

Saving the planet or selling off the atmosphere? Emissions trading, capital accumulation and the carbon rent

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Governments are increasingly implementing emissions trading schemes, ostensibly to reduce greenhouse gas emissions. Karine Matthews and Matthew Paterson argue that the drive to implement emissions trading is primarily driven by the goal of supporting capital accumulation, rather than environmental considerations. This article ultimately agrees, but argues that their approach is not consistent with Marx's labour theory of value. The concept of the 'carbon rent' is used to develop a more consistent approach to understanding how the state can use emissions trading to distribute income away from the poor and working class.

According to Prime Minister Kevin Rudd, a decision not to take action against climate change would be 'an active decision to place the next generation at grave risk'.¹ Apart from a few climate change deniers and business interests, practically all the experts who examine the issue agree that a transition towards a much lower carbon economy is necessary. The last Intergovernmental Panel on Climate Change report argued that in order to stabilise the concentration of carbon dioxide in the atmosphere at 450 parts per million (ppm), global emissions would have to peak around the year 2020, and 'decline

1 Kevin Rudd *National Press Club Address by Prime Minister Kevin Rudd on the Federal Government's Carbon Pollution Reduction Scheme*, 15 December 2008, Media Monitors transcript, www.climatechange.gov.au/whitepaper/report/pubs/pdf/rudd-address-national-press-club.pdf, accessed 15 February 2009, p. 2.

thereafter'.² A more recent study by James Hansen et al. finds that we are already 'in the dangerous zone' for 'tipping points' such as the melting of the Greenland Ice Sheet, and they recommend a target of 350ppm—which could only be achieved by taking net global emissions below the rate at which carbon is naturally removed from the atmosphere within decades.³ Even Ross Garnaut—a neo-liberal economist—argues that something needs to be done about climate change, although his assessment of what is politically possible leads him to conclude that a target of 550ppm is the best we can hope for.⁴ This would not only lead to the destruction of the Great Barrier Reef (the focus of media commentary at the time his target was revealed), but if Hansen et al. are right, it would 'push Earth toward the ice-free state'.⁵

Yet the Rudd Government's White Paper on its proposed Carbon Pollution Reduction Scheme promises no more than a cut in Australia's emissions of 15 per cent by 2020 in the context of a global agreement, and a cut of only 5 per cent without one.⁶ Rudd's line that this is about the same as the per capita emissions reduction targets being suggested by the European Union is technically correct but totally disingenuous, since in absolute terms this would still leave per capita emissions in Australia more than twice as high as in the EU.⁷ Even based on the 15 per cent target, if the rest of the developed world put in the same claim for per capita emissions in absolute terms, global emissions would actually rise by about 35 per cent, not fall towards the 450ppm target that Rudd claims is 'in the national interest'.⁸ If all countries were to pollute at the per capita levels Rudd is proposing for Australia in 2020, global emissions would more than triple.⁹ The White Paper also outlines an enormous subsidy package for the heaviest polluters, estimated to amount to over \$3.5 billion per year in free permits to pollute, direct cash payments and research funding for

- 2 Intergovernmental Panel on Climate Change, *Climate change 2007: synthesis report*, Cambridge University Press, Cambridge 2007, pp. 66-67.
- 3 James Hansen et al. 'Target atmospheric CO₂: where should humanity aim?', 2008, <http://arxiv.org/abs/0804.1126>, accessed 10 July 2008, p. 13.
- 4 Ross Garnaut *Garnaut Climate Change Review final report*, Cambridge University Press, Melbourne 2008 pp. 212-213.
- 5 Hansen et al. 'Target Atmospheric CO₂', p. 12. Assuming the ratio of CO₂ to non-CO₂ greenhouse gases remains the same under the 550 ppm CO₂-eq. scenario as it is today, 550 ppm CO₂-eq. converts to roughly 460 ppm CO₂-only, which Hansen et al. conclude would 'push Earth toward the ice-free state'.
- 6 Australian Government, *Carbon Pollution Reduction Scheme: Australia's low pollution future, white paper, volume I*, Bluestar Print, Canberra 2008, p. iv.
- 7 Rudd *National Press Club Address on the Carbon Pollution Reduction Scheme*, p. 12; Garnaut, *Garnaut Review final report*, figure 3.2 p. 55.
- 8 Garnaut *Garnaut Review final report*, p. 43. This calculation follows because Australia's per capita emissions are currently twice as high as the OECD average, and emissions from OECD countries account for roughly half of global emissions, Garnaut, *Garnaut review final report*, pp. 56 and 153.
- 9 This follows because Australia's current per capita emissions are four times world per capita emissions, Garnaut *Garnaut Review final report*, p. 153.

so-called 'clean coal' technology in the first two years of the scheme.¹⁰ Moreover, the small emissions reductions that are achieved will come through a 'market-based' emissions trading scheme, which according to the Treasury will cost the average household roughly an extra \$300-350 in electricity and gas bills in the first year of the scheme, and more as the carbon price increases.¹¹

Even the most moderate of green groups, the Australian Conservation Foundation (ACF), has rightly denounced the Government's dangerously inadequate targets, and their enormous pre-emptive polluter bailouts.¹² However, the ACF still supports an emissions trading scheme (ETS) if permits are fully auctioned. Indeed, before Rudd announced the details of the Government's approach, environmentalists were some of the strongest supporters of an ETS. In a joint policy document released before the 2007 election, a coalition of twenty organisations, 'Australia's Environment Groups', argued for a 'price for carbon'.¹³ More recently, the Climate Institute, Australian Conservation Foundation, Australian Council of Social Service, and Australian Council of Trade Unions have formed the Southern Cross Climate Coalition, which supports a 'broadly based domestic Emissions Trading Scheme'.¹⁴ The Greens have similarly bought the free-market environmental line that a scheme which combined fully auctioned permits with assistance to low income households would be an equitable way to cut emissions.¹⁵ Friends of the Earth have expressed greater scepticism about the effectiveness and fairness of emissions trading, but they still have not opposed such a scheme outright.¹⁶

Where should Marxists stand on this issue? Our most important demand should be that capitalists, especially those who have profited from polluting, and not workers be made to pay for the transition to a low carbon economy. Up until recently, their argument that emissions trading was a fair way to make businesses and households pay for the 'carbon

10 Australian Government *Carbon Pollution Reduction Scheme: Australia's low pollution future, white paper, volume 2*, Bluestar Print, Canberra 2008, p. E-2.

11 Based on Treasury's estimate of a \$4-5 per week increase in electricity prices, and a \$2 per week increase in gas and other household fuels prices, for the average household. Australian Government *Australia's low pollution future: the economics of climate change mitigation*, Canprint Communications, Canberra 2008, p. 189.

12 Australian Conservation Foundation *Households to foot the big polluters' carbon bill*, www.acfonline.org.au/articles/news.asp?news_id=2103, accessed 21 February 2009.

13 Aid Watch et al. *Australia's Environment Groups: Climate Change Policy Agenda, 2007*, www.foe.org.au/climate-justice/policy-position/federal-election-2007/AusENGOJointPolDoc07.pdf/, accessed 8 July 2008.

14 Southern Cross Climate Coalition *Towards an effective and fair response to climate change*, media statement, 6 July 2008, www.climateinstitute.org.au/images/scccstaement.pdf, accessed 11 July 2008, p. 1.

15 Christine Milne *Business as usual cannot trump the laws of science on climate change*, media statement, 14 December 2008, <http://greens.org.au/media/2008/12/15/4296>, accessed 21 February 2009.

16 Friends of the Earth Australia *Open submission to Garnaut on the emissions trading scheme*, 17 April 2008, www.foe.org.au/climate-justice/policy-position/garnaut-review-2008, accessed 10 July 2008.

cost' of their consumption might have seemed like a strong one to many on the left. Rudd's enormous proposed hand-outs to the coal-fired power industry should have put an end to any misconceptions about the ALP's commitment to 'climate justice'. It is also important to understand why emissions trading is objectionable at a deeper level: why, regardless of the specific decision to hand money to polluters, the logic of workers' sacrifice is built in to attempts to regulate pollution through trading schemes.

This article attempts to explain this by using Marxist value theory. It begins by criticising a previous attempt by Karine Matthews and Matthew Paterson to explain emissions trading using a partly Marxian analysis, for its inconsistency with Marx's labour theory of value. It then builds an alternative account by examining how emissions trading creates 'winners' and 'losers', illustrated with an example from the operation of the European Union Emissions Trading Scheme (EU ETS), and a look at the likely distributional consequences of the ETS proposed in the Australian Government's White Paper. Finally, it combines this analysis with aspects of Matthews' and Paterson's approach to explain how emissions trading can work to encourage and intensify capital accumulation at the expense of workers. Lohmann makes a strong case that emissions trading schemes are also unlikely to be an effective means of reducing pollution, but that is not the focus of the discussion here.¹⁷

The value of polluting

Matthews' and Paterson's article, 'Boom or bust? The economic engine behind the drive for climate change policy', was an important step towards understanding the effects of emissions trading on the capitalist economy.¹⁸ Their article sought to explain why governments have adopted any measures aimed at mitigating climate change at all. For some neoclassical economists the decision by the European Union and others to remain committed to the Kyoto Protocol in the absence of any involvement by the world's largest polluters (especially the US) was difficult to explain, since the benefits of mitigation are spread across the world, while the economic costs are concentrated in those states that choose to cut emissions. For this reason, Hovi et. al conclude that the small measures which have been taken to restrict pollution under Kyoto, such as the European Union Emissions Trading Scheme (EU ETS), must be considered 'irrational' from the point of view of a state interested in maximising GDP.¹⁹

17 Larry Lohmann (ed.) *Carbon trading: a critical conversation on climate change, privatisation and power* Dag Hammarskjold Foundation, Durban Group for Climate Justice and The Corner House, 2006, www.thecornerhouse.org.uk/summary.shtml?x=544225, accessed 21 July 2008.

18 Karine Matthews and Matthew Paterson 'Boom or bust? The economic engine behind the drive for climate change policy', *Global change, peace and security* 17 (1), 2005.

19 Jon Hovi, Tora Skodvin and Steinar Andresen 'The persistence of the Kyoto protocol: why other Annex 1 countries move on without the united states', *Global environmental politics* 3 (4), November 2003, pp. 1-23.

Matthews and Paterson argue that this apparent paradox can be resolved through a Marxist understanding of the state. For Marx, capitalism is not primarily a mode of production aimed at maximising output or GDP, but a system driven by the process of capital accumulation. That is, capital is driven by the logic of investing money in order to have this money returned and to make a profit'.²⁰ The production of useful commodities is (only) undertaken as a means for achieving this end. Matthews and Paterson argue that one way to increase these opportunities for creating profits, and hence promote capital accumulation, is to bring 'new objects into the realm of production for the market'. They argue that creating a market for emissions is one way of doing this. Even if it is true that emissions trading reduces GDP, they suggest, states still may still find it desirable to create an emissions commodity around which new 'opportunities for making profits can be established'. Thus 'the principal political-economic benefit of emissions trading is as a site of commodification.'²¹

However, Matthews and Paterson do not ground their account in Marx's value theory. From a value perspective, emissions trading attaches an *exchange value* to the act of polluting. However, this does not increase the total amount of *value* created within the economy, since, for Marx, only human labour can create new value.²² The commodification behind emissions trading is therefore not like the commodification of 'ordinary' goods and services, where capitalists can profit from the productive activities of workers, since the Earth's capacity to absorb CO₂ is an entirely natural resource.²³ It does not necessarily follow that simply creating a new market benefits capital as a whole—indeed, at a superficial level of analysis, one might equally draw the conclusion that forcing capital to pay to pollute the atmosphere is likely to reduce profits. This article seeks to provide a theoretical framework within which questions such as these can be posed more clearly. Before introducing this alternative framework, it is necessary to analyse how emissions trading works, and its consequences for the distribution of income, in some detail.

The first emissions trading provisions emerged in the United States, as part of an attempt to reduce acid rain. After early experiments with combinations of trading and command-and-control regulation, Congress established the first comprehensive program of emissions trading in 1990.²⁴ This focused exclusively on regulating emissions of a single gas—sulphur dioxide. Some state and local jurisdictions later established smaller scale trading schemes within this framework, aimed at controlling emissions of nitrous oxides.

20 Karl Marx *Capital, volume 1*, Penguin and New Left Review, London, 1976 [1867], pp. 251-253.

21 Matthews and Paterson 'Boom or bust?', pp. 62-62, 64.

22 Marx *Capital, volume 1*, p. 128.

23 Additional permits 'produced' by human labour expended on planting carbon sinks could be considered a new repository of value, but these are not a significant proportion of the emissions trading market.

24 Daniel Cole *Pollution and property: comparing ownership institutions for environmental protection*, Cambridge University Press, Cambridge, 2002, pp. 48-51.

Until 1998, these recently established US schemes were the only large-scale examples of emissions trading to have been implemented. Despite the novelty of this approach, states such as the US and Australia successfully pushed for emissions trading to be adopted as the international response to climate change, under the Kyoto Protocol.²⁵ Its ‘flexibility mechanisms’ allow states to meet their emissions targets either by reducing domestic emissions, or by purchasing carbon ‘credits’ on an international emissions market.²⁶

In order to meet its obligations under Kyoto, the European Union has established a regional ETS, and many other states are considering schemes of their own. The EU ETS is divided into ‘phases’. At the beginning of the first ‘phase’, member states were given the right to hand out CO₂ permits to industry, based on their expected emissions levels.²⁷ The permits were valid for the duration of the phase, which lasted from 2005 to 2008. The second phase started in January 2008, and will run until 2012.

One of the most contentious elements of emissions trading is the way in which permits are allocated. In choosing to hand out permits free of charge to existing polluters, Phase I of the EU ETS followed the example of the US acid rain abatement scheme.²⁸ Indeed, no large-scale ETS has yet been established which allocates a significant proportion of permits via the alternative option of auctions. The decision not to auction permits is often justified via a corollary of the neoclassical ‘Coase Theorem’: that regardless of whether permits are ‘grandfathered’ or auctioned, emissions will still be capped at the same level, and emissions permits will still be priced and allocated according to their highest value use.²⁹ That is, regardless of how permits are allocated initially, firms which can reduce their pollution relatively cheaply will do so until the cost exceeds the revenue they can earn by selling (or not having to buy) permits, and other firms which find it relatively costly to reduce their own pollution will buy permits from them. Through this process, a uniform ‘cost’ is imposed upon pollution, equal to the price of permits (the ‘carbon price’).

However, the word ‘cost’ here takes on a specific meaning. For neoclassicals, ‘cost’ usually means ‘opportunity cost’ i.e., the income foregone in order to produce a product.

25 Hovi ‘The persistence of the Kyoto protocol’, p. 1; Stuart Rosewarne, ‘The Kyoto Protocol and the Australian state’s commitment to capital accumulation’, *Capitalism, nature, socialism* 14 (1), March 2003, pp. 22-23.

26 These credits can be bought either from states whose emissions remain below target, or from sellers of ‘offsets’.

27 European Commission ‘Questions and answers on emissions trading and national allocation plans’ press release, 08 March 2008 <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/05/84&format=HTML&aged=1&language=EN&guiLanguage=en>, accessed 13 October 2008.

28 Cole, *Pollution and property*, pp. 52-53.

29 Australian Government *Carbon Pollution Reduction Scheme: Australia’s low pollution future, white paper, volume 1*, Bluestar Print, Canberra 2008, p. 9-3. Note, however, that this argument only holds where permits are based on genuinely historical emissions. Under the EU ETS, free permits have been based on ‘updated’ emissions levels, increasing the incentive to pollute. Karsten Neuhoff ‘Implications of announced Phase II national allocation plans for the EU ETS’, *Climate policy*, 6, 2006, p. 413.

The opportunity cost of reducing pollution could be relative to anything from the cost of converting to a new, less polluting technology, to the cost of simply reducing output (and therefore sales) in order to reduce pollution—whichever involves foregoing the least income overall. In general, it is opportunity cost which firms use for decision making, and which therefore goes into determining market prices. If the market reaches equilibrium, the opportunity cost of pollution becomes equal to the carbon price, regardless of how these permits were distributed in the first place (this is another corollary of the ‘Coase theorem’).³⁰ Consequently, prices for emissions intensive goods can be expected to rise by a proportion of the carbon price. Thus polluters end up charging consumers for the ‘cost’ of the permits they were handed free.

This is what occurred under Phase I of the EU ETS. According to a report produced for the UK Department of Trade and Industry:

The combination of free allocations with full pass-through of marginal costs is estimated to result in increased profitability for the UK power generation sector of approximately £800m/year over Phase I ... This represents a direct transfer of value from electricity consumers.³¹

Thus it is no exaggeration to say that the EU scheme represents a shift from the principle of ‘polluter pays’ to one of ‘polluter earns’. In other words, although they do not necessarily provide an incentive to pollute, free permits nevertheless effectively transfer wealth to polluting companies at the expense of consumers.

However, the overall effect on the distribution of wealth is even worse than this would suggest. The extent to which the price of permits pushes up the price of a given commodity depends upon the quantity of greenhouse gases emitted in its production. For example, a given permit price is likely to add to the price of coal-fired electricity by substantially more than it would add to the price of food. Nevertheless, as the transportation of food still often requires significant fossil fuel inputs, the price of food can also be expected to rise. Indeed, many of essential goods and services, such as food, transportation and electricity, are also the most emissions intensive. Since low income households spend a higher than average proportion of their incomes on purchasing these essential goods, they are hit relatively hardest by emissions trading relative to their income level.³² Worse still, official measures of inflation do not take this into account, since they ‘weight’ price increases

30 Ronald Coase *The firm, the market and the law*, University of Chicago Press, Chicago and London, 1988, p. 14.

31 IPA Energy Consulting *Implications of the EU emissions trading scheme for the UK power generation sector*, 2005, www.berr.gov.uk/energy/environment/euets/phase1/page26230.html, accessed 21 August 2008, pp. 1-2.

32 National Institute of Economic and Industry Research, *The impact of carbon prices on Victorian and Australian households* Brotherhood of St. Lawrence, Victoria 2007, www.bsl.org.au/main.asp?PageId=5394, accessed 21 August 2008, p. 16.

according to average consumption patterns, not according to the consumption needs of the least well off. Therefore even those low income households whose incomes increase in line with inflation are likely to be left worse off overall.³³

Ironically, this flow of windfall profits was only halted with the collapse of Phase I of the EU ETS. Eager to capitalise on what was effectively a ‘free money’ bonanza, many polluters successfully fudged their baseline emissions to convince their governments to hand them extra allowances.³⁴ So generous were member states in their allocation procedures that, by April 2006, it became clear that there was no scarcity in the market for emissions permits. That is, member states had given away so many rights to pollute that the total number exceeded the total level of business as usual pollution. This lack of permit scarcity destroyed any incentive to reduce emissions arising from the ETS, since within three weeks the price per tonne of CO₂ fell from around €30 to €8.50, eventually settling at €0.20.³⁵ This also destroyed the monetary value of the free permits—though firms which had been clever enough to sell their excess permits while the price was high still made substantial profits. Some of these were made at the expense of publicly owned facilities such as hospitals, which needed to buy permits early because they had not successfully played the permit rent-seeking game.³⁶

Auctions versus gifts

Would auctioning permits solve this problem? Although there has not been a substantial experiment in the full auctioning of pollution permits it has been widely proposed. Policy in the EU also seems to be moving in this direction. Under Phase II of the EU ETS, which began in January 2008, a (very small) proportion of permits have been auctioned.³⁷ Under Phase III, which begins in 2013, the European Commission estimates that 60 per cent of permits will be auctioned.³⁸ The Australian government has, however, rejected the recommendation of its own Garnaut Review to fully auction permits, and instead proposes to hand-out around 40 per cent of permits to industry for free.³⁹

33 This effect applies most obviously to those dependent on government transfer payments indexed to inflation, but also to those workers able to bargain for higher nominal wages based on the increased rate of inflation.

34 Lohmann *Carbon trading*, p. 88.

35 Open Europe, *Europe's dirty secret: why the EU emissions trading scheme isn't working*, 2007, www.openeurope.org.uk/research, accessed 21 August 2008, p. 16.

36 Lohmann *Carbon trading*, p. 91.

37 Neuhoff ‘Implications of Announced Phase II National Allocation Plans for the EU ETS’, p. 416.

38 European Commission ‘Questions and answers on the Commission’s proposal to revise the EU Emissions Trading System’, p. 5.

39 \$3.6 billion worth of free permits will be handed out to industry in the first year of the scheme, which is 40 per cent of the \$9.1 billion worth of permits which will be created, after adjusting for the effective

If permits are auctioned under an ETS, polluters would at least be denied the windfall profits outlined above. As long as the market for permits functions competitively (which it may not), emissions trading with fully auctioned permits does put a real cost on pollution, and not simply an opportunity cost. This means that the state captures the revenue from this new commodity, and not polluters. However, we should not conclude that this represents an unambiguous victory against the interests of polluters in particular, and capital in general. Since auctioning permits makes no difference to the opportunity cost of pollution, it follows that it will have the same consequences for the prices of emissions intensive goods and services.⁴⁰

Whether the overall effect is regressive depends upon how the state spends the additional revenue it raises. Under a ‘cap and share’ scheme, the money would be distributed on an equal basis to each citizen (with each having the option to ‘spend’ this dividend on retiring permits).⁴¹ Peter Barnes bases his advocacy for such a scheme on what he sees as the unfortunate but necessary recognition that environmental ‘goods’ can only be preserved if they are priced and commodified.⁴² He argues that if the Earth’s carbon cycling capacity can be said to belong to *anyone*, it must belong to *everyone*: hence the need to share the revenue from emissions trading equally. In his book *Heat*, George Monbiot argued for a scheme which would have a similar effect, combining state-auctioned permits for industry with an equal allocation of tradeable carbon ‘rations’ for consumers.⁴³ Such proposals avoid the kinds of problems outlined so far. In theory they would have a progressive effect on the distribution of income, since, in absolute terms, the poor consume fewer emissions intensive resources than the rich, but both would receive the same dividend or allocation of rations.

There are still important problems with ‘cap and share’ type proposals. They theoretically provide lower income households with a carbon dividend which on average would cover the costs of increased prices, but there is still a strong case that these price increases themselves are objectionable. Imagine a pensioner who is barely scraping by switching off their heating in winter so that they can spend their carbon dividend on food and petrol. Think also of someone on a low income who needs to travel long distances and has no

exclusion of petrol sales from the scheme, Australian Government, *Carbon Pollution Reduction Scheme, volume 2*, p. E-2.

40 Garnaut, *Garnaut review final report*, p. 331.

41 Cap and Share, *Cap and share: a brief guide to a scalable climate framework*, www.capandshare.org/quickguide.html, accessed 21 July 2008.

42 Peter Barnes *Who owns the sky?* Island Press, Washington, 2001, p. 34.

43 George Monbiot *Heat: how to stop the planet burning* Allen Lane, London, 2006, pp. 45-46. Recently Monbiot has changed his mind about carbon ‘rations’, and now supports an upstream industry level global carbon trading scheme to be administered by the world’s central banks, the proceeds of which would be spent on the transition to a low carbon economy. George Monbiot, ‘Green Lifeline’, *Guardian* 1 July 2008, www.monbiot.com/archives/2008/07/01/green-lifeline, accessed 21 July 2008.

access to public transport: the carbon dividend may well not cover their increased transport costs. Moreover, it is not hard to imagine a situation in which politicians or bosses cynically justify cuts in welfare payments or wages by pointing out that the carbon dividend has made lower income households 'better off'.

The ETS outlined in the Australian government's White Paper would be significantly worse than 'cap and share'. Unsurprisingly, the White Paper makes no reference to the Earth's natural systems as a form of common property. Instead, it commits only to using some of the revenue raised by the proposed ETS for the purposes of compensating households for price increases.⁴⁴ Indeed, there are reasons to suspect that even this commitment will not be maintained over the long term. If the carbon price increases significantly, compensation payments will also need to rise substantially for lower income households not to be left worse off. The scheme proposed in the White Paper would effectively make the carbon dump just another commodity that consumers must pay to access. Auctioning permits combined with compensation is certainly no guarantee that the poor and working class will not be made to pay for the costs of whatever cuts in pollution an ETS does manage to achieve.

From a political economy perspective, this redistributive aspect of emissions trading is surely a crucial one. It suggests that one goal lying behind the current trend towards adopting trading schemes is to shore up the profitability of capital at the expense of labour. Indeed, the Treasury's own modelling reveals that under an emissions trading scheme, 'labour income growth slows more than capital income'.⁴⁵ Interestingly, while Matthews and Paterson ignore this possibility, it actually supports their overall conclusion that states are pursuing emissions trading as part of their role in promoting capital accumulation. Indeed, it is also possible to combine the analysis of the distributional consequences of an ETS with their original insight that emissions trading promotes the dynamic process of capital accumulation within a more consistent Marxist framework. However, it is first necessary to examine in more detail how Marx explains the relationship between the environment and capital accumulation.

Nature and capitalism

It is perhaps the dominant view that Marx's labour theory of value is unsuited to analysing issues involving the preservation of the environment. Paul Burkett argues against this common misconception, drawing attention to Marx's three distinct concepts of value.⁴⁶ The most fundamental of these is use-value. For Marx, '[t]he usefulness of a thing makes it a use-value', and this an entirely qualitative material property: it is 'the physical body of

44 Australian Government *Carbon Pollution Reduction Scheme, volume 1*, p. 17-1.

45 Australian Government *The economics of climate change mitigation*, p. 187.

46 Paul Burkett *Marx and nature: a red and green perspective* St. Martin's Press, New York, 1999, pp. 69-79.

the commodity itself'. Thus use-values 'constitute the material content of wealth, whatever its social form may be'.⁴⁷ The ratio according to which one use-value is exchanged for another use-value is known as exchange-value. This property is entirely quantitative, in that it abstracts away from the specific useful qualities of things in order to establish a relationship whereby one use-value is brought into equivalence with another (typically mediated by money). Marx argues that this abstraction and equivalence must ultimately be founded on a property common to them both, which he argues can only be the labour time socially necessary to produce each of them.⁴⁸ Marx calls this their *value*. For Marx, value is the *underlying essence* of exchange-value, but the two are not necessarily (nor even usually) equivalent. As we will see, exchange-value is additionally determined by other factors which are less essential (though still often important) for understanding the underlying dynamics of the capitalist economy.

Marx argues that, under capitalism, natural resources are treated as 'gifts of nature', that is, they do not enter into value calculations.⁴⁹ This is not because they are in any sense worthless. After all, they are not only the pre-condition for many industrial processes (air, oil, coal, the sun etc.), but also for the reproduction of value-creating labour itself. Natural resources enter as 'gifts', as 'valueless' objects, because, although they contain use-value,⁵⁰ their ease of appropriation (i.e., the labour necessary to extract them) is generally the only factor limiting their extraction. Just as it costs the individual nothing to appropriate the natural use-value contained in a breath of air, it 'costs' the capitalist system nothing to appropriate the usefulness of natural resources such as oil in the ground, except insofar as extraction requires the use of capital and labour. However, because many natural resources—such as oil—are concentrated in certain locations, it is possible for some capitalists and/or states to prevent others from extracting them. The construction of such exclusions in no sense means more capital must be deployed in order to extract resources such as oil (except insofar as capital is expended on the security apparatus maintaining these exclusions), or that the *value* of oil has increased: it simply means that those who have asserted their 'rights' to this oil can charge others a 'monopoly rent' to use it. This (combined with other factors such as speculation) translates into an *exchange-value* for oil far in excess of its value, and therefore a redistribution of surplus value produced elsewhere towards those who are able to extort this monopoly rent.

Emissions trading can be analysed in a similar manner. Effectively, the state grants itself monopoly rights over use of the carbon dump, by requiring polluters to hold permits. Where it auctions these permits the state captures the carbon rent, and where it gives them away it effectively hands this rent over for nothing—in both cases at the expense of those

47 Marx *Capital*, volume 1, p. 126.

48 Marx *Capital*, volume 1, pp. 128-129.

49 Karl Marx *Capital*, volume 3, Foreign Languages Publishing House, Moscow, 1959 [1894], p. 728.

50 Marx *Capital*, volume 1, p. 131.

who have to pay higher prices. As an analytical category, the concept of monopoly rent has the advantage that the representation of nature as a set of commodities is not essentialised in an ahistorical form. Rather, the commodification of purely natural use-value is entirely contingent upon the construction of exclusions around it. This implies that the ‘objective’ lack of space in the carbon dump in no sense means that sufficient exclusions will be created to prevent it ‘filling up’. The purely economic logic behind emissions trading is one of constructing exclusions to capture value in other spheres, not keeping the Earth’s average surface temperature within certain bounds. Although a genuinely environmental/political logic is also at play, the concept of a carbon rent does not presume that this is a process of driving prices towards their ‘right’ level—unlike approaches which presume the existence of an underlying, ‘true’ scarcity price.

Monopoly rents do not create new value but this does not mean that they cannot have a substantial effect upon the capitalist economy. Armed with this conceptualisation, it is now possible to clarify the sense in which it *is* correct to say that emissions trading can be explained as part of the state’s role to promote the process of capital accumulation. As we have seen, if permits are not auctioned, emissions trading grants polluters access to a new form of rent. This is extracted from all sectors of the economy, including real wages, through the mechanism of higher prices. Overall, it therefore increases the surplus accruing to capital, without actually expanding the total value created. The taxation system can work in a similar fashion. A new or higher tax extracts surplus value from bosses and/or workers, depending on the nature of the tax, and places it into the hands of the state.

If the allocation of permits is based on genuinely *historical* emissions (and permit hand-outs are not given to new polluters, or in excess of historical emissions, as they have been under the EU ETS),⁵¹ or if permits are auctioned, the price for carbon serves to make less polluting capital relatively more competitive. If this effect is large enough to actually force the closure of some polluting forms of production, while promoting the construction of others, this will have some effect on the rate of profit and total value produced: but whether these dynamic effects are beneficial to capital as a whole is a complex question, which cannot be answered by simply pointing to the fact that a new market has been created, as Matthews and Paterson do.

While the climate change issue is no doubt providing much of the purely *political* force behind the establishment of emissions trading, this analysis has demonstrated that such schemes cannot be considered a victory for the environment over and against the interests of capital. Rather, emissions trading is ‘capital friendly’ in that it creates a carbon rent collected from those who consume carbon intensive goods and services, effectively reducing real incomes of workers. This carbon rent could conceivably have the opposite effect on average if it were allocated equally or progressively to each citizen under a ‘cap and share’ scheme. But not only is such an outcome incredibly unlikely, it would still leave

51 Neuhoﬀ ‘Implications of announced Phase II national allocation plans for the EU ETS’, p. 413.

those workers who have little choice but to consume higher quantities of carbon intensive goods effectively paying to clean up the mess capitalism has created.

Moreover, such proposals effectively function as distractions from the central issue: that existing proposals for emissions trading are a way of collecting money from workers to bailout polluters. Emissions trading is just an extension of the trend towards ‘user pays’ which has formed an important front in the class war from above which has been waged since the 1970s. Just as the ‘free market’ seems to mean that workers lose their houses while banks are given multi-billion dollar bailouts, free market environmentalism means workers are made to pay the ‘true carbon cost’ of the things they buy, while the owners of coal-fired power stations are handed millions of dollars in ‘compensation’ in exchange for years of making profits from environmental destruction.

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