

## 5 » Ways forward

*Those advocating the Kyoto regime will be reluctant to embrace alternatives because it means admitting that their chosen climate policy has and will continue to fail. But the rational thing to do in the face of a bad investment is to cut your losses and try something different.*

Steve Rayner and Gwyn Prins<sup>1</sup>

Carbon trading has failed to tackle climate change and will continue to do so. The problems identified in this booklet do not simply relate to the specifics of how the rules of the system were designed, or to teething problems in its implementation, but are fundamental to the whole scheme itself.

### *Can carbon trading be fixed?*

One of the most common responses – at least in Northern countries – to the clear evidence that carbon trading is not working is to suggest fixes that would ‘improve’ the workings of the system: changing rules on the ‘banking’ of permits; introducing price floors and ceilings to control volatility; expanding global carbon markets to ‘increase liquidity’; and so on.

What these proposals have in common is an implicit assumption that carbon trading fails because the rules have been designed inadequately or have been badly applied. Although instances of such failings certainly exist, they bring us no closer to understanding why the system has misfired so spectacularly. Why have many corporations and states pushed for the inclusion of large volumes of offsets in carbon trade markets, for example? We have argued that this push has to do with a complex interaction of state and corporate power, where those with the loudest voices in the process push for offsetting as a means to escape their responsibility to change industrial practices and the means of power production domestically. In chapter 3, we saw how public decision-making on carbon trading is driven by ‘competitiveness’ rather than environmental concerns. In chapter 4, we further saw how offsetting is embedded in a development paradigm that disregards existing sustainable practices and community needs. Powerful economic and elite interests are at stake here, which are unlikely to be shifted by academic exercises in how to ‘perfect’ carbon markets, as though they existed in a power vacuum.

Ultimately, carbon trading is a means to preempt and delay the structural changes neces-

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<sup>1</sup> Steve Rayner and Gwyn Prins, ‘Time to Ditch Kyoto’, *Nature*, no. 449, 29 October 2007, pp. 973–75.

sary to address climate change. Instead of re-examining the fundamentals of an economic and political system that has led to climate change, carbon trading adjusts the problem of climate change to fit these structures. This wholesale re-definition can be found at every stage of the process – from cap-setting to trading, offsetting and speculation.<sup>2</sup>

Carbon trading first requires that action on climate change is translated into measurable units which represent ‘emissions reductions’. This is the basis of government’s setting a ‘cap’ on emissions, which is intended to specify a gradual path towards reduction. But cap-setting imagines far greater certainty than climate science, with its plethora of ‘ill-understood feed-back effects’, is able to deliver.<sup>3</sup> It translates a series of complex and overlapping developments across a broad sweep of economic sectors – from power generation to manufacturing and agriculture – to a single, linear path to which a number is accorded by policymakers for the purposes of comparison. And it deflects questions about the underlying economic model, which is premised upon the cheap exploitation of fossil fuels to bankroll continued GDP growth.

While the Kyoto Protocol, and the carbon trading schemes that have followed it, claim to offer financial incentives that would gradually de-carbonise industrialised soci-

eties and prevent massive fossil fuel dependence in less industrialised ones, the reality to date has been the opposite. ‘In the real world, indicators are moving stubbornly in the wrong direction,’ concludes Professor Gwyn Prins of the London School of Economics. ‘The world has been *re-carbonising*, not de-carbonising. The evidence is that the Kyoto Protocol and its underlying approach have had and are having no meaningful effect whatsoever.’<sup>4</sup>

The trade in pollution permits compounds this problem. It aims to find the cheapest solutions for polluting industries, on the assumption that it does not matter where and how ‘reductions’ are made. The uncertainties in the long-term climatic effects of adopting different industrial and agricultural processes are overlooked in order to ensure that a single commodity can be constructed and exchanged, and the significant risks of ‘locking in’ unsustainable practices brushed aside.

Trading also displaces measures to tackle climate change from one place to another through the practice of offsetting. Despite the well-documented problems with offsetting, most of the proposals on the table in UN climate negotiations actually advocate its expansion. ‘Sectoral crediting’, the inclusion of new sectors in the Clean Development Mechanism (CDM), or the generation of carbon credits associated with Nationally Appropriate Mitigation Actions (NAMAs) would primarily serve to increase the vol-

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2 Larry Lohmann, ‘When Markets are Poison: Learning about climate policy from the financial crisis’, *The Corner House Briefing*, no. 40, September 2009, <http://www.thecornerhouse.org.uk/pdf/briefing/40poisonmarkets.pdf>

3 Gwyn Prins et al., *How to Get Climate Policy Back on Course*, LSE/University of Oxford, 2009, pp.5–6, <http://www.lse.ac.uk/collections/mackinderProgramme/pdf/ClimatePolBackonCoursePRODUCTIONFINAL060709.pdf>

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4 *Ibid.*; LSE, ‘Research institutes publish plan to rescue climate policy from imminent failure’, 7 July 2009, <http://www2.lse.ac.uk/ERD/pressAndInformationOffice/newsAndEvents/archives/2009/07/climate%20poliyc.aspx>

ume of carbon trading. Such proposals are not being driven by considerations of environmental integrity, but by financial interests. In carbon markets, accumulation is achieved partly by increasing the geographical scope and the number of industrial sectors and gases covered.

For the financial sector, too, the main interest in new global climate legislation also lies in scaling up carbon markets. Samuel DiPiazza, chief executive of PricewaterhouseCoopers and Chair of the World Business Council on Sustainable Development, noted in private at the World Business Summit on Climate Change in May 2009, 'I have yet to find someone who says the CDM is really working well,' yet went on to prioritise 'finding a way to create offsets'. As Tracy Wolstencroft, managing director of Goldman Sachs, told another panel at the meeting, carbon trading now encompasses 'some of the largest emerging markets in the world'.<sup>5</sup>

The drive to expand carbon markets is being accompanied by the development of more complex carbon products deploying a variety of derivative and hedge fund techniques.<sup>6</sup> These are structures similar to those that contributed to the financial crisis. Like many derivatives, the new carbon commodities are difficult or impossible to value accurately and may well lead to a new 'bubble' whose bursting would have disastrous results.<sup>7</sup> Even without the complexities introduced by derivatives, securitisation and the like, carbon

traders do not know what they are selling; paper 'reductions' may bear little specifiable relation to the changes in industrial practice or energy production required for meaningful climate action. With rampant financial innovation added to the mix, speculation increasingly becomes an end in itself.

The whole approach distracts from effective solutions – trapping us within a framework that sees the climate problem in primarily financial terms.

### *Different paths*

'What's your alternative?' is a question that's often asked. The question is strange in that it positions carbon trading as the standard against which other approaches should be judged. Yet in the long history of environmental protection, markets in pollution permits are a relatively new, little-tried idea which, as we saw in chapter 2, redefine the problem to fit the assumptions of neoliberal economics that are now largely discredited.

In seeking ways forward, we need to look again at the nature of the question being addressed. Carbon markets foster a trade in claimed 'emissions reductions' (many of which exist only on paper) that are cheap according to current economic assumptions. Reducing emissions in the short term by a small amount can be done without starting any of the structural changes needed in the long term.<sup>8</sup> Tackling climate change, by contrast, requires first and foremost a rapid phasing out of fossil fuel use.

5 Oscar Reyes, 'The Climate Business', *New Internationalist*, forthcoming December 2009.

6 Forest and European Union Resources Network, "Beginners' Guide to Carbon Trading," forthcoming.

7 Michelle Chan, *Subprime carbon? Re-thinking the world's largest new derivatives market*, Friends of the Earth US, Washington D.C., 2009.

8 Arlen Dilsizian, 'The politics of climate change: an interview with Larry Lohmann', *Re-Public*, 26 September 2008, <http://www.re-public.gr/en/?p=419>

No single alternative will suffice. Current practices in a whole host of sectors, from manufacturing to industrial agriculture, need to be reviewed and reassessed. There is no evidence that a complex social and economic problem of this scale can be effectively tackled by indirect economic ‘incentives’ of the sort offered by carbon trading.<sup>9</sup>

This is not simply a question of money. The knowledge systems that are currently being applied to address climate change tend to reproduce the ingrained privilege of the wealthy minority that caused climate change. Recognising and learning from existing climate solutions, by contrast, requires drawing on a multitude of locally adapted technologies and practices that do not neatly fit with the grand schemes promoted by current economic elites. As the A. T. Biopower case, among many others, has illustrated, carbon trading cannot value such practices and actively selects against them. With powerful economic interests pushing for new ‘standardised multi-project baselines’ to increase the volume of such projects while doing away with any check on specific local conditions, this problem could soon get even worse.<sup>10</sup>

In planning a transition away from fossil fuels, and the unsustainable industrial and agricultural practices that they enable, a broad range of approaches hold far more promise than carbon markets. A non-exhaustive list of such proposals includes measures to:

- shift subsidies away from fossil fuels to help keep them in the ground
- re-assess energy demand and efficiency
- advance the public debate on climate change and ecological debt
- expand useful forms of conventional regulation
- institute carefully-directed programmes of public investment
- undertake legal action against climate offenders
- secure land tenure for Indigenous Peoples’ and forest-dependent communities
- promote sustainable local farming and people’s food sovereignty
- build alliances between communities and movements based on local needs and desires
- organise and support local action
- explore taxation as a supplementary measure

### *Shifting subsidies from fossil fuels to help keep them in the ground*

With UN climate negotiations wrapped up in acronym-filled debates about tradable emissions reductions, discussions of direct measures to keep fossil fuels in the ground are rarely heard. Yet any strategy to tackle climate change needs to plan for a rapid transition away from how energy is produced and used. There is no precedent for achieving such a change through a carbon market – and while subsidy shifts, regulation, direct public

9 Prins et al., *op. cit.*, *supra*, note 3; see also [www.oilwatch.org](http://www.oilwatch.org)

10 Council of the European Union, ‘EU position for the Copenhagen Climate Conference (7–18 December 2009) – Draft Council conclusions’, Brussels, 19 October 2009, p.20; International Emissions Trading Association (IETA), ‘Position Paper on the Clean Development Mechanism under a Post-2012 Framework’, IETA, London, June 2009, pp.4–5, [www.ieta.org/ieta/www/pages/getfile.php?docID=3298](http://www.ieta.org/ieta/www/pages/getfile.php?docID=3298). The idea is to use common assumptions calculated in the absence of any assessment of the local situation as a starting ‘baseline’ for multiple CDM projects – obviating the need to assess local conditions. IETA is also seeking ‘positive lists’ of project types which would be pre-approved for CDM eligibility.

investment and taxation will not, in and of themselves, stimulate the necessary changes to solve the problem, they can help reverse the current commitment to fossil fuels.

Subsidies are especially important. Around US\$ 300 billion per year, or 0.7 per cent of global GDP, is currently spent on energy subsidies, with the lion's share of this used to artificially lower or reduce the real price of fossil fuels like oil, coal and gas or electricity generated from such fossil fuels.<sup>11</sup> Yet these subsidies would have a more positive impact if they were diversified across community-led initiatives. As currently distributed, fossil fuel subsidies rarely flow to those most in need of energy – including the 1.6 billion people globally who lack access to electricity.<sup>12</sup>

A significant proportion of energy subsidies goes into funding infrastructure projects to ensure that fossil fuels keep flowing – such as the €8 billion that the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD) are projected to pour into the Nabucco pipeline. Spending an equivalent sum on building efficiency initiatives in the Central and Eastern European states that would be supplied by the Nabucco pipeline could result in energy savings of over three times the amount of gas that is projected to be transported by the project.<sup>13</sup>

## *Shifting funds away from military expenditure*

Military budgets are another critical area. The US, for example, which spends more on defence than all other nations combined, budgeted US\$ 494.3 billion for defence in 2009, not including money spent on wars in Iraq and Afghanistan.<sup>14</sup> According to Stiglitz and Bilmes a conservative estimate of the cost to the US alone for the Iraq war is upwards of US\$ 3 trillion.<sup>15</sup> Even if one ignores the handouts of hundreds of billions of dollars recently given to large private banks, there is clearly no lack of money that could be spent on tackling climate change.

Yet instead of moving money into climate change mitigation, government agencies are currently using the threat of climate change to bolster support for military budgets in an attempt to close off borders and finance wars, thus stimulating xenophobia towards climate refugees and adding to the anti-immigrant backlash in both the US and Fortress Europe. In 2003 the Pentagon-sponsored report, 'An Abrupt Climate Change Scenario', warned of the need to strengthen US defences against 'unwanted starving immigrants' from the Caribbean, Mexico and South America.<sup>16</sup>

The Pentagon-sponsored report also recommended that the Department of Defense

11 UNEP Report, 'Reforming Energy Subsidies: Opportunities to Contribute to the Climate Change Agenda', August 2008.

12 Kevin Watkins et al., *Human Development Report 2007/8: Fighting Climate Change – human solidarity in a divided world*, United Nations Development Programme/Palgrave, Basingstoke, 2007, p.43, [http://hdr.undp.org/en/media/HDR\\_20072008\\_EN\\_Complete.pdf](http://hdr.undp.org/en/media/HDR_20072008_EN_Complete.pdf)

13 CEE Bankwatch, 'Real energy security from energy efficiency not Nabucco says Bankwatch', 13 July 2009, <http://bankwatch.org/project.shtml?apc=147578-----1&x=2190273&d=r>

14 Center for Defense Information, <http://www.cdi.org/research/index.cfm>. Figures based on requested defence budget or projections, not actual spending.

15 Joseph Stiglitz and Linda Bilmes, *The Three Trillion Dollar War*, Allen Lane, London, 2008.

16 Peter Schwartz and Doug Randall, 'An Abrupt Climate Change Scenario and its Implications for United States National Security'. Washington, DC: Environmental Media Services, 2003. [http://www.ems.org/climate/pentagon\\_climate\\_change.html#report](http://www.ems.org/climate/pentagon_climate_change.html#report).

(DOD) ‘explore geo-engineering options that control the climate’.<sup>17</sup> According to researcher Betsy Hartmann, ‘a far better approach would be for the military to clean up its own act. The DOD is the largest single consumer of fuel in the US, and the present war in Iraq is not only wasting lives, but millions of gallons of oil daily.’<sup>18</sup>

### *Re-assessing energy demand*

Overuse of fossil fuels is closely connected with centralised, deterministic energy demand forecasts, which both consistently overestimate energy needs and, acting as self-fulfilling prophecies, tend to bring about an inflated demand. A comparative historical study led by Professor Paul Craig of the University of California found that most forecasts had overestimated US energy demand by 100 per cent.<sup>19</sup> Forecasts in other countries, as well as international forecasts, tend to follow the same pattern, while also underestimating the potential of efficiency savings to obviate new fossil fuel infrastructure.

The result is large, centralised energy-generating plants supported by a fossil fuel infrastructure designed for a fictional demand that

is in fact far in excess of actual needs.<sup>20</sup> Once built, of course, such infrastructure tends to encourage further increases in industrial, commercial or export demand, while taking resources away from the development of less centralised energy. It also often fails to meet more basic needs or to encourage the development of energy sources more efficiently attuned to basic local needs. Electricity-deprived households existing in the shadow of large generating plants are a common sight in many Southern countries, many of which also boast a fossil fuel extraction infrastructure that ill-serves the needs of local people. For example, Nigeria, the world’s eighth largest oil exporter, imports 76 per cent of its petroleum and 34 per cent of its kerosene, at a cost of US\$ 3.6 billion. Yet in the oil-rich Niger delta region, firewood is the primary energy source for 73 per cent of the people.<sup>21</sup> The same principles follow for industrial renewable energy as pointed out in chapter 4 in the cases of A. T. Biopower and the wind farms in Maharashtra.

Bottom-up assessments of energy demand tend to contrast sharply with the mechanical (and usually inaccurate) projections commonly used to justify fossil fuel subsidies and investments. Such assessments suggest the merits of focusing on smaller, decentralised energy provision, rather than foreign-backed projects to foster energy exports and economic accumulation in metropolitan centres.<sup>22</sup>

17 Schwartz and Randall, *supra*, note 18.

18 Betsy Hartmann, ‘War Talk and Climate Change’, *Truthout*, November 2007. <http://www.truthout.org/article/betsy-hartmann-war-talk-and-climate-change>

19 Paul P. Craig, Ashok Gadgil, and Jonathan G. Koomey ‘What can history teach us? A retrospective examination of long-term energy forecasts for the United States,’ *Annual Review of Energy and the Environment* 2002, vol. 27, pp.83–118, <http://www.lbl.gov/Science-Articles/Archive/assets/images/2002/Dec-17-2002/FinalEnergyForecasts.pdf>

20 See, e.g., Chuenchom Sangarasri Greacen and Chris Greacen, ‘Thailand’s Electricity Reforms: Privatization of Benefits and Socialization of Costs and Risks’, *Pacific Affairs* 77(3) (2004): 517–42 and Chris Greacen, ‘Small is Pitiful: Micro-Hydroelectricity and the Politics of Rural Electricity Provision in Thailand’. Berkeley: Energy and Resources Group, University of California, Berkeley, 2004.

21 Greg Muttitt, ‘The price of democracy’, *Oilwatch Resistance Bulletin*, 63, 2006. Based on data from the UNDP Human Development Report 2005/2006.

22 Hendro Sangkoyo, Presentation to Durban Group for Climate Justice, Belem, Brazil, 25 January 2009.

## *Forest payments versus territorial rights*

Another much-needed shift is to curb the subsidies and incentives for deforestation provided by national governments, export credit agencies, the World Bank and others. These include a range of lavish subsidies to pulp mills, industrial monoculture operations, funding for genetically modified (GM) tree research, mining in forested areas, commercial logging and other agencies of displacement and ecological degradation.<sup>23</sup> Agrofuel incentives, most notably the EU Renewable Energy Directive, which demands that 10 per cent of transport fuels come from biological sources by 2020, are exacerbating the problem.

As we showed in chapter 4, new REDD schemes look set to continue this pattern of misdirected funding and incentives – stimulating land grabs and presenting new economic opportunities for the large plantation, pulp and paper and construction companies whose activities are driving deforestation. Defending the rights of Indigenous Peoples’ and forest communities is an important contribution towards measures to ensure community-based and traditional forest management, protection of forests and territorial rights.<sup>24</sup>

## *Regulation*

Before the advent of pollution trading, environmental policy was largely a question of regulation. Advocates of market-based approaches often call these ‘command-and-control’ approaches, calling to mind Com-

munist-style bureaucracies stomping on innovation and freedom. In fact, ‘regulation’ encompasses a whole range of instruments, from efficiency standards for electrical appliances and buildings to feed-in tariffs for renewables. Carbon markets themselves achieve 100 per cent of their environmental goals through government regulation in the form of cap-setting, and none through their trading elements. The claim that emissions trading is less bureaucratic, less centralised, less coercive and more supportive of innovation than other forms of regulation does not stand up to scrutiny.<sup>25</sup>

Nor does it follow that carbon markets are more effective at reducing pollution. In the EU, for example, the Large Combustion Plant Directive (LCPD) sets non-tradable ‘emissions rate limits’ on sulphur dioxide, oxides of nitrogen (NO<sub>x</sub>) and dust particles from large plants – including coal-fired power stations. It came into force in January 2008, giving plants the option to either ‘opt in’ and meet these limits, or ‘opt out’ and reduce their outputs in the subsequent period, and close entirely by 2015. This measure alone could achieve more to reduce pollution than emissions trading – were it not for the fact that the drop in emissions resulting from closing old coal plants could provide leeway for other sectors to continue polluting up to the level of the ‘cap.’<sup>26</sup>

23 See, for example, [www.wrm.org.uy](http://www.wrm.org.uy) and [www.redd-monitor.org](http://www.redd-monitor.org)

24 Ricardo Carerre, *Community Forests: equity, use and conservation*, World Rainforest Movement, Montevideo, 2004.

25 David Driesen, ‘Does Emissions Trading Encourage Innovation?’ *Environmental Law Institute*, no. 33, 2003, pp.10094–10108, [www.hm-treasury.gov.uk/d/Driesen2.pdf](http://www.hm-treasury.gov.uk/d/Driesen2.pdf)

26 European Union, ‘Directive 2001/80/ec of the European Parliament and of the Council on the limitation of emissions of certain pollutants into the air from large combustion plants’, Brussels, 23 October 2001, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2001:309:0001:0021:EN:PDF>

One of the most serious shortcomings of carbon trading is its tendency to undermine existing legislation. The intersection between the Integrated Pollution Prevention and Control (IPPC) Directive, the main EU legislation to control air pollution, and the EU ETS is a case in point. The IPPC sets energy efficiency requirements and gas concentration limits on a range of installations, some of which were also covered by the EU ETS. To make the two systems compatible, the terms of the IPPC were relaxed. As the European Environment Agency explains: '[O]perators of large sources might be obliged to reduce their emissions (in order to comply with the IPPC Directive) when it could be more economically efficient to increase emissions further and buy additional allowances instead.' The result of this conflict was that the IPPC Directive was amended to exclude 'CO<sub>2</sub> emission limits for installations which are covered by the EU ETS'.<sup>27</sup>

Carbon offsets, too, have had the perverse effect of discouraging industrial regulation: climate-friendly legislation would preclude certain activities from being counted as 'additional', cutting off a potential revenue stream.

### Legal action

Litigation can provide another important arena for action that does not require a trading floor.<sup>28</sup>

The environmental justice implications of human rights legislation are being examined, too, in various legislatures. In 2005, over 63 Inuit people launched one of the

world's first legal actions on climate change, on behalf of all Inuit, contending that greenhouse gas emissions from the United States violated their human rights.<sup>29</sup> The action was rejected by the Inter-American Commission on Human Rights but gained worldwide attention.

In May 2009, a groundbreaking case against Royal Dutch/Shell was brought to court on charges of complicity in the 1995 execution of Ken Saro-Wiwa and eight other Ogoni environmental activists. The world's boardrooms watched the case, which was seen as a test of whether transnational companies owned or operating in the USA could be held responsible for human rights abuses committed abroad. An out-of-court settlement in June 2009 saw the company pay US\$ 15.5 million in damages, but it may yet set a precedent for similar challenges.<sup>30</sup> In Australia, meanwhile, groups including Rising Tide and Queensland Conservation initiated a legal challenge to a proposed coal mine expansion in 2006. The country's Land and Resources Tribunal ruled against the groups, but international attention was gained for the struggle against the Xstrata Coal Queensland mine.<sup>31</sup> A further major case – this time involving the failure of oil giant Texaco Chevron to clean up millions of dollars' worth of toxic waste, is currently underway in Ecuador.<sup>32</sup>

29 Stephen Leahy, 'Inuit to Charge U.S. for Climate Change', Inter Press Services, 12 February 2005, <http://ipsnews.net/africa/interna.asp?idnews=27451>

30 Press Release, 'Settlement reached in human rights case against Royal Dutch/Shell', Center for Constitutional Rights, 8 June 2009; John Vidal, 'Shell settlement with Ogoni people stops short of full justice', *The Guardian*, 10 June 2009, <http://www.guardian.co.uk/environment/cif-green/2009/jun/09/saro-wiwa-shell>

31 See <http://www.risingtide.org.au/>

32 See <http://chevrontoxico.com/>

27 European Environment Agency, *Application of the Emissions Trading Directive by EU Member States – reporting year 2007*, EEA, Copenhagen, 2008, p.27.

28 See <http://www.risingtide.org.au/>

## Public investment

Large-scale investment in a cleaner energy infrastructure capable of breaking industrialised societies' fossil-fuel dependence is also crucial, and, as explained above, will not be forthcoming from carbon markets. Such investment should proceed with considerable caution, however, if it is to avoid throwing money at damaging projects.

Today, private research on energy alternatives is skewed towards solutions that perpetuate climate change. One example is the blossoming global agrofuels trade, which has largely been driven by agribusiness interests (although the transport lobby is working hard, too, in order to get the emissions problem 'off its books'). Agrofuels exacerbate land conflict, driving up food prices, and increasing emissions through encouraging deforestation.<sup>33</sup>

Public research commitments made by governments are also weak and problematic. In the EU, for example, public and private expenditure on energy-related research and development is currently about half the level of the early 1980s, with the largest part 'spent on nuclear and fossil fuel-based technologies'.<sup>34</sup>

'Carbon capture and storage' (CCS) is one of the key technologies likely to benefit from such investments – with major industry lob-

bies, including the International Chamber of Commerce, claiming that it will require public subsidies in addition to carbon market incentives.<sup>35</sup> Yet in unguarded moments, even representatives of the power sector can be blunt about the shortcomings of CCS. 'One of the plants we are building is CCS ready, although to be quite frank no one really knows what that is at the moment,' stated Steve Lennon, managing director of South Africa's Eskom, at the World Business Summit on Climate Change. James Rogers, chief executive of US-based Duke Energy, added that CCS is at best 15 years off and is likely to prove unfeasibly expensive if it even works at all.<sup>36</sup> One of the few existing pilots, run by the Swedish company Vattenfall, burns 10 to 40 per cent more coal than existing coal-fired power stations, with significant implications for increased environmental damage and potent methane emissions from coal mines. And there remain other significant technical concerns about risks to the ecosystem and health, as well as unanswered questions about earthquakes, leakage of stored carbon back to the surface and possible infrastructure collapse.<sup>37</sup>

Given these failings, why has carbon capture emerged as the technology of choice

33 Tamra Gilbertson, Nina Holland, Stella Semino and Kevin Smith, 'Paving the way for agrofuels, EU policy, sustainability criteria and climate calculations', TNI Discussion Paper, September 2007, [www.tni.org/pdf/Agrofuels.pdf](http://www.tni.org/pdf/Agrofuels.pdf)

34 EU Commission (DG Environment), 'Towards a comprehensive climate change agreement in Copenhagen – Extensive background information and analysis, Part 2', Brussels, January 2009, pp.76-77.

35 International Chamber of Commerce, 'Challenges to the Implementation of New Technologies: the Case of Carbon Capture and Storage', ICC, Paris, November 2007.

36 Oscar Reyes, 'Carbon trading and cash values on forests cannot curb carbon emissions', *The Guardian*, 28 May, <http://www.guardian.co.uk/environment/cif-green/2009/may/28/carbon-trading>

37 Shanta Barley, 'Bury the carbon, set off a quake?' *New Scientist* no. 2727, 23 September 2009; Greenpeace International, *False Hope: why carbon capture and storage won't save the climate*, May 2008, <http://www.greenpeace.org/raw/content/international/press/reports/false-hope.pdf>

for many in the energy sector? Part of the explanation lies in its providing a technological ‘fix’ that appears to allow for the continued burning of fossil fuels on a massive scale. Rather than changing the energy production model to prioritise renewable energy, CCS offers an easy-sounding ‘end of pipe’ solution aimed at cleaning up a mess rather than avoiding it in the first place.

It should be clear, then, that encouraging public incentives for new energy infrastructure cannot be a blank cheque. Public ownership means little without public control – and, under present ‘governance’ models, this is severely lacking. With state energy companies run as commercial enterprises, and private energy companies consolidating their market share in most industrialised nations, affording them considerable lobby influence over public investment decisions, little scope currently exists for a publicly-controlled genuine public influence in favour of a sustainable and just energy production model. For such reasons, any increase in public finances to change the energy system should be accompanied by democratisation of governance of the expenditure.

### *North-South financial transfers*

Public investment in tackling climate change is not restricted by national borders, however. As we saw in chapter 2, the United Nations Convention on Climate Change referred to the ‘common but differentiated responsibilities’ that states have in tackling climate change – although the Kyoto framework turned this on its head.

The bottom line is that the Northern, industrialised countries have done most to

contribute to the climate change problem, and are best placed to deal with the fallout from it. They have a wide-ranging ‘debt’ which encompasses a financial responsibility for expropriating resources from the South (ranging from oil to biological resources to intellectual property), as well as a broader imperative to rapidly tackle their greenhouse gas emissions rather than outsource responsibility for them.

The CDM works directly contrary to this goal – insofar as investment in clean infrastructure is needed, it should be provided from public sources – with industrialised countries shouldering the burden of responsibility, since they predominantly caused the problem. Such funding is no guarantee of success, however, unless a decentralised structure is adopted which allows for meaningful citizens’ participation and sensitivity to local contexts – allowing for the adaptation and improvement of locally-adapted industrial and agricultural techniques, and engaging in a bottom-up assessment of real energy needs.

### *Taxation*

Taxation is another potential source of revenue for climate financing, although a number of critical reservations remain about how and when it should be implemented.

A variety of carbon tax schemes have been proposed. Far too often they are presented as a ‘silver bullet’ alternative to carbon trading. This is misleading, since no single price mechanism, or single mechanism of any kind, is capable of solving the problem of climate change. As a means for altering behaviour, carbon taxes have many of the

same problems as carbon trading. They rely on incremental cost changes to redirect investment, rather than tackling the way fossil fuels are 'locked in' to industrialised economies or addressing the fundamental power dynamics inherent in current production and trade patterns. Although advancing a 'polluter pays' approach, carbon taxes do little to address the root problems associated with the production of pollution itself.

One argument raised in favour of carbon taxes is that they might provide a revenue source for climate financing. Questions remain, however, as to whether creating an entity called 'carbon' in order to tax it – with the many contradictions and ambiguities that entails – is worth the effort. To begin with, proposals for new taxation may be less effective than measures to change the balance of existing taxation, which has seen a marked decrease in the levels of taxation paid by fossil-dependent corporations over the past decades.<sup>38</sup> Addressing other loopholes, most notably the aviation industry's continued avoidance of fuel duties on kerosene, could be a more effective means to raise revenues.

Various other means could be adopted to raise appropriate levels of taxation for the purposes of climate financing. With power companies now straddling the role of power producers and energy traders, taxes on currency and fuel commodity speculation could be an appropriate means – and potentially less 'regressive' than a number of the carbon tax proposals on the table.

Ultimately, though, the crucial issue that remains is how such revenues are distributed and controlled. At a global level, for example, the channelling of revenues through the World Bank or regional development banks – if past experience is taken as a guide – is that such funds would be channelled to unsustainable large-scale infrastructure projects.

### *Moving mountains*

The examples of subsidy-shifting, regulation, taxation and legal action highlighted above can be useful tools for tackling climate change, if adopted cautiously and backed up by popular action. Ultimately, though, climate change remains a political question: action and organising are essential. Alternative futures cannot be designed in a boardroom or academic classroom and then placed into a rigid one-size-fits-all plan. The voices of those living alongside exploitative infrastructure projects – from plantations to factories – are among the most powerful when it comes to addressing the question, 'What is your alternative?'

In the South as well as the North, community-level or popular strategies have historically proven successful as a means to achieve social and environmental change. Often communities have taken action to protect environmental resources as strategies for survival. The legacy of this resistance holds lessons for all who aim to address climate change, and it is important that environmentalists and other activists who today promote 'climate justice' recognise this longer and broader history of community-based or popular struggles.

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<sup>38</sup> Howard Wachtel, 'The Vanishing Corporate Profits Tax', July 2004, [http://www.tni.org/detail\\_page.phtml?page=archives\\_wachtel\\_vanishing](http://www.tni.org/detail_page.phtml?page=archives_wachtel_vanishing)

This broader context of struggle includes the activities of a range of groups, movements and networks:

- Actions by groups, especially IPs and forest-dwelling communities, to protect community forests and other local commons are a powerful force against climatically destabilising land clearance, commercial logging, industrial fish farming, tree plantations and industrial agriculture.
- Networks against trade liberalisation, privatisation and commodification help slow growth in unnecessary transport and protect local subsistence regimes against threats from fossil fuel-intensive sectors.
- Popular movements against fossil fuel extractions, including movements against oil wars, gas and oil pipelines, fossil fuel extraction, power plant pollution, liquefied natural gas (LNG) expansion, coal mining and mountain top removal, tar sands extraction and airport and highway expansion, all help curb extraction of fossil fuels.
- Popular movements in both North and South against fossil fuel pollution from electricity generating and other industrial installations contribute to building solidarity and stopping dangerous pollution that causes climate change.
- Initiatives to set up small, community-led renewable energy sources for local benefit, whether off-grid or on-grid, build resistance by providing more sustainable direct energy. Often they provide a cheap alternative to fossil fuel-oriented centralised generating systems particularly in many areas of the South.<sup>39</sup>

<sup>39</sup> See [www.oilwatch.org](http://www.oilwatch.org) for more information on small-scale, renewable energy projects and how they can work.

Insofar as these approaches defend local resilience, promote community solidarity and organisation, such strategies are crucial not only in slowing climate change but also in adapting to it.<sup>40</sup>

Numerous such initiatives, networks, organisations and popular movements exist today. Amongst many, Oilwatch is contesting the continued expansion of oilfields in the Niger Delta; the Alert Against the Green Desert Network is resisting eucalyptus plantation in Espírito Santo, Brazil; the Durban Group for Climate Justice promotes continued research and solidarity work against carbon trading; La Via Campesina and its member organisations are fostering a ‘food sovereignty’ movement built around sustainable small-scale agriculture; Climate Justice Action is mobilising to contest ‘false solutions’, including carbon trading, promoted at UN climate negotiations; the Indigenous Environment Network has worked tirelessly to resist tar sands developments, and is actively opposing the adoption of REDD projects; Rising Tide North America is popularising the climate debate and taking direct action on coal mining involving mountain top removal; Gender cc is raising the profile of women climate justice’s work in the climate debate. Many more struggles go without high-profile names, but continue to resist infrastructure projects

<sup>40</sup> See Working Group on Climate Change and Development, *Africa – Up in Smoke?*, New Economics Foundation, London, 2005; Larry Lohmann, ‘Democracy or Carbocracy? Intellectual Corruption and the Future of the Climate Debate’, Corner House Briefing Paper no. 24, October 2001, [www.thecornerhouse.org.uk](http://www.thecornerhouse.org.uk); Neil Adger, ‘Social Vulnerability to Climate Change and Extremes in Coastal Vietnam’, *World Development*, vol. 27, no. 2, 1999, pp.249–69.

that are escalating climate change – from forest dwellers’ movements in Brazil, to dispossessed populations struggling against hydroelectric dam projects from Panama to the Mekong delta, workers striking against the BP oil refinery in Grangemouth, Scotland, and communities resisting LNG expansion in Astoria (Oregon, US), Asturias (Spain) and Aliğa (Turkey). These groups often lack a voice in the international arena, but their approach already goes far beyond the default thinking of global elites.

### *No detours around politics*

Q. At the talks you give to American audiences, you are often asked the question, ‘What should I do?’

A. Only by American audiences. I’m never asked this in the Third World. When you go to Turkey or Colombia or Brazil, they don’t ask you ‘What should I do?’. They tell you what they’re doing... These are poor, oppressed people, living under horrendous conditions, and they would never dream of asking you what they should do. It’s only in highly privileged cultures like ours that people ask this question. We have every option open to us, and have none of the problems that are faced by intellectuals in Turkey, or campesinos in Brazil... But people [in the US] are trained to believe that there are easy answers, and it doesn’t work that way... You want a magic key, so you can go back to watching television tomorrow? It does not exist. Somehow the fact of enormous privilege and freedom carries with it a sense of impotence, which is a strange but striking phenomenon... There is no difficulty in finding and joining groups that are working hard on issues that concern you.

But that’s not the answer that people want. The real question people have, I think, [is], ‘What can I do to bring about an end to these problems that will be quick and easy?’ ... But that’s not the way things work. If you want to make changes in the world, you’re going to have to be there day after day doing the boring, straightforward work of getting a couple of people interested in an issue, building a slightly better organization, carrying out the next move, experiencing frustration, and finally getting somewhere... That’s how you get rid of slavery, that’s how you get women’s rights, that’s how you get the vote, that’s how you get protection for working people. Every gain you can point to came from that kind of effort.<sup>41</sup>

Noam Chomsky, 2005

Until environmentalists abandon the credo that ‘it’s too late to stop carbon trading now’, they will be forced to continue to run through a repertoire of schemes to fix the unfixable – for example, certifying ‘best practice’ carbon projects, or instituting new sectoral markets to streamline and simplify the trade. Frustrated complaints about officials’ ‘lack of political will’ are often heard from more committed environmentalists who have become indoctrinated into this dynamic, yet the more they become enmeshed in roles as market verifiers, monitors and corporate consultants the less they are able to face the extent to which they have been swindled. The harder it becomes then to acknowledge that political alliances have been made in a way that has undermined local struggles and ‘alternatives’.

<sup>41</sup> Noam Chomsky interviewed by David Barsamian, *Imperial Ambitions. Conversations on the Post-9/11 World*, Metropolitan Books, New York, 2005, p.39.

To treat carbon trading as if it were an alternative on a par with the political and social actions mentioned above signals a loss of political and historical perspective. In this light, the question, ‘What is your alternative to carbon trading?’, needs to be turned on its head. Carbon trading itself is a novel elite ‘alternative’ for addressing climate change and undermines other, more fruitful mainstream strategies of movements and networks such as those mentioned above. Not only are these strategies more ‘technically’ realistic than carbon trading, they are more politically realistic – provided environmentalists and other activists fulfil their responsibility to help build alliances that can make them so.

There are no short cuts around the difficult work of political organising and alliance-building. There are no back roads or techno-fixes around the historical and international policies that have created climate change. No aspect of the debate on climate change can be disentangled from discussions about colonialism, racism, gender, women’s rights, exploitation, land grabs, agriculture and the democratic control of technology. Carbon trading will never address these critical issues because the struggle against climate change has to be part of the larger fight for a more just, democratic and equal world.