

## 2 » A brief history of carbon trading

*It is not an exaggeration to brand the mechanisms of the Kyoto Protocol as ‘Made in the USA.’ . . . The sensitivity of the Protocol to the market was largely instigated by the negotiating positions of the USA.*

Michael Zammit Cutajar,  
former executive secretary,  
UN Framework Convention  
on Climate Change, 2004

Over the past decade, carbon trading has emerged as the centrepiece of official efforts to address global warming. This chapter tells the story of how corporations, financial institutions, academics, governments, United Nations agencies and some environmentalists came to promote a neoliberal, market-based approach to climate change emanating from the United States.

### *The market fix*

Carbon trading sets up a framework for dealing with greenhouse gases that secures the property rights of heavy Northern fossil fuel users over the world’s carbon-absorbing capacity while creating new opportunities for corporate profit through trade.

The system does not set a deadline by which fossil fuel use will be mostly phased out. Instead it starts by translating existing pollution into a tradable commodity, the rights to which are allocated in accordance with a limit set by states or intergovernmental agencies. The idea of the cap is that these limits are gradually lowered, although no clear timetable is set, and the means by which public support will be mobilised for shrinking caps is left unspecified. Within whatever overall constraints imposed, however, companies can choose either to buy a greater number of rights to carry on polluting as before, or to make efficiency savings. Those who make extra efficiency savings can sell their surplus pollution rights to those who do not meet their targets.

While this might sound like a neat theory, carbon trading is both ineffective and unjust. Redefining greenhouse gas emissions as a tradable commodity – ‘carbon’ – whose value lies in what it can be swapped for or what price it can fetch, carbon trading significantly distorts the framework through which we view the problem of tackling climate change, encouraging the growth of an elaborate financial system in which a broad range of industrial and agricultural practices are rendered falsely

equivalent, while obscuring the social, political, technological and historical questions of how rapidly shrinking caps are to be achieved. In addition, all actually-existing carbon trading schemes grant the largest number of rights free of charge to those who have been most responsible for pollution in the first place. Instead of considering polluters culpable for causing a past harm, or imposing a stricter limit upon them because they have already used up their share of ‘atmospheric space’, carbon trading effectively rewards them for these past misdemeanours.

### *The neoliberal context*

This market fix for global warming could not have become dominant without being part of a longer historical wave of neoliberalism.

Internationally, neoliberalism uses institutions such as the World Bank, and the World Trade Organization, along with various treaties, to establish new forms of globally-centralised control over far-flung resources. Attempting to integrate trading systems worldwide, neoliberalism reorganises property rights regimes and fights national regulation in an attempt to reduce the power of national governments, labour unions and local communities over corporate activity.

Justifying neoliberalism is an ideology of ‘efficiency’ developed over decades, largely in the think-tanks, academic economics departments, international agencies and government ministries of the US and EU. The ideology revolves around the claim that society as a whole will benefit if it ‘makes the most’ out of whatever stuff is available to it.

### *The economists and the early years*

Although it is not possible to pinpoint a single founder of carbon trading, many of the theories from which it derives can be traced back to the work of economists Ronald Coase, George Stigler and, later, J. H. Dales – who provided a theoretical framework on the basis of which a market-based means to tackle pollution could be developed.<sup>1</sup>

Coase’s idea was that the right to pollute is a factor of production just like the right to use land. In both cases, the idea was that exercising one’s right would naturally entail some losses to be suffered elsewhere.<sup>2</sup> The question becomes how significant those losses will be.

To find out how best to distribute pollution, Coase argued, you put it on the market together with other commodities you’ve created – like real estate, water, labour, rice, silver, forests, jet planes and mobile phones. You measure them all by the same yardstick and treat them all in the same way.

If the market is a perfect market with no ‘transaction costs’ and is inhabited by properly calculating, maximising economic agents with perfect information, the theory suggests that pollution will wind up being used in the way that contributes the most to society’s ‘total product’.

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1 George Stigler, *The Theory of Price*, McMillan, New York, 1987.

2 Ronald Coase, *The Firm, the Market and the Law*, University of Chicago Press, Chicago, 1988, p.155.

3 Ronald Coase, ‘Looking for Results: Nobel Laureate Ronald Coase on Rights, Resources and Regulation’, *Reason Magazine*, January 1997, <http://reason.com/9701/int.coase.shtml>.

If that means a lot of pollution, so be it. There's no need to worry that there will be 'too much' pollution, because if a society got too polluted, you wouldn't get the best value out of other goods – your labourers might die, for example – and 'total product' would decline. The perfect market will select against that, automatically 'optimising' pollution so that there's neither too little nor too much.

On this basis, Coase concluded that pollution dumps, as one 'factor of production' among many, would automatically be bargained into the hands of those who could produce the most wealth from them (or best 'improve' them, to use 17th century terminology), and thus the greatest good for society. That is, to allocate property rights to public commons will deliver a socially efficient use of resources, even when externalities are present.<sup>4</sup>

Coase's successors, including the economists J. H. Dales and Thomas Crocker, modified pollution trading theory further. While continuing to emphasise the importance of allowing polluters formal rights to pollute, they suggested that states would be better placed than an imaginary 'perfect market' to set a cap on overall pollution levels.<sup>5</sup> In this way, pollution trading became mainly a way of finding the most cost-effective way for businesses to reach an emissions goal that had been set beforehand.

A number of these early pioneers turned their back on such theories when faced with the messy reality of carbon trading. Thomas Crocker stated, as the cap and trade scheme was passing through the US Congress in summer 2009: 'I'm skeptical that cap-and-trade is the most effective way to go about regulating carbon.'<sup>6</sup> In devising a rationale for pollution trading, Crocker now says, he never imagined that a complex pollution problem with myriad sources could be dealt with under the one scheme, arguing that 'it is not clear... how you would enforce a permit system internationally.' J. H. Dales had previously expressed similar caution, claiming that there were 'lots of situations' in which the theory of emissions trading would not apply.<sup>7</sup>

### *Sulphur dioxide trading*

There had been some early, clumsy attempts to implement cap and trade schemes for pollution by the US Environmental Protection Agency (EPA), such as a scheme which allowed trading of lead credits in gasoline. The most significant experience, however, was the sulphur dioxide (SO<sub>2</sub>) trading scheme set up as part of US Clean Air Act Amendments in 1990.

The Clean Air Act intended to use trading to make it cheaper to reduce SO<sub>2</sub> emissions by 10 million tonnes below 1980 levels, thus

4 Ronald Coase, 'The Problem of Social Cost', *Journal of Law and Economics*, no. 3, 1960, pp.1-44; R. Coase, *op. cit.*, *supra*, note 2. See also Deirdre McCloskey, 'The so-called Coase Theorem', *Eastern Economic Journal*, vol. 24, no. 3, 1998, pp.367-371.

5 J. H. Dales, 'Land, Water and Ownership', *Canadian Journal of Economics*, no. 1, November 1969, pp.791-804.

6 Jon Hilsenrath, 'Cap-and-Trade's Unlikely Critics: Its Creators', *Wall Street Journal*, 13 August 2009.

7 *Ibid.*

reducing acid rain.<sup>8</sup> That paved the way for later US trading programmes in water pollution, wetlands destruction, biodiversity depletion and so on.

While Dales and other proponents of pollution trading had expected that permits would be auctioned, almost all of the SO<sub>2</sub> allowances under the Clean Air Act – like those of later emissions markets – were simply distributed free of charge.<sup>9</sup> Hence, the rights were, and still are, gravitating into the hands of those who have the most power to appropriate them and the most financial interest in doing so. Systems of pollution trading give new commercial powers to those with access to legislation. So just as corporations lobby for exemption from pollution regulations, they lobby to make sure emissions allowances amount to secure property rights.

In common with other emissions trading schemes, the first phase of SO<sub>2</sub> trading generated a significant surplus of pollution permits over and above what was needed for compliance. It covered 263 of the largest coal-fired power stations in the US, which produced emissions 39 per cent above the level the cap at 1995, and on average 23 per cent below the

cap for the subsequent four years.<sup>10</sup>

Although this ‘over-compliance’ has been claimed as a success, this occurred for several reasons that were not closely linked to the programme itself. The utilities covered by the scheme anticipated high compliance costs in the first phase as a result of which they installed scrubbers, an end-of-pipe technology to remove SO<sub>2</sub> from power plant exhaust streams. By 1995, however, productivity improvements in extraction and transport meant that low-sulphur coal had become far more cheaply and readily available in the US. Since this reduced emissions in its own right, the result was an over-supply of permits.<sup>11</sup> A second, major factor was a ‘substitution’ provision built into the Clean Air Act, which allowed companies to switch the factory specified in the legislation for another of their choice ‘and receive allocations of allowances based on the historic emissions of those units instead’.<sup>12</sup>

The net result was that a large surplus of pollution permits was generated which could then be carried over (or ‘banked’ in the jargon) to the second phase of the scheme, beginning in 2000, which came to include 2,262 electricity-generating units. This surplus, in addition to the emissions being set systematically above the cap between 2000 and 2005, helped these other units to delay meeting their obligations to clean up SO<sub>2</sub> pollution.

This goes some way towards explaining why the US Clean Air Act was significantly *less*

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8 M. Bernstein, M. A. Farrell et al., ‘The Environment and Economics – The Impact of Restricting the SO<sub>2</sub> Allowance Market’, *Energy Policy*, vol. 22, no. 9, pp.748–754, 1994; Drury, Belliveau, Kuhn and Bansal, ‘Pollution Trading and Environmental Injustice: Los Angeles, Failed Experiment in Air Quality Policy’, *Duke Environmental Law and Policy Forum*, no. 45, 1999.

9 Ricardo Coelho, ‘Pollution for sale: made in the USA’, Presentation at the II Doctoral Meeting, Université de Montpellier, 21 August 2009, p.8. Only a small percentage of the allowances (3.1 per cent in phase 1 and 2.8 per cent in phase 2) were auctioned off. Each allowance permitted the release of 1 tonne of sulphur dioxide into the air after 1995. The price for each allowance was between US\$ 122 and US\$ 450, much cheaper than paying for flue gas scrubbers to remove sulphur dioxide from their emissions.

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10 Lesley McAllister, ‘The Overallocation Problem in Cap-and-Trade: Moving Toward Stringency’, *Columbia Journal of Environmental Law*, 2009, vol 39, no. 2, p.401. Available at SSRN: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1276405](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1276405)

11 Ricardo Coelho, *op. cit.*, *supra*, note 9.

12 *Ibid.*

successful at reducing SO<sub>2</sub> pollution than equivalent regulations elsewhere. SO<sub>2</sub> emissions in the US had been reduced by 43.1 per cent by the end of 2007, but over the same period 25 members of the European Union saw a decrease in emissions of 71 per cent.<sup>13</sup> These reductions were achieved through regulation, rather than a cap and trade scheme.<sup>14</sup> Beyond this, the lessons of sulphur trading

- <sup>13</sup> US EPA, data from 'Acid Rain Program 2008 Progress Report', <http://www.epa.gov/airmarkets/progress/interactivemapping.html>; European Environment Agency, 'Air pollution from electricity-generating large combustion plants', EEA Technical report No 4/2008, p.11. The data includes all current EU members except Romania and Bulgaria.
- <sup>14</sup> The relevant EU legislation – the Large Combustion Plants Directive (LCPD) – sets a non-tradable limit on the level of SO<sub>2</sub>, with plants that 'opt out' of the scheme required to close by 2015. This will lead to the closures of numerous oil and coal-fired power stations – a more effective measure, in terms of reduced carbon emissions, than any climate-specific policy to date. On the LCPD plant closures, see Pete Harrison, 'UK And Poland Top Dirty Coal List, Closures Loom', *Reuters*, 12 February 2009: <http://planetark.org/wen/51627>. The second piece of directly relevant EU legislation is the International Pollution Prevention and Control (IPPC) Directive, which also sets energy efficiency requirements and pollution limits. Unfortunately, the application of the EU ETS has directly undermined the co-benefits of this legislation for tackling carbon emissions. As the European Environment Agency points out, the IPPC 'requires the definition of both energy efficiency requirements and emission or concentration limits... These requirements could restrict emissions trading. For example, operators 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. Article 26 of the Emissions Trading Directive therefore amends the IPPC Directive so that permits shall not include CO<sub>2</sub> emission limits for installations which are covered by the EU ETS.' European Environment Agency (2008) 'Application of the Emissions Trading Directive by EU Member States – reporting year 2007', EEA Technical Report no. 3/2008, p.27. The EU is currently consulting on whether to revise the IPPC through the development of new nitrous oxide and sulphur dioxide trading schemes – a further example of how the EU ETS is serving to undermine existing environmental regulations.

were far from simply applicable to the far larger and more complex array of gases and industrial processes covered by carbon trading. SO<sub>2</sub> emissions emanating from a relatively small number of large fixed sources are far simpler to monitor than the complex mix of gases and processes involved in emissions trading today. As Phil Clapp of the US National Environmental Trust points out: 'Acid rain dealt with a specific number of facilities in one industry that was already regulated... Global warming is not an issue that will be resolved by the passage of one statute.'<sup>15</sup> Another important difference between the two schemes is that SO<sub>2</sub> trading did not allow for the use of offsets.

In addition, as Ruth Greenspan Bell points out, pollution trading is at most only a tool to make more cost-effective an already existing commitment to cut pollution. Where the basic commitment and regulatory power doesn't exist, the tool can do little.<sup>16</sup> In the US, this commitment and regulatory power did exist. Sulfur dioxide trading was not introduced to try to get polluting companies interested in controlling acid rain; they were already required to. The situation is different with global warming. Although the countries engaged in the UN process have formally agreed to control carbon, this is not a strong or enforceable commitment in either North or South.

- <sup>15</sup> Michael Shellenbarger and Ted Nordhaus, 'Break Through: The Death of Environmentalism: Global Warming Politics in a Post-Environmental World', 2004, p.15, available at [http://thebreakthrough.org/images/Death\\_of\\_Environmentalism.pdf](http://thebreakthrough.org/images/Death_of_Environmentalism.pdf).
- <sup>16</sup> Ruth Greenspan Bell, 'Transforming The Dynamic', *Environmental Forum (US)*, May/June 2009.

## Climate trading

Despite these problems and significant differences, the sulphur trading example was, perhaps disingenuously, heralded as a successful model for the tackling of greenhouse gas emissions from the early 1990s onwards.

The Organisation for Economic Co-operation and Development (OECD) and the United Nations Conference on Trade and Development (UNCTAD) set out the terrain for international negotiations.<sup>17</sup> The OECD investigated the US SO<sub>2</sub> emissions trading experience and considered the scope for international emissions trading.<sup>18</sup> UNCTAD, meanwhile, engaged in an extensive work programme to promote a global CO<sub>2</sub> trading system.

At the same time, the US-based NGO Environmental Defense Fund (which is now called Environmental Defense) was an early promoter of emissions trading, and published a 1991 study advocating emissions trading to protect the rainforest – a notion whose afterlife can be seen in current market-based proposals for Reducing Emissions from Deforestation and Degradation (REDD).<sup>19</sup> (See chapter 4). The authors of this paper were UNCTAD consultants at the time, and had recent experience advising the US EPA on sulphur trading.<sup>20</sup>

17 Sebastian Oberthür and Hermann Ott, *The Kyoto Protocol: international climate policy for the 21st century*, Springer, New York, 1999, p.188.

18 OECD, 'Climate Change: Designing a Tradeable Permit System', *OECD Observer*, Paris, 1992.

19 Daniel Dudek and Alice LeBlanc, 'Preserving Brazil's Tropical Forests Through Emissions Trading', Environmental Defense Fund report, 1991.

20 For short biographies, see 'Alice LeBlanc' at <http://www.prlog.org/10290563-alice-leblanc-former-director-of-office-of-environment-and-climate-change-at-aig-joins-karbone.html> and 'Daniel J Dudek' at <http://www.edf.org/page.cfm?tagID=909>

## Revolving doors

The case of the United Nations Conference on Trade and Development (UNCTAD) starkly illustrates how many of the key actors involved in the promotion of global carbon trading later drew significant material benefits from it.<sup>21</sup>

Frank Joshua, head of greenhouse gas emissions trading at UNCTAD from 1991 to 2000, went on to become global director for emissions trading services at Arthur Andersen, the accountancy firm at the centre of the Enron scandal, before joining NatSource, an environmental services firm specialising in emissions trading.<sup>22</sup> In the early 1990s, Joshua collaborated on an UNCTAD initiative entitled 'Building a Global CO<sub>2</sub> Emissions Trading System' with Richard Sandor, a former head of the Chicago Board of Trade, and one of the originators of the interest rate derivatives which were a precursor of the complex derivatives that contributed to the financial crash of 2008. Sandor went on to head UNCTAD's working group on carbon market design.<sup>23</sup> He later set up the Chicago Climate Exchange (CCX), which today commands a small but growing segment of the carbon markets.

Alice LeBlanc, another key figure in the UNCTAD initiative, was an employee of Environmental Defense at the time. She later joined Sandor at the Chicago Climate Exchange, before becoming head of the climate change office of insurance firm AIG,

21 UNCTAD, 'Global Greenhouse Emissions Trader', 3 December 1997: [ro.unctad.org/ghg/download/newsletters/newsltr3.pdf](http://ro.unctad.org/ghg/download/newsletters/newsltr3.pdf)

22 Frank Joshua: <http://www.eib.org/infocentre/forum/archives/dublin-2003/speakers/frank-joshua.htm>

23 Larry Lohmann, 'Uncertainty Markets and Carbon Markets: Variations on Polanyian Themes', *New Political Economy*, forthcoming, 2009, pp.10–11.

where she devised the firm's carbon market investment strategy.<sup>24</sup>

Two more fundamental trends lie beneath these connections. First, they reflect the extent to which the notion of 'conflicts of interest' has fallen into obsolescence. Second, the interconnections hint at broader links between the rule-setting process for carbon markets and the agencies that established the derivatives markets that contributed to the financial crisis of 2008.<sup>25</sup>

### *From Rio to Kyoto*

Although emissions trading did not directly find its way into the text of the UN Framework Convention on Climate Change (UNFCCC), which was agreed at the Rio Earth Summit in 1992, some of the neoliberal assumptions underlying it were reflected in both the Convention's defence of an 'open economic system' based on economic growth, and in the Summit's overall recuperation of multinational corporations as positive agents of ecological change – 'promoting sustainable development through trade liberalisation', in the words of Agenda 21, another of the Declarations agreed at Rio.<sup>26</sup>

In addition, the UNFCCC noted that 'the largest share of historical and current global emissions of greenhouse gases has originated in developed countries'. As a result, countries were felt to have 'common but differentiated

responsibilities' in tackling climate change, with the industrialised countries (identified as Annex 1) obliged to shoulder the burden of cleaning up a problem they had been disproportionately responsible for creating.

In 1994 developed countries made voluntary commitments to reduce their greenhouse gas emissions to 1990 levels by 2000. It quickly became clear that there was little chance that these targets would be adhered to, however, and negotiations on legally binding targets began at the first Conference of the Parties (COP) to the UNFCCC in Berlin in 1995.

A UNFCCC Annex 1 Expert Group, guided by the International Energy Agency (IEA) and OECD, developed proposals for industrialised nations within the UN process and became an important forum for the elaboration of an emissions trading system within the Kyoto Protocol.<sup>27</sup>

As negotiations gathered pace for a follow-on agreement to the Convention, the US government began to design a carbon trading proposal, announcing in 1996 that this kind of 'flexibility' would be 'the key requirement for accepting binding targets'.<sup>28</sup>

In December 1997, the third COP was held in Kyoto, Japan, resulting in a Protocol that was to become the major pillar of international climate policy. Although most

24 Carbon Control News, 'Insurance Giant AIG Poised To Issue Climate Change Strategy,' 5 April 2006. <http://carboncontrolnews.com/index.php/igb/show/494>

25 For a more detailed analysis on this theme, see Larry Lohmann, *op. cit.*, *supra*, note 23.

26 Pratap Chatterjee and Matthias Finger, *The Earth Brokers: Power, Politics and World Development*, Routledge, New York, 1995. See Agenda 21, ch.2, section 1: <http://www.un.org/esa/dsd/agenda21/>

27 Sebastian Oberthür and Hermann Ott, *The Kyoto Protocol: international climate policy for the 21st century*, Springer, 1999, p.188 The Annex 1 Expert Group still exists, and is promoting proposals for new 'sectoral' carbon markets in advance of the COP15 global climate negotiations at Copenhagen in December 2009.

28 Deborah Stowell, *Climate Trading: Development of Greenhouse Gas Markets*, Palgrave, Basingstoke, 2005, pp.15-16.

governments insisted that emissions reductions should be made domestically by parties to the agreement, the US delegation, led by Vice President Al Gore, again insisted upon ‘flexibility’. As journalist George Monbiot recalls:

Gore demanded a series of loopholes big enough to drive a Hummer through. The rich nations, he said, should be allowed to buy their cuts from other countries. When he won, the protocol created an exuberant global market in fake emissions cuts... He also insisted that rich nations could buy nominal cuts from poor ones. Entrepreneurs in India and China have made billions by building factories whose primary purpose is to produce greenhouse gases, so that carbon traders in the rich world will pay to clean them up.<sup>29</sup>

The most significant of these loopholes was the Clean Development Mechanism, a carbon offset mechanism which was included at a late stage in the Kyoto negotiations.<sup>30</sup> A second offsetting scheme, called Joint Implementation, was also included in the Protocol.

## *Joint Implementation*

Joint Implementation (JI) is a UN offsetting scheme that is similar to the Clean Development Mechanism – the key difference being that it involves projects hosted in countries that already have binding targets for the reduction of their greenhouse gas emissions.

Most of the projects are in ‘transition economies’ (Russia, Ukraine and Central and Eastern Europe), which tend to be the cheapest places to host them, although they have also emerged in Germany, France and New Zealand.

By September 2009, the UN had registered 214 JI projects. These tend to be larger in scale than CDM projects, with the largest proportion (34 per cent) accounted for by methane gas reduction projects, which are mostly associated with coal mines.

## *The origin of offsets*

The idea of offsetting did not begin with the Kyoto Protocol or with carbon trading. Early in the history of pollution trading, governments and private firms sought ways of injecting extra, inexpensive pollution permits into the market, to make meeting targets even easier than it would be under simple cap and trade schemes.<sup>31</sup> In 1976, the US EPA promulgated a policy allowing major new pollution sources to be sited in locations where standards were not being attained as long as they obtained ‘offset’ pollution credits generated from other projects that saved or reduced emissions.

29 George Monbiot. ‘We’ve been suckered again by the US. So far the Bali deal is worse than Kyoto’, *The Guardian*, 17 December 2007: <http://www.guardian.co.uk/commentisfree/2007/dec/17/comment.world>

30 The CDM is not the only hole in the Kyoto Protocol, however. As noted in chapter 1, the ability to trade emissions between countries has resulted in a significant quantity of ‘hot air’ emissions in the system – in particular, following the collapse of the Soviet Union. Another significant hole is the exclusion of international aviation and shipping from the calculations underlying the Kyoto Protocol.

31 Richard A. Liroff, *Reforming Air Pollution Regulation: The Toil and Trouble of EPA’s Bubble*, Conservation Foundation, Washington, 1986, p.100.

In order to become tradable for emissions allowances, offset credits had to be made 'equivalent' to emissions reductions. In the 1970s and 1980s, various US authorities and regulated corporations eager to build a pollution offset market tried to commensurate reducing pollution from industrial installations with buying up and scrapping old cars or by making material process substitutions elsewhere.<sup>32</sup> Environmentally, the experiment failed. For example, entrepreneurs sold credits for destroying cars that in fact had already been abandoned, while states lured industry by providing it with offsets created through substitution processes that were already occurring for non-environmental reasons.<sup>33</sup>

Under one California smog trading programme, the Sacramento Metropolitan Air Quality Management District issued 5 tonnes per year of volatile organic compound pollution credits created by the decommissioning of B-52 bombers that had been based in the region. The credits were bought by companies such as Intel, Campbell's Soup and Aerojet, who were able to avoid installing pollution control equipment as a result. The credits arguably functioned to increase pollution above what it would have been otherwise, because the bombers had been slated for destruction anyway under the terms of the START treaty. Because companies carried on polluting, the B-52s in effect continued to 'pollute from the grave'.<sup>34</sup> Such credits quickly earned the sobriquet 'anyway tonnes', meaning that they represented actions that would have happened anyway.

32 Drury *et al. op. cit.*, *supra*, note 8; Liroff, *op. cit.*, *supra*, note 31.

33 Drury *et al.*, *ibid*; Liroff, *ibid.*, pp.16, 117.

34 Drury *et al. op. cit.*, *supra*, note 8; Liroff, *op. cit.*, *supra*, note 31, pp.16, 117.

## *Environmental Services and Land Use Offsets*<sup>35</sup>

Costa Rica pioneered the development of Payments for Environmental Services (PSA or *pagos por servicios ambiental*) in the 1990s, establishing a national plan to compensate landowners to preserve forests and reforest 'degraded' lands, including tree plantations. Landowners were given the opportunity to sell the carbon storage capacity of forests on their territory to the national government, which then sold these on to voluntary markets. The scheme was paid for by a 15 per cent consumer tax on fossil fuels which was later reduced. Carbon trading 'was expected to provide significant funding through sales of certified tradable offsets. However, no significant market for carbon abatement has emerged. The only sale has been to Norway, which consisted of US\$ 2 million in 1997 for 200 million tonnes of carbon sequestration.'<sup>36</sup> Further funding came through a World Bank loan and a Global Environmental Facility (GEF) grant. Costa Rica went on to create Certified Tradable Offsets (CTOs) in 1998 to 'grow' carbon from 500,000 hectares of forest, setting in motion an unfinished debate on the value and legitimacy of 'carbon sinks'.<sup>37</sup>

35 See Larry Lohmann, 'Democracy or Carbocracy? Intellectual Corruption and the Future of the Climate Debate', The Corner House briefing 24, October 2001.

36 G. Arturo Sanchez-Azofeifa, Alexander Pfaff, Juan Andres Robalino, and Judson P. Boomhower, 'Costa Rica's Payment for Environmental Services Program: Intention, Implementation, and Impact', *Conservation Biology*, DOI: 10.1111/j.1523-1739.2007.00751, 2007. The notion of 'carbon sequestration' (or 'sinks') was already established as part of the UNFCCC. See 'United Nations Framework Convention on Climate Change', 1992, article 4.d.

37 <http://projects.wri.org/book/export/html/11>

These early experiences of offsetting in Costa Rica resulted in a push for the inclusion of tradable carbon sequestration offsets or carbon 'sinks' in UNFCCC legislation.<sup>38</sup> During the Kyoto negotiating years in the 1990s Northern countries like the US, Canada and Australia had a vested interest in getting 'sinks' included in any climate deal as a means to make their emissions targets cheaper and easier to attain. The Intergovernmental Panel on Climate Change responded to the pressure with a 377-page review on land use and land use change, released in May 2000 as 'Land Use and Land Use Change and Forestry' (LULUCF).<sup>39</sup> Many NGOs and governments cautioned against using the biosphere to create an international offsets market.<sup>40</sup>

The earlier pressure had paid off for the Northern elites. The LULUCF report outlined how credits could be generated from 'sinks'.<sup>41</sup> At the contentious COP 6 in The Hague in November 2000, one of the major controversies concerned the technical possibility of countries claiming carbon credits for 'additional land and forest activities' within their borders as part of their Kyoto Protocol 'reduction' commitments. The concept of carbon sequestration was accepted, but the ability to trade credits from the environmental service of 'avoided deforestation' was not.

Two-thirds of the LULUCF document authors and editors were from the North. Many of these authors assumed that there were wide open 'degraded' lands in the South (but not in the North) which had no better function than to be converted into plant growth to absorb CO<sub>2</sub>.<sup>42</sup> Beyond the obvious lack of evidence that short-cycle tree or plant growth locks in CO<sub>2</sub> permanently, this displays a shocking lack of analysis regarding social mechanisms of deforestation, commons regimes, social resistance, development systems and local history. Tellingly, there were no Indigenous Peoples' Organisations (IPOs) on the panel.

Offsetting proposals went global in the 1990s as traders, economists, consultants, non-government organisations and UN technocrats began to set up institutions through which offset credits could be mixed with the permits on which cap and trade would be based. Whereas earlier projects had sought mainly to replace one type of pollution reduction with an 'emissions sav-

38 G. Arturo Sanchez-Azofeifa, *et. al. op cit., supra*, note 36.

39 R. T. Watson, I. Noble, B. Bolin et al. (eds), *Land Use, Land Use Change and Forestry* (a Special Report of the IPCC), Cambridge University Press, Cambridge, 2000.

40 The German Advisory Council on Global Change, 'The accounting of Biological Sinks and Sources under the Kyoto Protocol – A step Forward or Backwards for Global Environmental Protection?', Bremerhaven, EBGU, 1998, p.39.

41 R. T. Watson et al., *op. cit., supra*, note 39, p.181.

42 In this context, the term 'degraded lands' is a descendant of the colonial-era administrative term 'waste', used to signify what were in fact common lands under intense and varied use. For the deployment of this term in the British Raj, see, for example, R. A Houghton, et al., 'Current Land Cover in the Tropics and its Potential for Sequestering Carbon', *Global Biogeochemical Cycles*, vol. 7, no. 2, 1993, pp.305-320; R. Dixon et al. (eds) *Assessment of Promising Forest Management Practices and Technologies for Enhancing the Conservation and Sequestration of Atmospheric Carbon and their Costs at Site Level*, Environmental Protection Agency, Washington, 1991; A. Grainger, 'Modelling the Impact of Alternative Afforestation Strategies to Reduce Carbon Dioxide Emissions', in *Proceedings of the Conference on Tropical Forestry Response Options to Global Climate Change*, 1990; and M. Trexler and C. Haugen, *Keeping it Green: Tropical Forestry Opportunities for Mitigating Climate Change*, World Resources Institute, Washington, 1995.

ing' made elsewhere, these new schemes extended the logic of offsetting to include the displacement of claimed reductions from one country to another.

The basic economic idea was to find the cheapest location to tackle the climate change problem, irrespective of where it had been caused. Larry Summers, the current president of the White House Economic Council, infamously elaborated upon this in a 1991 memo sent while he was chief economist of the World Bank. 'The economic logic of dumping a load of toxic waste in the lowest wage country is impeccable, and we should face up to it,' Summers said. 'Underpopulated countries in Africa are vastly underpolluted.'<sup>43</sup>

In 1992, the World Bank and the government of Norway began to co-finance a series of Joint Implementation arrangements involving 'carbon offset generation'. The Global Environment Facility, which was initiated by the Bank in 1991 and subsequently adopted as the financial mechanism for the UNFCCC, also began to research methodologies for certifying carbon offsets.<sup>44</sup> These JI proposals elaborated on a relatively obscure piece of wording in the Convention agreed at the Rio Earth Summit, which stated that measures taken by developed countries to cut their greenhouse gas emissions to 1990 levels could be taken 'individually or jointly'.<sup>45</sup>

43 Patrick Bond, 'The World Bank in the Time of Cholera', *Z Net Commentary*, 13 April 2001. <http://www.zmag.org/sustainers/content/2001-04/13bond.htm>

44 World Bank, *The World Bank and the Environment*, Washington, IBRD/World Bank, Washington, 1993, p.118.

45 United Nations, *United Nations Framework Convention on Climate Change*, 1992, Article 4.2(b).

The G-77 and China grouping of developing countries initially contested this interpretation, with many countries expressing concern at what they saw as a neocolonialist measure that would allow developed countries to avoid their domestic and historic responsibilities to tackle climate change.<sup>46</sup> Nevertheless, pressure from Northern countries and the openness of a few Central American countries to such schemes led to an agreement at the 1995 Berlin COP to start piloting 'activities implemented jointly' between industrialised and developing countries.

### *The Kyoto surprise*

The Brazilian government claimed that these new schemes amounted to 'a reinterpretation of the concept of "Joint Implementation" by developed countries as a means to avoid "the strict fulfilment of their targets"'.<sup>47</sup> As a parallel proposal, it put forward the idea of a Clean Development Fund (CDF) which would penalise developed countries that exceeded their targets in order to finance clean energy in the South for climate change mitigation (90 per cent) and adaptation projects (10 per cent).

However, at the initiative of the US and amid internal disagreements within the G-77 and China group, this was transformed late into the Kyoto negotiations into the Clean Development Mechanism. The new scheme laid the groundwork for projects in developing countries to create credits that can be purchased and utilised by developed

46 Joyeeta Gupta, *Our Simmering Planet: What to do about global warming?* Zed Books, 2001, p.65.

47 Brazilian position on Activities Implemented Jointly (1996-7), cited in Gupta, *ibid.*, p.66.

countries to meet their emission reduction obligations. The fund was transformed into a trading mechanism, fines were transformed into prices, and a judicial system was transformed into a market.

The EU, trying to maintain some legitimacy, cautioned that ‘flexibility must never become a backdoor through which rich countries can get away by paying other countries instead of doing their homework’.<sup>48</sup>

However, the US later claimed during negotiations in The Hague in 2000 that any limit on the use of flexible mechanisms – as the G-77 and China group and the EU were requesting – would lead to unacceptably high domestic costs.<sup>49</sup> Later in 2001 the Bush administration, shortly after coming into power, confirmed a unilateral decision to abandon its Kyoto targets altogether.<sup>50</sup>

### *The origins of the EU Emissions Trading Scheme*

In response to the US walking away from Kyoto, the EU strengthened its support for emissions trading and went about designing an EU-wide scheme that became the EU ETS, now being used as a model for other trading systems (see chapter 3).

The European Commission, which has responsibility for proposing European Union legislation, first discussed the emissions trading scheme as part of its post-Kyoto strategy in 1998. Consultations on the scheme began in March 2000.<sup>51</sup>

While many corporate and corporate-backed groups were still pouring millions of dollars into disinformation campaigns to cast doubt on whether climate change was happening, a self-proclaimed ‘progressive’ wing of big business was positioning itself to influence the rules of this new trading regime.<sup>52</sup>

In 1999, a number of UK companies formed an ‘Emissions Trading Group’ to develop a voluntary scheme as an alternative to carbon tax proposals. The point was to develop non-tax alternative to save industry money. In Denmark, power companies ran a prototype for a small national emissions scheme in 1999, which proved a failure.<sup>53</sup> Undeterred, Norwegian business adopted a similar scheme while, elsewhere, some companies began to experiment internally with emissions trading. BP and Shell were among the leading actors, with BP in particular using its experiences to set the policy agenda for emissions trading – first in the UK, and then at an EU level.<sup>54</sup>

48 Statement by Ritt Bjerregaard after a September 1998 informal meeting in Japan, quoted in Loren Cass, ‘Norm Entrapment and Preference Change: The Evolution of the European Union Position on International Emissions Trading’, *Global Environmental Politics*, May 2005, Vol. 5, No. 2, p.52.

49 Norman J. Vig and Michael G. Faure, ‘Green Giants? Environmental Policies of the United States and the European Union’, *Massachusetts Institute for Technology*, 2004, p.349.

50 Vig and Faure, *ibid.*

51 Marcel Braun, ‘The evolution of emissions trading in the European Union – The role of policy networks, knowledge and policy entrepreneurs’, Rupperecht Consult, Forschung und Beratung GmbH, Cologne, Germany, 2008, p.2.

52 On corporate lobbying as a form of climate change denial, see Larry Lohmann, *Carbon Trading: a critical conversation on climate change, privatization and power*, *Development Dialogue*, No. 48, Dag Hammarskjöld Centre, Uppsala, 2006, pp.41-42.

53 Braun, *op.cit.*, *supra*, note 51.

54 *Ibid.*

Environmental Defense was involved once again, this time forming a partnership with BP. Instead of indulging in pure climate change ‘denial’, BP acted on the assumption that its long-term interests would be better served by a trading scheme as a cheap policy alternative to regulation – and one which did not impinge too heavily on its core financial interests. With the aid of Environmental Defense, and with the vocal endorsement of BP CEO John Browne, the company set up an internal trading system for its ‘non-extractive emissions’ – that is, emissions other than those resulting from either extracting oil from the ground or burning that oil.<sup>55</sup> A pilot scheme began in autumn 1998, with the full system in operation from 2000. BP’s goal of a 1 per cent emissions reduction was easily met, since an over-optimistic calculation of the growth of BP’s business meant that allowances were over-allocated.<sup>56</sup> A tighter cap of 10 per cent was made for 2001, which was achieved largely through reductions in natural-gas venting and flaring. The company heralded the scheme as a success – with the previously flared gas now available for sale, and generating an additional US\$ 650 million in revenue.<sup>57</sup>

This corporate influence had a significant impact on how the rules of the EU ETS were ultimately set – with European industry associations successfully lobbying in favour of a free handout of credits (or ‘grand-fathering’) at the outset of the scheme.<sup>58</sup> It also resulted in certain sectors, including the chemical industry and aluminium, being excluded from the scheme’s first phase.<sup>59</sup>

By October 2003 the European Emissions Trading Directive was passed into law, with the scheme coming into effect on 1 January 2005.<sup>60</sup> Since then, the EU ETS has become the largest carbon trading scheme in the world.

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55 John Browne has subsequently revised his judgment of emissions trading. In March 2009, he told *The Observer* newspaper: ‘My view has shifted over time. Pinning all your hopes on the European Union ETS and carbon trading is wrong.’ See Tim Webb and Terry Macalister, ‘Carbon trading wrong, says Lord Browne’, *The Observer*, 8 March 2009. <http://www.guardian.co.uk/business/2009/mar/08/oilandgascompanies-carbon-emissions>

56 D. Mackenzie, ‘Making Things the Same: Gases, Emission Rights and the Politics of Carbon Markets’, February. Available at: [http://www.sps.ed.ac.uk/staff/sociology/mackenzie\\_donald](http://www.sps.ed.ac.uk/staff/sociology/mackenzie_donald); accessed 5 June 2008.

57 D. Victor and J. House, ‘BP’s Emissions Trading Scheme’, *Energy Policy*, no. 34, 2006, pp.2100–2112.

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58 See P. Markussen and G. T. Svendsen, ‘Industry lobbying and the political economy of GHG trade in the European Union’ *Energy Policy*, no. 33, 2005, pp.245–255.

59 *Ibid.*

60 Braun, *op. cit.*, *supra*, note 51.