia, regular blockades of Newcastle coal transport (by rail and sea) by the activist group, Rising Tide, correspond to Gore's injunction.

Canada is another Northern site where activists are hard at work to leave the oil in the soil. In a November 2007 conference in Edmonton, the University of Alberta Parkland Institute addressed the need to halt development of tar sand deposits (which require a liter of oil to be burned for every three extracted and devastate local water, fisheries, and air quality). Institute director Gordon Laxer laid out careful arguments for strict limits on the use of water and greenhouse gas emissions in tar sand extraction; realistic land reclamation plans (including a financial deposit large enough to cover full-cost reclamation up-front); no further subsidies for the production of dirty energy; provisions for energy security for Canadians (since so much of the tar sand extract is exported to the U.S.); and much higher economic rents on dirty energy to fund a clean energy industry (currently Alberta has a very low royalty rate). These kinds of provisions would strictly limit the extraction of fossil fuels and permit oil to leave the soil only

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37. Mistilis, K. (2009), 'Niger Delta standoff', *Pambazuka News*, 442, 16 July, http://pambazuka.org/en/category/comment/57769.
38. Gallagher, K. (2009), 'Paying to keep oil in the ground', *The Guardian*, 7 August.

under conditions in which much greater socio-ecological and economic benefit is retained by the broader society.[39]

There are many other examples where courageous communities and environmentalists have lobbied successfully to keep nonrenewable resources (not just fossil fuels) in the ground for the sake of the environment, community stability, disincentivizing political corruption, and workforce health and safety. For many victims, the extraction of these resources is incredibly costly in terms of local land use, water extraction, energy consumption, and political corruption, and requires constant surveillance and community solidarity. The adverse balance of forces noted at the outset should be restated: the climate negotiators and corporations of the Global North will consistently fail to make sustained emissions cuts; to depart from the ineffectual, dangerous carbon trading modus operandi; and to offer adequate reparations for the ecological debt. This will, in turn, require national states to take stronger actions, such as Zenawi has threatened, or as Ecuador's Rafael Correa did in defaulting on odious foreign debt in early 2009. But most of all, it will require people of conscience across the world to become involved, and to offer solidarity and activism aimed at leaving fossil fuels in the ground.

39. Laxer, G. (2007), 'Freezing in the dark?', Presentation, Parkland Institute, University of Alberta, Edmonton, 7 November.

Carbon Trading, Space, Time and Eco-Social Contestation

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ABSTRACT
There is a central strategy within the 1997 Kyoto Protocol and its follow-up treaty anticipated for negotiation at Copenhagen in 2009: addressing 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 has become controversial in its most advanced pilot - the European Union's Emission Trading Scheme - as well as in its proposed application in the United States through 2009 legislation, and in the Third World through the Kyoto Protocol's "Clean Development Mechanism". Moreover, the ongoing world financial crisis has undermined market faith in derivative investments such as carbon credits. They have suffering extreme price volatility, including the European carbon price crash of 70 percent during 2008. The linkages between financial market and emissions market problems are, indeed, revealing in spatio-temporal terms, especially in the context of deeper overaccumulation crisis and investors' desperate need for new speculative outlets. But even before the recent market crashes, there emerged a "double movement" in the Polanyian sense: if commodification of society and nature over-reaches, the reaction in civil society is to resist, deflecting devaluation of overaccumulation and in the process offering decommodifying alternatives. In that spirit, the Durban Group for Climate Justice was founded to oppose carbon trading in 2004, followed by the broader-based Climate Justice Now! movement in 2007 at the Bali climate negotiations, in addition to many other sites of direct action against fossil fuels extraction and power generation. It is in the nexus of the spatial and temporal aspects of carbon financing amidst resistance by adversely affected peoples, that we learn broader-based lessons for global/local environmental politics and climate policy.

(About the author: Patrick Bond received his PhD in Geography and Environmental Engineering from Johns Hopkins University. Among numerous books and articles on local and global environmental problems, he coedited *Climate Change, Carbon Trading and Civil Society*, published by Rozenberg Press in Amsterdam, 2007.)

KEY WORDS: *Carbon trading, financial crisis, externality, resource depletion, civil society*

The political-economic branch of geographical knowledge 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 below 2 degrees centigrade this century. The radical tradition, as articulated most forcefully by David Harvey (1985, 1989, 1996, 2003, 2005), has tackled socio-economic phenomena including urbanisation, 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) warns when considering "Space as a key word", 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 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 financial markets and economic logic now claim public policy leadership in 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).

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 capitalist "overaccumulation crisis." This perspective allows us to track several processes which overlapped, very dangerously, during the early 21st century (Bond 2009):

- the global economic slowdown that began during the late 1960s – in which world GDP/per capita growth shrunk from 3.6 percent during the 1960s to 2.1 percent during the 1970s to 1.3 percent during the 1980s to 1.1 percent during the 1990s - witnessed a momentary reversal in the late

2000s, but only on the basis of untenable credit expansion, asset speculation and trade in (vastly overpriced) commodities, ultimately causing a potentially long-term world depression;

- 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;

- 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 in the US and carbon in Europe;

- 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, i.e. carbon emissions (with $200 billion traded in 2008);

- the geographical overextension of financial capital during the 1990s-2000s included the diversification of investment portfolios into distant, risky areas and sectors under the rubric of (inadequate) global financial governance, leading to corruption in asset values ranging from sub-prime housing mortgages to illegitimate emissions credits;

- likewise, geopolitical tensions emerged over which sites would be most vulnerable to the devalorization of overaccumulated capital after 2008, i.e. which regions or countries would bear the brunt of the deep financial sector and real economic downturns;

- the global class politics of neoliberalism, so aptly characterised by World Bank chief economist Lawrence Summers (1991) in a memo he signed - "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" - became so dominant that even the Keynesian financial bail-out and public works strategies adopted in the North from 2008 onwards were not permitted in the South, generating ever greater desperation for financial capital inflows (including emissions mitigation investments) as private portfolio capital and Overseas Development Aid suffered large-scale withdrawal; and

- the resulting rise of a "double movement" of civil society forces against excessive commodification included organisations and networks

> dedicated to addressing climate change not through market mechanisms but instead through direct action based on opposition to fossil fuel extraction, and advocacy for national command-and-control emissions reduction strategies.

The application of historical-materialist-geographical analysis to the world economy provides crucial contextual understandings for the climate mitigation debate, in this manner, and allows a more critical perspective to emerge about how space and time are mediated through financial markets when 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). Prior to the 2008 ETS collapse, carbon trading offered an attractive, fast-growing bubble because of these spatio-temporal features, in a context of fading momentum in overpriced property, equity markets (dot.coms in particular) and other exotic, speculative investment instruments. The hope of carbon traders is that the attractiveness of the carbon market's still evolving spatio-temporality will again generate high returns, to the extent that emissions trading achieves the tens of trillions of dollars per annum in coming decades often predicted. In addition, carbon trading fits the rubric of "accumulation by dispossession" that Harvey (2003) utilises as an explanation for the desperate penetration of non-market spheres by capital under circumstances of both overaccumulation crisis and imperialist power.

However, unintended environmental and social consequences invariably emerge, along with 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). 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. As environmental finance critic Michelle Chan (2009, 3) argues,

> The financial crisis was sparked by bad mortgages, and U.S. 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 the deep-seated contradictions in industrial capitalism invariably bubble up into both financial and carbon markets. Hence, we will conclude, carbon trading represents at best a shifting of the deck chairs on both the climate and economic Titanics, and at worst major new holes in the ships.

The carbon market’s rise 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 – with air pollution now treated as a property right traded mainly in London and Chicago financial markets - there is also a serious intellectual argument undergirding the carbon trade. John Dales (1968, 85) wrote “Pollution, Property, and Prices” to lessen 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 Environmental Protection Agency’s *Clean Air Act* was amended by Congress so that sulphur dioxide could be capped and traded, so as to reduce acid rain damage, although command-and-control strategies in Europe had faster and more decisive results. 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 the modest target of a 5.2 percent reduction on 1990 emissions levels by 2012. This allowed the sale of the “hot air” – excess credits - that Eastern Europe enjoyed because their industrial economies were reduced by 40 percent 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 so that particular emissions-reducing projects could be financed: 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, if those projects require “additional” finance beyond what can be done on a profitable basis without the CDM subsidy. 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 credits have come from projects that reduce nitrogen and hydrofluorocarbons, which are much more extreme greenhouse gases than CO2 (Prototype Carbon Fund 2005). Landfill methane-to-electricity projects are most prevalent, but 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.

The roles of wastepickers, indigenous people, dam-affected communities, critical environmentalists and others threatened by enclosure processes associated with the carbon trade are diverse and even contradictory at times. In contrast, there are market-oriented environmental organisations 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 CO2 emissions, amongst which South Africa looms large given that as a measurement of carbon intensity, the energy sector's CO2 emissions per unit of per capita GDP was twenty times that of the United States 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 (e.g. Greenhouse Development Rights, and Contraction and Convergence).

The most important force in the market, however, will be the US government's new commitment to carbon trading through what began as the Waxman-Markey legislation, aiming to cap and trade emissions. The law includes a pollution rights give-away, as well as a change to the *Clean Air Act* (which critics argue will gut the important law by exempting carbon as a pollutant from Environmental Protection Agency oversight and regulation) plus a generous allowance of offsets which would potentially delay actual US CO2 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 euros/tonne, which probably gave Obama confidence in lucrative funding opportunities for renewables. But by election day in November that year, the price had sunk to less than 9 euros/tonne (when, for example, 40-60 euros/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 credits, meaning that polluters would have 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 percent of credits.

The intrinsic problem in setting an artificially-generated market price for carbon 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 credits (roughly 50 billion euros worth of pollution rights, measured at 30 euros per tonne, were transferred to large European CO2 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* (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 (e.g. 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

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 - 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. Although campaigning was set back by the July 2007 death of Durban 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, the movement joined forces with broader global justice activism in the Climate Justice Now! (CJN!) network formed at Bali in December 2007. As the CJN! (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."

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. According to an assessment by the US 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 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 fall into 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).

The South also offers very serious leadership, such as indigenous people and environmental and community activists in the Niger Delta and Ecuadoran Amazon. Accion Ecologica helped persuade 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. 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 organising 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.

Climate Justice Now! 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 and peoples" food sovereignty.

No matter that the CJN! component movements are disparate, these are the kinds of arguments 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 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 emissions trading

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