

The Global Carbon Trade Debate: For Or Against The Privatisation Of The Air?

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"I can't understand why there aren't rings of young people blocking bulldozers and preventing them from constructing coal-fired power plants."
—Al Gore speaking privately, August 2007¹

What is the state of the strategic debate over climate change?² What kinds of reforms are being contested? Are we in danger of seeing the air itself—one of our last commons—become commodified, reflecting not only the core elite strategy to mitigate global warming, but market-environmentalist acquiescence?

As climate change generates destruction and misery, the people and corporations responsible for these problems—especially in the US/EU-centred petro-mineral-military complex and associated financial agencies like the World Bank—are renewing their grip on power, but likewise reasserting their rights to property and to inaction on climate change. And a good many activists once strongly opposed to the corporate elites have bought in, seduced by the idea that we have to

- 1 Cited in Greenpeace (2007), "Greenpeace climate activists refused bail in India, as Al Gore and IPCC win Nobel Peace Prize for raising global climate awareness", *Kolkata*, 12 October.
- 2 My earlier reports on the struggle over commodification of the air as a climate change mitigation strategy include the co-edited books with Rehana Dada, *Trouble in the Air* (Durban, Centre for Civil Society and Amsterdam, Transnational Institute, 2005) and with Dada and Graham Erion, *Climate Change, Carbon Trading and Civil Society* (Pietermaritzburg: UKZN Press, 2007) and (Amsterdam: Rozenberg Publishers, 2008); and articles such as Bond and R.Dada "A death in Durban: Capitalist patriarchy, global warming gimmickry and our responsibility for rubbish," *Agenda*, 73; and "Privatization of the air turns lethal: 'Pay to Pollute' principle kills South African activist Sajida Khan", *Capitalism Nature Socialism*, 18, 4.

tackle the climate crisis one step at a time, with reforms that the establishment can live with, that in turn can be used to leverage substantial cuts in emissions through clever market incentives.

In this article, four sets of strategies to combat climate change receive consideration: emissions cap-and-trade options including investments in Clean Development Mechanism (CDM) projects, carbon taxation, command and control of activities responsible for emissions, and alternative grassroots climate change mitigation strategies. The latter two are what, ultimately, will be necessary to save the planet, yet the former two strategies are still ascendant, in part because in 1997 at Kyoto, the idea of a market solution (carbon trading) to a market problem (emissions as an externality) won approval, along with a sigh of relief that this strategy would bring the United States of America to the table. Al Gore, the US vice president, said so, and promised the US Congress would join the fight.

US intransigence notwithstanding, a scientific consensus now appears unshakable: by 2050, the world requires 80% reductions in CO₂ emissions to prevent tipping of the world environment into an unmanageable process and potentially a species-threatening crisis. Yet the options being contemplated in global and national public policy debates to take us to 80% reductions were nowhere near what is required, for several reasons.

The main reason is that the global balance of forces appears adverse to the deep emissions cuts desperately required. As a mid-2008 report from Bonn put it,

Another round of talks on the road towards a new global deal on climate change was wrapping up in Germany on Friday, battered by criticism that progress had been negligible. The 12-day haggle under the 192-nation United Nations Framework Convention on Climate Change (UNFCCC) was the second since the accord in Bali, Indonesia, last December that set down a "road map" towards a new planetary treaty... India representative Chandrashekar Dasgupta deplored "the lack of any real progress" in Bonn and "a deafening silence" among industrialised countries, save the European Union.³

In this context, the state of debate in mid-2008 divides those who would want the world economy to slowly and painlessly adapt to CO₂ abatement strategies, and those who would advocate dramatic emissions cuts in a manner that is both redistributive (from rich to poor and North to South, and in the process male to female), and sufficiently shocking to economic structures and markets that major transformations in production and consumption are compelled.

3 Agence France Press, "Progress falters on road map to new climate deal," Bonn, Germany, 13 June 2008.

Market or Command?

There are some who argue that, along this spectrum, market-based instruments—either a “cap-and-trade” system or carbon tax (or some hybrid)—will have the capacity to rope in the major CO₂ emitters and compel them to reduce greenhouse gases as an economic strategy. A debate has emerged about how to make mitigation more efficient. As the US Congressional Budget Office explains:

The most efficient approaches to reducing emissions of CO₂ involve giving businesses and households an economic incentive for such reductions. Such an incentive could be provided in various ways, including a tax on emissions, a cap on the total annual level of emissions combined with a system of tradable emission allowances, or a modified cap-and-trade program that includes features to constrain the cost of emission reductions that would be undertaken in an effort to meet the cap.⁴

The “cap” means that each major point source of emissions—usually in the form of a country and a firm within a country—would be granted an emissions permit for each tonne of CO₂ released into the atmosphere. The cap would gradually reduce to the point that by 2050, the 80% target is met. The crucial point is that through the “trade”, flexibility can be attained so as to achieve more efficient greenhouse gas reduction. Those with the opportunity to make bigger cuts should do so and sell their “hot air”—the emissions saved above and beyond what is required at any given point in time—to those who have a harder time making the required cuts. Such a trading strategy would keep the high-emissions businesses alive until they have time to adapt. Auctioning the permits would give governments a dependable revenue stream which could be used to invest in renewable energy and other innovations. In the US, \$300 billion per year is anticipated as feasible income (at \$10-15 per metric tone of CO₂) by reducing emissions 80% below 1990 levels by 2050.

Another version of a market-based climate change mitigation system—which either enforces underlying economic dynamics or changes them—is a tax on greenhouse gas emissions. Such a tax would take the production system as given and alter the demand structure. According to an assessment by the US Congressional Budget Office,

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

4 US Congressional Budget Office, *Policy Options for Reducing CO₂ Emissions*, Washington DC, February 2008.

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. If other major nations used cap-and-trade programs rather than taxes on emissions, a U.S. tax could still provide roughly comparable incentives for emission reductions if the tax rate each year was set to equal the expected price of allowances under those programs.⁵

The major problems with taxation are tax avoidance capacities of influential industries, and incidence: namely, the question of who pays a disproportionate share of the bill. There are ways to design a tax system with a strongly redistributive outcome, and in the process to incentivize transformative economic strategies. However, a dramatic shift in political power is required for such an outcome. The typical energy taxation strategy, such as British Columbia, excessively penalises those in the working class least able to change behaviour.

A more equitable version of emissions trading advocacy comes from those who recommend a per capita strategy oriented to social justice along North-South lines, combined with trading. The per capita right-to-emit has been theorised through “Contraction and Convergence” and “Greenhouse Development Rights” strategies. The former, as advocated by Aubrey Meyer, takes as the basic principle the need to share rights to pollute equitably and in the process shrink total CO₂ emissions.⁶

The latter, as argued by Tom Athanasiou, accepts equity but also considers ability to finance emissions reductions. Both assume that if the right to pollute is established and distributed, a market system—whereby once allocated, the per capita emissions can then be traded by those who need them less (in the South) to those (in the North) who need them more (due to addiction)—would efficiently ease the burden of transforming economies. Once the system is established, the cap on emissions could be progressively lowered so that global warming stays under 2 degrees.

The non-reformist alternatives to market-based strategies typically fall into state-oriented command-and-control, and activist “direct action.” The rationale here is, typically, that the application of market incentives—and in the process, the granting of pollution rights—cannot generate the cuts needed to save our species from severe damage due to climate change. Instead, a variety of strategies and tactics that would explicitly cut greenhouse gas emissions is preferable. Some of the strategies—a switch to renewable energy, changed consumption patterns, new production and consumption

5 US Congressional Budget Office, *Policy Options for Reducing CO₂ Emissions*.
6 [http://www.gci.org.uk/Animations/BENN_C&C_Animation\[Tower&_Ravens\].exe](http://www.gci.org.uk/Animations/BENN_C&C_Animation[Tower&_Ravens].exe)

incentives through punitive taxation, and “keep the oil in the soil and the coal in the hole” campaigns—are already being adopted by some activists. Unfortunately, the most important debating sites in the Northern environmental reform circuits do not permit these options to be raised in polite company.

US and European Debates

In mid-2008, the most important single site of debate was the US Congress, where a cap-and-trade law proposed by Senators Joe Lieberman and John Warner was narrowly defeated on June 6. Although there are two committed US Presidential candidates in the November 2008 election who have aggressive, non-reformist positions on climate change—Ralph Nader (Independent) and Cynthia McKinney (Green Party)—their chances of winning are negligible. The two who will set the climate agenda from 2009 onwards are Barack Obama and John McCain, and both support the cap-and-trade concept. The primary difference is that Obama supports an auction for emissions permits, while McCain would give out the permits to large CO₂ polluters for free, at least initially, even though this rewards prior pollution.

The Environmental Defense Fund argues that core support for cap-and-trade in the US Congress represents an opportunity in 2009 for a major legislative initiative. However, there was also quite impressive opposition to Lieberman-Warner by environmentalists and other progressive organisations—including Greenpeace, Friends of the Earth, MoveOn.org, CREDO Mobile and Public Citizen—because the bill included support for nuclear energy, because of its inadequate emissions cap, because of its adverse impact on low-income people, and because of other problems inherent in carbon trading. Increasingly, there are many environmental justice organisations lobbying Congress not for cap-and-trade, but for a robust and fair carbon tax instead.

The other main site of debate is Europe, whose Emissions Trading Scheme (ETS) has been hotly contested. Due to the large reliance upon controversial offsets as well as the ETS price crash in April 2006 once a flood of emissions permits were released to companies on a gift (non-auctioned) basis, there is doubt about the ability of the ETS authority to tackle the challenge of regulating emissions. According to Jutta Kill of Sinkwatch, there are six lessons to be learned from the ETS experience:

1. Over-allocation of permits due to intensive industry lobbying during the allocation process led to price collapse of ETS

permit prices in April 2006 and few permit trades for compliance purposes. Similar price collapse due to over-allocation has been reported for the New South Wales emissions trading scheme. Lack of a stringent cap has undermined the emissions trading scheme. Slight tightening of the cap for the second phase of the ETS from 2008-2012 in the wake of the failure and price collapse during phase 1 has been offset by increasing the hole in the cap: across the board, companies are allowed to use significantly more offset credits from CDM and JI projects during phase 2 compared to phase 1 of the ETS. Several reports have shown that the shortfall of permits resulting from the tightening of the cap in phase 2 will be filled to 88%-100% by increased volume of offset credit influx into the ETS.

2. Free allocation of emission permits has led to record windfall profits to energy utilities and some of the highest emitting industry sectors in the EU. 100% auctioning in the third phase of the ETS increasingly considered as the only remedy to salvage the ETS. Capping emissions without 100% auctioning selects against immediate investment in long-term structural change. Short-term and uncertain price signals discourage structural change, cost-spreading discourages innovation.
3. Any influx of offset credits into the emissions trading scheme will undermine effectiveness due to risk of development of a 'lemons market' as a result of unverifiable quality of offset credits. This is of concern particularly given the increasing evidence that up to 1/3 of CDM projects [either already registered or in the process of CDM registration] are considered 'non-additional' by CDM experts.
4. There is increasing acknowledgement, including from the private sector, that emissions trading will not provide the incentives and price signals required to trigger significant investments and R&D into zero-carbon and low-carbon technologies which is required to be able to achieve the emissions cuts required to avert climate chaos.
5. Increasing signs that more effective approaches to switch to zero-carbon economies are held back for fear of jeopardizing the EU's flagship Emissions Trading Scheme. A leaked UK government internal note for example reveals a deep concern that achieving the 20 per cent renewable energy target itself could present a "major risk" to the EU's emission trading scheme, for which London has become a major centre of exchange. Combined with the EU's drive to greater energy

efficiency, increasing the share of renewable energy could cause a carbon price collapse and make the ETS "redundant", the note says.

6. Effective and economically viable alternatives to cap-and-trade approaches include (1) a cap-and-auction approach under which the cap is reduced annually and will approach zero over mid-term & where auctioned permits are not traded; where a hole in the cap through an influx of carbon offset credits is not permitted and where (2) feed-in-laws ensure long-term minimum price guarantees for and unlimited uptake of renewable energy into the national grid. Such legislation has led to significant increases in renewable energy volumes in the national grid in Germany as well as a booming renewable energy industry, with creation of significant numbers of new employment, esp. in the wind energy and photovoltaic sector; where (3) subsidies promoting further use of fossil fuels are phased out and possibly re-directed towards R&D in the field of zero-carbon technologies, and where (4) energy efficiency potential, esp. in the housing and household appliances sectors, is fully utilized.

A crucial determinant of the impact of market mechanisms, whether carbon trades or taxes, is the problem of our unreliable understanding of carbon price elasticity: i.e., what happens to demand for carbon-related products when their price changes, either in small increments or dramatically. In addition, a series of less publicised alternatives are in continual evolution, including the Contraction-and-Convergence and Greenhouse Development Rights strategies for personal emissions rights, which also involve trading.

In contrast to market-related approaches, command-and-control strategies for emissions reductions have an important history. However, for public policy to evolve in a just and effective way on climate emissions, a much stronger set of measures will be required. These will mix the set of command-and-control strategies associated with prior emissions controls (e.g. ChloroFluoroCarbons in the 1996 Montreal Protocol and many European regulations of emissions) and the national state strategy known as "leave the oil in the soil" (and "leave the coal in the hole"), with direct grassroots action against greenhouse gas emission points (such as coal facilities), as advocated by even Al Gore in 2007. Still, the main point is that market environmentalism's reform strategies are not working.

Market Environmentalism as Reformist Reformism

The most important lessons of environmental politics in recent decades are the failure of market strategies to date. There are intrinsic, deep-level problems in the new emissions markets, both on their own terms and with respect to the climate and peoples most vulnerable. What is required is agreement on the strategic orientation and the kinds of alliances that can move the debate forward. To this end, applied to the debate over market solutions to the climate crisis, consider the late French sociologist Andre Gorz's distinction (in his book *Strategy for Labour*) between "reformist reforms" and "non-reformist reforms":

1. Reformist reforms undergird, strengthen and relegitimise the main institutions and dynamics in the system that cause the climate change problem, and thus weaken and demobilise environmental and social justice advocacy communities through co-option
2. Non-reformist reforms undermine, weaken and delegitimise the climate change system's main institutions and dynamics, and consequently strengthen its critics, giving them momentum and further reason to mobilise

This distinction helps us assess four market-based emissions mitigation initiatives along this spectrum:

1. carbon trades without auctions, where pollution permits are grandfathered in, as in the European Trading Scheme, are now so widely delegitimised, that only US Republican Party candidate John McCain supports them
2. carbon trades with auctions will increasingly dominate discussions, especially in the US if Barack Obama is elected President in November, in part because they have the support of many mainstream commentators and large environmental organisations
3. carbon taxes, either aimed to be revenue-neutral, or to raise funds for renewables and socio-economic transformation, will continue to be seen as the main progressive alternative to carbon trading, even though such taxes do not address more fundamental power relations or achieve systematic change required to avert climate disaster
4. Greenhouse Development Rights, Contraction-and-Convergence and other per capita "right to pollute" strategies with a North-South redistributive orientation are also advocated by eloquent environmentalists and some Third World leaders, and entail a trading component and the property right to emit

Each strategy has major disadvantages by virtue of being located within market-based systems, especially during a period of extreme financial volatility during which energy-related securities (including emissions credits) have been amongst the most unreliable measures of value. As a result, we can conclude that the first two are reformist reforms, and the latter two have non-reformist possibilities. There are two further non-reformist alternatives—command-and-control emissions prohibitions and local supply-side strategies (a kind of command-and-control from below) – that bear consideration once the market-based strategies are briefly reviewed.

A central problem is that reformist reforms can be counterproductive to mitigating climate change. In short, it is possible that an exploitative system becomes even stronger in the wake of an eco-social change campaign. If campaigners unwittingly adopt the same logic of the system, and turn for change implementation to the kinds of institutions responsible for exploitative damage, and moreover also restore those institutions' credibility, the reforms may do more harm than good.

To illustrate, if mainstream environmentalists endorse World Bank strategies to commodify forests through the “Reducing Emissions From Deforestation and Degradation” (REDD) programme, their co-optation inevitably strengthens the Bank—responsible for vast climate damage as a major fossil fuel investor—and weakens the work of indigenous people and environmental activists. The reformist-reform logic appears in the case of a Brazilian meat packing plant in the Amazon that coincides with the Bank's investments in forest protection. There are, in such cases, persuasive advocates of reform, such as Dr. Daniel Nepstad of Woods Hole Research Institute, who accept the basic parameters of the system's logic, namely the ongoing exploitation of the Amazon, and who seek to tame that process using World Bank resources:

The irony is that at the same time the World Bank was launching the Forest Carbon Partnership Facility, the International Finance Corporation [a World Bank agency] was making a loan to the Bertin meat-packing plant in the Brazilian Amazon. The loan aims to set up a sustainable supply of beef for an ecological meat-packing facility in Marabá in the state of Pará. What upset the protestors was the idea that the same institution would be accelerating deforestation by expanding the capacity to process meat in the Amazon region as it creates this mechanism for compensating nations for reducing their emissions. Our own feeling on this is that there comes a point where we have to acknowledge that the region is undergoing an economic transformation and if we can find a powerful lever for commodifying how this transformation takes place—putting a premium on legal land-use practices, legal deforestation,

the gradual elimination of the use of fire—we should take it. For me that trumps the negative consequences of setting up increased capacity in the region. In other words, I really do believe that there are many responsible cattle ranchers and soy farmers in the Amazon who are waiting for some sort of recognition through positive incentives. The incentive could be a very small mark up—literally a few cents per pound of beef sold—but it would send a signal to these ranchers that if they want to participate in the new beef economy, they better have their legal forest reserve in order or have compensated for it, maintain or be in the process of restoring their riparian zone forests, control erosion, and get their cows out of the streams and into artificial watering tanks. There is a whole range of positive things that can happen once cattle ranchers see that if they do things right they are rewarded. This means that as Brazil moves forward as the world's leading exporter of beef - with tremendous potential to expand - we have a way to shape that expansion as it takes place to reduce the negative ecological impacts.⁷

Such logic is also evident in efforts to reform carbon trading by advocating the auctioning of emissions permits. In opposition to reformist reforms, a coalition of 32 Indigenous Peoples (and environmental allies) lobbied against the REDD programme:

Given the threat to Indigenous Peoples' Rights that REDD represents, we call on the United Nations Permanent Forum on Indigenous Issues to recommend strongly to the UNFCCC, the UN Forum of Forests, concerned UN agencies such as UNEP, the World Bank, the Special Rapporteur on Human Rights and Fundamental Freedoms of Indigenous Peoples and nation states that REDD not be considered as a strategy to combat Climate Change but, in fact, is in violation of the UN Declaration on Indigenous Peoples. Moreover, we also urge the Permanent Forum to recommend strongly to the Convention on Biological Diversity that the implementation of the programme of work on Forests and biodiversity prohibit REDD. We also further urge that Paragraph 5 be amended to remove “clean development mechanism, the Clean Energy Investment Framework, and the Global Environment Facility”. These initiatives do not demonstrate good examples of partnership with indigenous peoples. There are many CDM projects that have human rights violations, lack of transparency and have failed to recognize the principles of Free, Prior and Informed Consent.⁸

7 R. Butler, “55% of the Amazon may be lost by 2030 But carbon-for-conservation initiatives could slow deforestation”, *mongabay.com*, 23 January 2008.

8 Signatories include the Indigenous Environmental Network, CORE Manipur, Federation of Indigenous and Tribal Peoples in Asia, Na Koa Ikuiku Kalahui Hawaii, Indigenous World Association, CAPAJ- Parlamento del Pueblo Qollana, International Indian Treaty Council, Amazon Alliance, COICA, Instituto Indigena Brasileiro para la Propiedad Intelectual, The Haudenosaunee Delegation, Agence Kanak de Developpement, Mary Simat-MAWEED, Marcos Terena-Comite Intertribal-ITC-Brasil, Land is Life, ARPI-SC-Peru Amazonia, Asociaciones de Mujeres Waorani de la Amazonia AMWAE, Kus Kura S.C., Indigenous Network on Economic and Trade, Aguomon FEINE, Friends of the Earth International, Amerindian Peoples Association, FIMI North America, L.

From Reformist to Non-Reformist Reforms

Two crucial questions emerge which will help determine whether reforms proposed by advocates of carbon taxes and per capita emissions rights do more harm than good. The first is whether the kinds of reforms proposed—which entail putting a price on carbon and exposing that price (and all manner of related negotiations) to corporate-dominated national and global-scale “governance” initiatives—can be assured of both genuinely addressing the climate crisis and also redistributing energy and economic resources from rich to poor. The “devil is in the details” in relation to both a carbon tax and per capita emissions rights, yet as noted, the presumptions entailed in taxation (which often has a maldistributive impact, as shown in the British Columbia gas tax) and allocations of property rights will make a constructive outcome unlikely.

We are left asking, as a result, whether non-reformist reform opportunities might emerge so that a carbon tax can redistribute resources to both renewable energy investments and to low-income people who, through no fault of their own, are most vulnerable to higher energy prices? Could a per capita rights mechanism be designed and adopted that move forward the agenda of the environmental and social justice movements without falling victim to market distortions? These are not impossible outcomes, but given prevailing power relations are quite unlikely.

The second question is whether pursuing these sorts of reforms will contribute to the expansion and empowerment of the environmental justice movement. Remarked the originator of the Greenhouse Development Rights concept, Tom Athanasiou,

Global justice activists will also have to shed old skins for larger, more capacious frameworks and approaches. There's much to say here, but the key is that a “radical” movement—which has, to this point, made its mark by exposing the charade of the Clean Development Mechanism and then going on to oppose all market mechanisms—is now visibly confronting a larger challenge in which mere opposition is not enough. If it would speak effectively for the poor and the vulnerable, then it must find a larger frame.⁹

Ole L. Lengai-Sinyati Youth Alliance, Beverly Longid-Cordillera Peoples Alliance Philippines, Red de Mujeres Indigenas sobre Biodiversidad de Abgatala, Fundacion para la Promocion de Conocimiento Indigena, Asociacion Indigena Ambiental, INTI-Intercambio Nativa Tradicional Internacional, Global Forest Coalition, Fuerza de Mujeres Wayuu, Caf' ek

9 T. Athanasiou, “Where do we go from here? The Bali meeting, and the lessons learned,” *Grist*, 17 December 2007.

That frame was indeed found at the December 2007 Bali Conference of Parties, when a movement called “Climate Justice Now!” emerged to unite “green” and “red” 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.

The alternative strategies proposed above do not rely entirely upon command-and-control, for that in turn requires national and ultimately global state power, which is not likely to be exercised by environmentally-responsible political parties for many years if not decades, notwithstanding encouraging signs from Ecuador. Instead, a new approach to command-and-control-from-below is being adopted which takes forward community, labour and environmental strategies to maintain resources in the ground, especially fossil fuels and especially in cases where “resource curse” economic power relations prevail. It is in such cases where activists have an unprecedented opportunity.

Leave the Oil in the Soil

In contrast to reformist reform initiatives such as REDD, non-reformist reforms are generated by campaigns that explicitly reject the underlying logic of climate change, i.e., fossil fuel exploitation. Such reforms legitimate the opponents of the system, not the system itself, and lead to further mobilisation rather than to the movement’s cooptation. An example is the partially-successful struggle to “keep the oil in the soil” in the Yasuní National Park waged for several years by the Quito NGO Accion Ecologia and its Oil Watch allies. The campaign advanced rapidly in 2007, when Ecuadoran president Rafael Correa declared his intent to leave \$12 billion worth of oil reserves untouched in perpetuity, in exchange for anticipated payments from international sources - not as a carbon offset, but instead to be considered part of the North’s repayment of its “ecological debt” to the South.

The aim of the proposal is to provide a creative solution for the threat posed by the extraction of crude oil in the Ishpingo-Tiputini-Tambococha (ITT) oil fields, which are located in the highly vulnerable area of Yasuní National Park. The proposal would contribute to preserving biodiversity, reducing carbon dioxide emissions, and respecting the rights of indigenous peoples and their way of life.

Ecuadorian President Rafael Correa has stated that the country's first option is to maintain the crude oil in the subsoil. The national and international communities would be called on to help the Ecuadorian government implement this costly decision for the country. The government hopes to recover 50% of the revenues it would obtain by extracting the oil. The procedure involves the issuing of government bonds for the crude oil that will remain "in situ," with the double commitment of never extracting this oil and of protecting Yasuní National Park. It is important to keep in mind that if Ecuador succeeds in receiving the hoped for amount—estimated at 350 million dollars annually—it would only be for a period of ten years beginning after the sixth year, since production and potential revenues would progressively decline at the end of that period.

A more promising alternative would be a strategy to provide the government with the 50% of resources in such a way as to provide a consistent income for an indefinite period of time. This resources would be channelled towards activities that help to free the country from its dependency on exports and imports and to consolidate food sovereignty. The proposal is framed within the national and international contexts based on the following considerations:

1. halt climate change
2. stop destruction of biodiversity
3. protect the huaorani people
4. economic transformation of the country.

The very notion of an "ecological debt" is also a non-reformist reform, because although it asserts the calculation of the monetary value of nature, payment on such an obligation would revise such a range of power relationships that massive structural change would inevitably follow. Such linkages between environmental stewardship and social justice provide the only sure way to generate political principles that can inform lasting climate mitigation.

How, then, do we move the environmental agenda from the reformist reforms that market environmentalists have bogged the debate down in, to non-reformist reforms? The only sure route to any non-reformist outcome is, as ever, via the grassroots.

Elite Inaction, Grassroots Revolt

Because of the failure of elites to properly recognise and address climate change, and because their strategy of commodifying the commons through the Clean Development Mechanism was already a serious threat to numerous local communities across the Third World, the Durban Group for Climate Justice produced a Declaration on Carbon Trading in 2004, which rejected the claim that this strategy could halt the climate crisis. It insisted that the crisis has been caused more than anything else by the mining of fossil fuels and the release of their carbon to the oceans, air, soil and living things.

The Durban Declaration suggested that people need to be made more aware of carbon trading threat, and to actively intervene against it. By August 2005, inspiring citizen activism in Durban's Clare Estate community forced the municipality to withdraw an application to the World Bank for carbon trading finance to include methane extraction from the vast Bisasar Road landfill (instead, the application was for two relatively tiny suburban dumps).

But the battle against Bisasar's CDM status was merely defensive, and the loss of Sajida Khan to cancer in July 2007 was a great blow to the struggle there. Community residents have a proactive agenda, to urgently ensure the safe and environmentally sound extraction of methane from the Bisasar Road landfill, even if that means slightly higher rubbish removal bills for those in Durban who are thoughtlessly filling its landfills, without recycling their waste. Khan's brother Rafiq is one who will pick up Sajida's banner. Clare Estate's apartheid-era dump should now finally be closed, a decade after originally promised. Simultaneously, good jobs and bursaries should be given to the dump's neighbours, especially in the Kennedy Road community, as partial compensation for their long suffering. Their fight for housing and decent services has been equally heroic; the current handful of toilets and standpoints for six thousand people should shame Durban municipal officials, whose reprehensible response was to mislead residents into believing dozens of jobs will materialise through World Bank CDM funding.

At the time the Durban Declaration was drafted in October 2004, only cutting-edge environmental activists and experts understood the dangers of carbon trading. Others—including many well-meaning climate activists—argued that the dangers are not intrinsic in trading, just in the rotting “low hanging fruits” that represent the first and easiest projects to fund, at the cheapest carbon price. Since then, however, numerous voices have been raised against carbon colonialism. These voices oppose the notion that, through carbon

trading, Northern polluters can continue their fossil fuel addiction, drawing down the global atmospheric commons in the process. Rather than foisting destructive schemes like the toxic Bissar Road dump on the South, the North owes a vast ecological debt. For playing the role of “carbon sink”, to illustrate, political ecologist Joan Martinez-Alier and UN climate change commissioner Jyoti Parikh calculate that an annual subsidy of \$75 billion is provided from South to North. Many advocates of environmental justice signed the Durban Declaration and sponsored debates within their own organisations and communities.

In October 2004, the Durban Group also noted that the internal weaknesses and contradictions of carbon trading are likely to make global warming worse rather than “mitigate” it. We are ever more convinced of that in South Africa, partly because in mid-2005, a leading official of state-owned Sasol publicly conceded that his own ambitious carbon trading project is merely a gimmick, without technical merit (because he cannot prove what is termed ‘additionality’). The ‘crony’ character of the CDM verification system may allow this travesty to pass into the market, unless our critique is amplified. In October 2004, we worried that ‘giving carbon a price’ through the emissions market would not prove to be any more effective, democratic, or conducive to human welfare, than giving genes, forests, biodiversity or clean rivers a price. Over the past years, the South African government’s own climate change strategy has been increasingly oriented itself to the ‘commercial opportunities’ associated with carbon.

Conclusion: Direct Action to Protect the Climate Commons

It is here, finally, where the most crucial lesson of the climate debate lies: in confirming the grassroots, coalface and fenceline demand by civil society activists to leave the oil in the soil, the coal in the hole, the resources in the ground. This demand emanated in a systemic way at the Kyoto Protocol negotiations in 1997 from the group OilWatch when it was based in Quito, Ecuador, as heroic activists from Accion Ecologia took on struggles such as halting exploitation of the Yasuni oil.

Within a decade, in January 2007, at the World Social Forum in Nairobi, many other groups became aware of this movement thanks to eloquent activists from the Niger Delta, including the Port Harcourt NGO Environmental Rights Action. (ERA visited Durban in March 2007 to expand the network with excellent allies such as the South Durban Community Environmental Alliance and the Pietermaritzburg NGO

groundWork, and in turn these groups committed in July 2008 to campaign against the proposed pipeline from Durban to Johannesburg which would double petrol product flow).

But the legacy of resisting fossil fuel abuse goes back much further, and 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.

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 Parkland Institute of the University of Alberta also addressed the need for no further development of tar sand deposits (which require a litre of oil to be burned for every three to be extracted, and which 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 US); 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 under conditions in which much greater socio-ecological and economic benefit is retained by the broader society.

(I raised this issue in many sites in 2006-08, enthusiastically commenting on the moral, political, economic and ecological merits of leaving the oil in the soil. Unfortunately, in addition to confessing profound humility about the excessive fossil fuel burned by airplanes which have taken me on this quest, I must report on the only site where the message dropped like a lead balloon: Venezuela. At a July 2007 environmental seminar at the vibrant Centro Internacionale Miranda in Caracas, joined by the brilliant Mexican ecological economist David Barkin, our attempts failed to generate debate on whether petro-socialism might become a contradiction in terms.)

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, disincentivising political corruption

and workforce health and safety. The highest-stake cases in South Africa at present may well be the Limpopo Province platinum fields and Wild Coast titanium finds, where communities are resisting foreign companies. 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.

Finally, one of the most eloquent climate analysts is George Monbiot, so it was revealing that in December 2007, instead of going to Bali, he stayed home in Britain and caused some trouble, reporting back in his Guardian column:

Ladies and gentlemen, I have the answer! Incredible as it might seem, I have stumbled across the single technology which will save us from runaway climate change! From the goodness of my heart I offer it to you for free. No patents, no small print, no hidden clauses. Already this technology, a radical new kind of carbon capture and storage, is causing a stir among scientists. It is cheap, it is efficient and it can be deployed straight away. It is called ... leaving fossil fuels in the ground.

On a filthy day last week, as governments gathered in Bali to prevaricate about climate change, a group of us tried to put this policy into effect. We swarmed into the opencast coal mine being dug at Ffos-y-fran in South Wales and occupied the excavators, shutting down the works for the day. We were motivated by a fact which the wise heads in Bali have somehow missed: if fossil fuels are extracted, they will be used... The coal extracted from Ffos-y-fran alone will produce 29.5 million tonnes of carbon dioxide: equivalent, according to the latest figures from the Intergovernmental Panel on Climate Change, to the sustainable emissions of 55 million people for one year...

Before oil peaks, demand is likely to outstrip supply and the price will soar. The result is that the oil firms will have an even greater incentive to extract the stuff.

Already, encouraged by recent prices, the pollutocrats are pouring billions into unconventional oil. Last week BP announced a massive investment in Canadian tar sands. Oil produced from tar sands creates even more carbon emissions than the extraction of petroleum. There's enough tar and kerogen in North America to cook the planet several times over.

If that runs out they switch to coal, of which there is hundreds of years' supply. Sasol, the South African company founded during the apartheid period (when supplies of oil were blocked) to turn coal into liquid transport fuel, is conducting feasibility studies for new plants in

India, China and the US. Neither geology nor market forces is going to save us from climate change.

When you review the plans for fossil fuel extraction, the horrible truth dawns that every carbon-cutting programme on earth is a con. Without supply-side policies, runaway climate change is inevitable, however hard we try to cut demand.

Real solutions to the climate crisis are needed, and with its world-leading CO2 emissions, South Africa must be at the cutting-edge of progressive climate activism, not a lead partner in the privatisation of the atmosphere. That, in turn, will require resolution of another vast challenge: the lack of synthesis between the three major citizens' networks that have challenged government policy and corporate practices: environmentalists, community groups and trade unions. More work is required to identify the numerous contradictions within both South African and global energy sector policies/practices, and help to synthesise the emerging critiques and modes of resistance within progressive civil society. Only from that process of praxis can durable knowledge be generated about how to solve the climate and energy crises in a just way.