

Diversified Climate Action: The Top-Down Failure and the Rise of Emissions Trading

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Abstract

This paper focuses on the diversified climate action the international community is currently witnessing. Besides examining possible reasons for the failure of the top-down approach to effectively halt rising emission levels, the development of bottom-up initiatives is discussed. In addition, this paper evaluates the European Union's emissions trading system (EU ETS) according to two criteria of justice, with a special focus on two characteristics of the EU ETS: grandfathering and offsetting. The final section of this paper addresses the rise of emissions trading systems and considers the claims made by prominent commentators who believe emissions trading to be inherently unethical. The paper concludes, first, that whether emissions trading is morally reprehensible depends on its design and, second, that the EU ETS fails to respect justice-based criteria and points to the unwillingness of EU leaders to mend a flawed climate policy tool.

Keywords: climate governance, top-down failure, bottom-up emergence, emissions trading ethics, EU ETS, grandfathering and offsetting

1. Introduction

In 2012, global greenhouse gas (GHG) emissions exceeded a 30% increase relative to 1990 levels¹ and on May 9th 2013 the Mauna Loa Observatory in Hawaii recorded a daily mean concentration of carbon dioxide in the atmosphere surpassing the climate milestone of 400 parts per million (ppm).² 350 to 450 ppm are deemed to be critical thresholds that can possibly trigger *runaway* climate change.³

The Conference of Parties of The United Nations Framework Convention on Climate Change (UNFCCC) have pledged to decrease global emissions ‘so as to hold the increase in global temperature below 2°C’ above pre-industrial levels, in order to prevent ‘dangerous anthropogenic interference with the climate system’.⁴ The Intergovernmental Panel on Climate Change (IPCC) has estimated that, to prevent a 2°C rise, emissions would have to be reduced by 50–85%, relative to 1990 levels, by 2050.⁵ The prevention of a 2°C rise is also mentioned in the EU’s climate policy. The EU has pledged to increase the share of renewable energy by 20% by 2020, to reduce emissions levels by 20% by 2020, and by 50% by 2050, relative to 1990 levels.⁶ It has also considered moving from the 20% emissions reduction target to a 30% target, provided that other industrialized countries commit themselves to comparable emissions reductions and that the more advanced developing countries contribute adequately according to their responsibilities and respective capabilities.⁷

The IPCC’s Fourth Assessment Report (AR4) assessed six scenarios of future GHG emissions that do not take into account any specific policies to reduce emissions. Currently GHG emissions remain on track to meet the IPCC’s most fossil fuel intensive GHG emissions scenario, which would constitute a 4°C temperature rise by 2100.⁸

While global leaders have delayed negotiations on the successor of the Kyoto Protocol (KP) to 2015, with it to come into effect no sooner than 2020 (UNFCCC 2011), research indicates that, in order to have a reasonable chance of limiting global warming to 2°C, global emissions would have to peak and decline before the end of the present decade.⁹ Although a temporary successor, entitled the Kyoto Protocol Second Commitment Period (KPII), was installed, it is argued that the effort is futile in view of the 2015 negotiations. Because the KPII omits the US and Canada and demands no binding reduction pledges from the emerging

¹ UNEP, “The Emissions Gap Report 2012,” p. 10.

² Tans and Keeling, “Trends in Atmospheric Carbon Dioxide,” (2013).

³ Hansen, *The Storms of My Grandchildren* (London: Bloomsbury Publishing, 2009); Rockström et al., “A safe operating space for humanity,” (2009); Helm, “The Kyoto approach has failed,” (2012).

⁴ UNFCCC, “Report of the Conference of the Parties on its fifteenth session, held in Copenhagen from 7 to 19 December 2009, Addendum, Part Two: Action taken by the Conference of the Parties at its fifteenth session,” (2009), p. 5.

⁵ Gupta et al., “Policies, Instruments and Co-operative Arrangements,” *Climate Change 2007: Mitigation of Climate Change, Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by B. Metz et al. (UK and US: Cambridge University Press, 2007), pp. 746-807, at p. 775.

⁶ European Commission, “Combating climate change: The EU leads the way,” (Brussels, 2007); European Commission, “Analysis of options beyond 20% GHG emission reductions: Member State results,” (Brussels, 2012b).

⁷ *Ibid.*, p. 4.

⁸ Betts et al., “When could global warming reach 4°C?” (2011), p. 82; Le Quéré et al., “Trends in the sources and sinks of carbon dioxide,” (2009), p. 831; Peters et al., “The challenge to keep global warming below 2°C,” (2013), p. 5.

⁹ Arnell et al., “A global assessment of the effects of climate policy on the impacts of climate change,” (2013), p. 2; den Elzen et al., “Reduction targets and abatement costs of developing countries resulting from global and developed countries’ reduction targets in 2050,” (2013), p. 496; Rogelj et al., “2020 emissions levels required to limit warming to below 2°C,” (2012), p. 7.

economies such as China, Brazil and India, the countries under the KPII now account for less than 15% of global emissions.¹⁰ Even more worrisome is that at the latest meeting of the Major Economies Forum on Energy and Climate (MEF), the Chair's summary stated that 'some considered it would not be feasible to complete the process by 2015'.¹¹ Postponing new efforts to curb GHGs will result in lower short-term costs but higher overall costs and steeper reduction pathways will be required to limit warming to below 2°C.¹² Rogelj and colleagues¹³ observe that, despite all the uncertainty regarding the geophysical, social and technological aspects of the climate problem, the dominant factor affecting the likelihood and costs of achieving the 2°C objective is related to politics.

Whereas the politics that have to be agreed upon assume collective action, humanity is utterly divided in terms of wealth, health, living standards, education, and well-being.¹⁴ Of particular relevance in this regard is the inequity inherent to climate change: although the poorest of the world are only responsible for a small part of the emissions that contribute to climate change, they will suffer most of the consequences.¹⁵

In this paper we address the failure of the top-down approach to effectively halt rising emission levels and discuss the emergence of bottom-up initiatives. Furthermore, in light of the development of emissions trading (ET) systems that are being deployed around the world we focus on the largest ET system currently in place, the EU ETS, and evaluate it according to two criteria of justice, namely effectiveness and fairness on the distribution of mitigation burdens.¹⁶ In the penultimate section we scrutinize the claims made by prominent commentators who deem ET to be inherently unethical.

2. Climate Policy: the top-down failure and bottom-up emergence

According to various commentators, it is clear that the top-down approach (i.e. a supranational institution mandating action by individual countries) has failed.¹⁷ Without attempting to be exhaustive, let us consider three reasons for the failure. First, in promoting a consensus-driven path, the pledges made under the KP have respected the stance of the least-ambitious parties, while discussions have focused on 'binding-or-nothing' targets.¹⁸ It is argued that the KP 'tried to do too much', by introducing global markets from the top down, 'especially in the absence of binding legal frameworks to enforce contracts among parties who are not bound by other ties'.¹⁹ By doing so, the KP closed the path to the alternative approaches that were being pursued before it came into place.²⁰

Second, climate change is a multilevel governance problem. National leaders have ignored this insight for too long and now find themselves exposed to a growing number of cross-border interests and coalitions,²¹ and fragmented and blurred roles of state and non-state actors.²² Under the KP, the developing countries with emerging economies (Brazil, India, China, South-Africa) are listed in the non-Annex B list. As such, they have made no binding pledges to reduce emission levels. Although most of the industrialized world is unwilling to

¹⁰ Grubb, "Doha's Dawn?" (2013), p. 282.

¹¹ King, "UN climate change deal 'may not be feasible' by 2015," (2013).

¹² UNEP, "The Emissions Gap Report 2012," p. 28.

¹³ Rogelj et al., "Probabilistic cost estimates for climate change mitigation," (2013), p. 80.

¹⁴ Biermann, "Planetary boundaries and earth system governance - Exploring the links," (2012), p. 6.

¹⁵ Costello et al., "Managing the health effects of climate change," (2009), p. 1694.

¹⁶ Caney, "Markets, morality and climate change" (2010a).

¹⁷ Prins and Rayner, "Time to ditch Kyoto," (2007); Victor, "Plan B for Copenhagen," (2009); Diringer, "Letting go of Kyoto," (2011).

¹⁸ Ibid. p. 291; Prins and Rayner, "Time to ditch Kyoto," (2007), pp. 974-975.

¹⁹ Ibid., p. 974

²⁰ Ibid.

²¹ Andonova et al., "Transnational climate governance," (2009).

²² Bulkeley and Newell, *Governing climate change* (London: Routledge, 2010).

one-sidedly assume binding targets, developing countries insist on precisely that.²³ Nevertheless, the emission levels from the emerging economies together with the rest of the non-OECD countries will top those of the industrialized countries in the third decade of this century.²⁴ Third, the poor results achieved by the top-down approach are a consequence of the fact that existing multinational institutions are simply not designed for, and did not evolve in response to, global environmental problems. These environmental problems transcend both the lifespans of many generations and the conventional international reciprocal ties that countries know today.²⁵

In contrast to the top-down failure, the development of bottom-up initiatives is beginning to take shape. Cross-national projects are emerging which focus on subnational, regional or urban mitigation and adaptation initiatives. For example, the Covenant of Mayors joins together over 4000 signatories and aims to exceed the EU's 20% reduction target, with targets ranging from 20 to 45%.²⁶ Another example is the C40 group, which involves major cities around the world sharing experience in areas such as waste management, water supply, food and urban agriculture, climate adaptation, and so on.²⁷ We deem these initiatives to be crucial, since they promote learning-by-doing, build 'coalitions of the willing', break up complex problems into more manageable elements, disseminate knowledge, showcase best practices, and contribute to policy learning. We think that these initiatives are essential to help build domestic support for climate policies, as the lack of such domestic support will fatally undermine future action and international commitments.

Besides these initiatives a number of countries²⁸ are voluntarily deploying ET systems.²⁹ Although these initiatives differ from one another in reduction targets and the sectors they cover, they have looked to the largest ET system in effect, the European Union Emissions Trading System (EU ETS), as a model for their own ET systems. Nevertheless, ET is heavily contested and is considered to be morally reprehensible. We argue that whether ET is morally defensible depends not only on (1) the variant of ET being implemented, but also on (2) the extent to which a particular ET system is an effective climate policy tool and (3) the extent to which it respects justice-based criteria. The two latter conditions correspond to two criteria of justice put forward by Caney.³⁰ The second condition relates to the question whether the policy actually lowers emissions. Formulated as such, it might be regarded as merely a matter of effectiveness, not one of justice. However, anthropogenic climate change threatens several key human rights.³¹ Any policy that does not sufficiently lower emission levels will not manage to avoid harm caused by the devastating consequences of climate change. Hence, while such a policy may be ineffective it will also, to this extent, be unjust from the perspective of entitlement-bearer justice.³² The third condition relates to the fair burden distribution of burdens or mitigation costs (i.e. duty-bearer justice). In the following section, we shall introduce the EU ETS and evaluate it according to these criteria of justice. We will return to the first condition – the variant of the ET being implemented – in the fourth section.

²³ Diringer, "Letting go of Kyoto," (2011), p. 291.

²⁴ van Vuuren et al., "Comparison of different climate regimes" (2009).

²⁵ Jamieson, "Ethics, public policy, and global warming," *Climate ethics, essential readings*, edited by S.M. Gardiner et al. (New York: Oxford University Press, 2010), pp. 77-86.

²⁶ CoM, *Covenant of Mayors*, (Brussels 2008).

²⁷ C40, *Climate action in Major Cities: C40 cities baseline and opportunities*, (2011).

²⁸ Emissions trading systems are being, or have been deployed in the EU, Australia, California, RGGI (nine US states and two Canadian provinces), New Zealand, Quebec, Alberta, Mexico, China, Brazil, South Korea, Kazakhstan, UK, Norway, Switzerland, Tokyo, Japan, and India.

²⁹ EDF, "Emissions Trading System Comparison Table," (2013).

³⁰ Caney, "Markets, morality and climate change," (2010a).

³¹ see for example Caney, "Climate change, human rights, and moral thresholds," *Climate ethics, essential readings*, edited by S.M. Gardiner et al. (New York: Oxford University Press, 2010b), pp. 163-173.

³² Caney, "Markets, morality and climate change," (2010a)

3. The EU ETS

The European Union Emissions Trading System (EU ETS) is the centrepiece of the EU's climate policy. Established in 2003, put into operation in 2005, and to be implemented over 15 years in three phases, the EU ETS aims to reduce emissions, relative to 1990 levels, by 80% by 2050 by an annual reduction of 1.74%.³³ Through the ETS, the EU aims to reduce its emissions by 20% by 2020.³⁴

The EU ETS is a cap-and-trade market-based mechanism, which implies that the EU places a cap on emissions, creates emissions allowances in correspondence with the cap, and distributes those allowances to the users mandated to comply with the cap.³⁵ Through the imposition of a carbon price the EU ETS aims to incentivize emission reductions as well as the development and acquisition of renewable energy sources. To avoid competitiveness loss, or 'carbon leakage', on the international market or relocation of companies to regions outside its borders, the EU grandfathered, or handed out cost free, allowances equivalent to the emissions of the corporations in the sectors covered. Corporations in need of further allowances are allowed to buy from other companies that have not used theirs, or they can offset their surplus by obtaining additional emission credits via investment in abatement and adaptation initiatives in other countries through the KP's Clean Development Mechanism (CDM).³⁶

In 2009, the EU pledged to auction emission allowances as of 2013, thus creating revenues that could be spent on tackling climate change or on developing and supporting adaptation initiatives in the EU and developing countries.³⁷ In the (current) third phase, at least 50% of the allowances are to be sold by auction instead of being grandfathered, a phase out of grandfathering should result in 30% cost-free allocation by 2020, and by 2027 a full auctioning of all allowances should be put in place.³⁸ From 2013 onwards, the EU ETS is supposed to cover around half of the GHG emissions in the EU.³⁹

3.1 Grandfathering

As mentioned, industries covered by the EU ETS received emission allowances free of charge at the start of the system, and a significant number of companies are still eligible for free allocation. However, during the initial phase of the EU ETS emissions data showed that the sum of emissions allowances was likely to exceed actual emissions.⁴⁰ Because of the initial overallocation of allowances, the possibility of banking allowances, the large amount of international (CDM) credits entering the market, and the reduced demand due to the economic crisis, a large number of surplus allowances remain on the carbon market, to such an extent that yearly caps are rendered futile. As a consequence, low allowance prices have prevailed and it is estimated that the effects of the flooded market will be felt throughout the third phase and possibly afterwards.⁴¹

Moreover, grandfathering emission allowances is an unjust allocation method. Grandfathering is based on a benchmark year, or baseline, which is historically arbitrary since it takes no account of who has been responsible for the emissions, the conditionality of the

³³ European Parliament and the Council of the EU, "Directive 2003/87/EC," (2003).

³⁴ European Commission, "EU action against climate change. The EU Emissions Trading Scheme," (2009).

³⁵ McAllister, "The overallocation problem in cap-and-trade: moving toward stringency," (2009).

³⁶ European Commission, "EU action against climate change" (2009).

³⁷ European Parliament and the Council of the EU, "Directive 2009/29/EC," p. 71.

³⁸ European Commission "EU action against climate change" (2009); European Commission "The State of the carbon Market in 2012," (2012a).

³⁹ Ibid.

⁴⁰ McAllister, "The overallocation problem in cap-and-trade: moving toward stringency," (2009).

⁴¹ Ibid.; Morris, "Drifting Towards Disaster?" (2013).

emissions, or the mitigation efforts made by first-movers.⁴² In addition, as Vanderheiden argues, grandfathering violates the ideals of equity and responsibility that are expressed within the KP.⁴³ Grandfathering thus ignores both the ‘polluter pays’ principle and the ‘ability-to-pay’ principle.⁴⁴

From these critiques, it should be clear that the grandfathering principle violates the second – fair burden distribution – of Caney’s criteria of justice. Moreover, because of the overallocation and the possibility of banking allowances, the EU ETS might delay mitigation action and therefore may violate the first – effectiveness – criterion of justice as well. Although the EU ETS did manage to reduce emissions in its pilot phase⁴⁵ and in consecutive years, it is argued that the system might actually have driven *negative abatement*. Indeed, because of the reduced demand due to the economic crises and the flooding of the carbon market due to inexpensive CDM allowances, the EU ETS now risks cancelling out 700 million tonnes of emission reduction delivered by other policies within the EU climate package.⁴⁶

3.2 Offsetting

At least six objections have been made against offsetting (i.e. the emission reduction investments in developing countries for which the investors receive emission credits that can be used or traded as allowances). First, the credits that result from offsetting are only estimated – the developer of a project in a low-emitting country compares the estimated hypothetical baseline of existing emissions with the predicted emissions from the completed project. That is, carbon accountants calculate what the emission rates would have been if no investment had taken place. This process of determining the so-called ‘additionality’ of a project is highly questionable.⁴⁷ Furthermore, it is argued that the majority of international credits entering the EU ETS are environmentally questionable, with only 7% having no additionality concerns.⁴⁸ Second, offsets can account for, *inter alia*, planting trees, setting up wind farms, burning methane from landfills to generate electricity, and even investment in ‘new coal’ plants.⁴⁹ However, it is far from certain that these offsets are actually the ‘climatic equivalent’ of the surplus emissions of investors.⁵⁰

Third, offsetting can create the wrong kind of incentive for beneficiaries of the scheme: in order to receive investment from the North, third-world countries could benefit from emitting vast amounts of GHGs because the more they emit the more emissions are eligible for mitigation project investment.⁵¹ Fourth, when participation in mitigation efforts is broadened so as to include non-OECD countries, the future generations of these countries will find themselves trying to buy back, at a much higher price, the allowances that they have, inexpensively, sold only ‘yesterday’ to Annex B countries or corporations under the EU ETS.⁵² Fifth, one of the two core objectives of the CDM states that the flexibility mechanism

⁴² Caney, “Justice and the distribution of greenhouse gas emission,” (2009).

⁴³ Vanderheiden, *Atmospheric Justice* (New York: Oxford University Press, 2008), p. 238.

⁴⁴ Bührs, “Sharing the atmosphere,” (2010).

⁴⁵ Anderson and Di Maria, “Abatement and allocation in the pilot phase of the EU ETS,” (2011).

⁴⁶ Morris, “Drifting Towards Disaster?” (2013), p. 11.

⁴⁷ Haya, “Measuring emissions against an alternative future: Fundamental flaws in the structure of the Kyoto Protocol’s Clean Development Mechanism,” (2009); Schneider, “Is the CDM fulfilling its environmental and sustainable development objectives? An evaluation of the CDM and options for improvement,” (2007).

⁴⁸ Morris, “Drifting Towards Disaster?” (2013), p. 11.

⁴⁹ Lazarus and Chandler, “Coal power in the CDM: Issues and options, Executive Summary,” (2011).

⁵⁰ Hansen, *The Storms of My Grandchildren*, p. 206.

⁵¹ Hansen, *The Storms of My Grandchildren*, p. 183; Caney, “Markets, morality and climate change,” (2010a).

⁵² Agarwal, “A southern perspective on curbing global climate change,” *Climate change policy: A survey*, edited by S. Schneider et al. (Washington, DC: Island Press, 2002), pp. 373-391.

is to help the developing countries reach sustainable development. Although the literature concerning sustainable development deems its social dimension to include poverty alleviation,⁵³ research shows that CDM projects are rarely found amongst the poorest (with less than 2% in sub-Saharan Africa) and 71% of the credits obtained through the CDM are not found in the poorest countries, but are instead found in the rising economic powers.⁵⁴ The CDM's contribution to poverty reduction thus appears to be limited.⁵⁵

Sixth, because of the amount of offsets being surrendered by a number of EU Member States to comply with mitigation targets, these international credits may well be the largest contributor to some Member States' reductions. This would constitute a clear breach of the Kyoto Protocol's supplementarity rule, which states that international offsetting credits are supposed to be 'supplemental to domestic actions'.⁵⁶ From these critiques it should be clear that offsetting could severely postpone emission reduction efforts. Hence, it violates the first – effectiveness – criterion of justice. Furthermore, with CDM projects rarely found amongst the poorest states, and with EU Member states violating the KP supplementarity rule, offsetting breaches the second – fair burden distribution – criterion of justice as well.

In sum, the EU ETS does not meet the criteria of entitlement-bearer or duty-bearer justice. Consequently, we cannot but conclude that the market mechanism, in its current state, is an unjust climate policy tool. In the following section, we will return to the first issue mentioned above: whether ET is morally reprehensible is dependent on the variant of ET being implemented. Summarizing the key arguments of the debate, we will critically reflect upon the ethics involved in ET.

4. Emissions trading and ethics

In this section we shall address some of the fundamental objections to ET that have been put forward in the debate. The criticisms of ET can be divided into two groups: commodity-centred objections; and person-centred objections.⁵⁷

4.1 *A priori objections to emissions trading: commodity-centred objections*

The commodity-centred objections share a rejection of private ownership of the atmosphere (which the buying of allowances would allegedly result in), but a differentiation can be made between the non-ownership argument and the price/dignity argument. First, the non-ownership argument argues that since the absorptive capacity of the atmosphere is a common good, it cannot be owned by a single agent. ET thus creates false commodities, since an emission allowance does not possess all the properties of a legitimate commodity.⁵⁸ Hence, trading emission allowances is an illegitimate practice in which we are selling/owning that what is not ours to sell/own.⁵⁹ Should we choose to damage the property we buy, we would be despoiling a good upon which the interests of future generations depend. Furthermore, as stewards of the natural world, we have clear responsibilities towards nature or towards future generations and their interests in the natural environment. Therefore, by selling environmental

⁵³ Olsen, "The clean development mechanism's contribution to sustainable development: a review of the literature," (2007).

⁵⁴ Bulkeley and Newell, *Governing climate change*, p. 44.

⁵⁵ See for example Crowe, "The potential of the CDM to deliver pro-poor benefits," (2013).

⁵⁶ UN, "Kyoto Protocol to the United Nations framework convention on climate change," (1998), p. 15; Morris, "Drifting Towards Disaster?" (2013), p. 12.

⁵⁷ Caney, "Markets, morality and climate change," (2010a), p. 203.

⁵⁸ Page, "Cosmopolitanism, climate change, and greenhouse emissions trading," (2011), pp. 58-9.

⁵⁹ Goodin, "Selling Environmental Indulgences," *Climate ethics, essential readings*, edited by S. M. Gardiner et al. (New York: Oxford University Press; 2010), pp. 232-246, at pp. 234-5.

‘indulgences’, stewards would be permitting the destruction of the good they have a duty to protect.⁶⁰ Since being allowed to emit a certain level of GHGs is literally of vital importance, the objection to ET here is not that the impermissible is permitted, but rather that the unsellable is sold.⁶¹

However, it has been observed that the non-ownership argument overlooks the difference between ‘property rights’ and ‘user rights’.⁶² Rather than *owning* the asset, an allowance buyer only has a right to *use* it. The temporary nature of both the allowance and the good covered by the allowance, and the fact that not the use but the overuse of the common resource is priced, imply that no acquisition of property is involved.⁶³ By definition, a user right implies the use of the good and hence a user does not have the right to destroy the good in question.⁶⁴ The only good that the buyer of allowances can destroy is the allowance itself, yet doing so would decrease the supply of allowances and accelerate the protection of the underlying asset.⁶⁵ Since allowance holders are not private owners, and thus have no right to destroy the asset underlying the allowance, those who advocate stewardship responsibility can perfectly endorse ET as a means to protect the natural world in the interest of future generations since ET simultaneously enables and limits the use of a common resource.⁶⁶ That is precisely what ET seeks to achieve through the imposition of a cap and where alternatives to cap-and-trade fail to meet the requirements that intergenerational justice demands.⁶⁷

Second, the price/dignity-argument states that ET employs a price mechanism to determine what has value. However, since nature has intrinsic value it cannot be captured by monetary estimates. Treating it as if it is equivalent to other goods disrespects its intrinsic value and would result in valuing nature instrumentally.⁶⁸ However, as Caney argues, from a policy perspective, the market is merely an instrument to protect what has value and it does not entail a statement about why the natural world has value.⁶⁹ As noted by Page, agents can act in response to financial incentives to preserve the atmosphere while also valuing nature intrinsically.⁷⁰ The price mechanism then becomes a vehicle of an agent’s expression of her intrinsic regard for a good and not its denunciation.⁷¹ In other words, to put a price on the right to use the atmosphere is not the same as putting a price on the preservation of the climate system.⁷²

4.2 *A priori objections to emissions trading: person-centred objections*

The person-centred objections can be divided into three: the crowding-out argument, the fine/fee argument, and the civic-responsibility argument. Concerning the crowding-out argument, it is argued that ET unintentionally dictates a hierarchy between two non-additive motivations; extrinsic motivations (e.g. the possibility of offsetting pollution) will crowd out

⁶⁰ Ibid., p. 234.

⁶¹ Ibid., p. 235.

⁶² Caney, “Markets, morality and climate change,” (2010a), p. 204.

⁶³ Ott and Sachs, “Ethical Aspects of Emissions Trading,” (2000), p. 14.

⁶⁴ Ibid., p. 14.

⁶⁵ Page, “Cosmopolitanism, climate change, and greenhouse emissions trading,” (2011), p. 62.

⁶⁶ Caney, “Markets, morality and climate change,” (2010a), p. 204; Caney and Hepburn, “Carbon trading: unethical, unjust and ineffective?” (2011), p. 212.

⁶⁷ Page, “Cosmopolitanism, climate change, and greenhouse emissions trading,” (2011), p. 55.

⁶⁸ Goodin, “Selling Environmental Indulgences,” p. 236; O’Neill, *Markets, Deliberation and Environment* (London: Routledge, 2007), pp. 5-7; Sandel, *What Money Can’t Buy, the Moral Limits of Markets* (United Kingdom: Allen Lane, 2012), p. 75.

⁶⁹ Caney, “Markets, morality and climate change” (2010a), p. 206; Caney and Hepburn, “Carbon trading: unethical, unjust and ineffective?” (2011), p. 220.

⁷⁰ Page, “Cosmopolitanism, climate change, and greenhouse emissions trading,” (2011), p. 62.

⁷¹ Walsh, “Are market norms and intrinsic valuation mutually exclusive,” (2001), p. 532.

⁷² Caney and Hepburn, “Carbon trading: unethical, unjust and ineffective?” (2011), p. 221.

intrinsic motivations (e.g. reducing one's carbon footprint).⁷³ In other words, financial motivations will predictably weaken the moral stigma of emitting greenhouse gases.⁷⁴ This crowding-out process, so it is argued, will give rise to a lower overall level of environmental protection and will corrupt public morals.⁷⁵ More specifically, Sandel warns that ET allows people to treat the fine to be paid as a fee to enable them to continue environmental destruction.⁷⁶ The economic theory behind ET holds that environmentally damaging behaviour can be made socially optimal as long as the correct price is paid. However, as Goodin claims, there is no independent justification of the particular price charged.⁷⁷ If ET does not result in the halting of environmental destruction, its proponents can insulate themselves by claiming that the price generated by the market was too low, or that the standards imposed were too meagre.

The proponents of ET refute the crowding-out argument. First, the claim that ET will crowd-out intrinsic motivation to protect the environment remains to be empirically supported. Furthermore, there is no guarantee that other mitigation incentives will not crowd out intrinsic motivations as well. The real question to be asked is: '*how much*, not *if*, a particular policy is vulnerable to the crowding-out effect'.⁷⁸ Moreover, many individuals, governments and businesses show little or no environmental concern, thus the question of the crowding-out effect might not be relevant since that which is not present can hardly be crowded out.⁷⁹ Viewed from this perspective, ET might instigate a crowding-in effect, since those who are mandated to comply with the emissions cap might not have mitigated their emissions without the policy tool. With regard to Sandel's fee/fine argument, Caney has argued that this argument holds sway when it involves the harm done by one individual. However, in the case of climate change harm results from a large number of individual actions. Whenever a particular person emits too many GHGs there is no wrong done if, as a result of the functioning of the ET system, another person emits less than the imposed quota.⁸⁰

According to a third person-centred objection, the civic responsibility argument, ET undermines the 'spirit of a shared sacrifice' that fighting climate change requires.⁸¹ Each agent, so it is argued, should bear a non-delegatable civic responsibility and partake in the collective sacrifice by personally lowering her own emissions, and should not pass the duty on to others as doing so would constitute immoral behaviour.⁸²

Whereas Sandel has stated that it is immoral to buy extra emission credits,⁸³ Caney⁸⁴ forcefully replies that claims about the alleged immorality of an action are claims about the ethical propriety of engaging in such an action; such claims do not show that ET is unjust.⁸⁵ Hence, although the civic responsibility argument represents a significant contribution to the discussion as to how people should behave, it does not contribute to a discussion regarding

⁷³ Frey, *Inspiring Economics* (United Kingdom: Edward Elgar, 2001), pp. 55-70; Goodin, "Selling Environmental Indulgences", p. 236.

⁷⁴ Page, "Cosmopolitanism, climate change, and greenhouse emissions trading," (2011), p. 50.

⁷⁵ Goodin, "Selling Environmental Indulgences," p. 236; Sandel, *What Money Can't Buy*, p. 78.

⁷⁶ *Ibid.*, p. 76.

⁷⁷ Goodin, "Selling Environmental Indulgences", p. 241.

⁷⁸ Page, "Cosmopolitanism, climate change, and greenhouse emissions trading," (2011), p. 52, emphasis in original.

⁷⁹ *Ibid.*

⁸⁰ Caney, "Markets, morality and climate change," (2010a), p. 209; Caney and Hepburn, "Carbon trading: unethical, unjust and ineffective?" (2011), p. 222.

⁸¹ Sandel, *What Money Can't Buy*, p. 75.

⁸² *Ibid.*; Sandel, "It's Immoral to Buy the Right to Pollute" (1997).

⁸³ *Ibid.*

⁸⁴ Caney, "Markets, morality and climate change," (2010a), p. 207.

⁸⁵ Claims about the ethical proprieties of ET are considerations on the type of activities that ET governs, while justice claims focus on the definition of the right holder and the distributive principle(s) ET should reflect.

the rights that people possess.⁸⁶ Furthermore, Sandel claims that ET violates the solidarity-based scheme in which we all lower our personal emissions rather than paying others to perform our duty in place. When an ET system involves citizens as allowance traders, it would enable them to act in a self-interested way when they should be acting in a public-spirited way in accordance with the background solidarity scheme.⁸⁷ However, this critique does not apply to the ‘upstream accounting’ variant of ET, which is only addressed at firms and businesses. Unlike individuals or citizens, firms and business are not bound by a background solidarity scheme.⁸⁸ Under the ‘upstream accounting’ approach, polluters – firms and businesses in sectors covered by the ET system – pay for auctioned permits to cover their emissions under a progressively tightening emissions cap.⁸⁹ The revenues from such auctioned permits could fund and incentivize the development and use of clean technology, compensate climate victims, support adaptation initiatives, etc.⁹⁰ However, it is noted that the market-based mechanism should also be complemented by regulatory measures so as to avoid market failure.⁹¹ Although Sandel’s argument is forceful with regard to some variants of ET, it cannot be said that, under the ‘upstream accounting’ variant of ET, individuals ‘can exempt themselves from a public service that others are bound by’⁹² nor do they violate the background solidarity scheme or disregard their duty of contributing to the shared sacrifice.

Hence, we can conclude that the critiques of the ET opponents are adequately addressed, and that the upstream accounting variant of ET in which emission allowances are auctioned is acceptable from a justice-based perspective.

5. Conclusion

In February 2013, a group of approximately 90 NGOs launched a joint declaration entitled ‘It is Time to Scrap the EU ETS’.⁹³ The NGOs claim that the EU ETS closes the door to other, genuinely effective climate policies.⁹⁴ However, this NGO consortium has neglected to propose an efficient and effective alternative that has sufficient political feasibility. Furthermore, stating that carbon markets are inherently flawed carries a risk, since the abandonment of carbon markets might well mean that no serious international abatement efforts whatsoever are undertaken.⁹⁵ Bearing in mind that, in order to limit global warming by 2°C, emissions would have to peak and decline before the end of the present decade,⁹⁶ and that global leaders have postponed binding treaties to 2020,⁹⁷ it seems highly unlikely that, should the EU ETS be abolished, a new climate policy tool would be put in place in time to avoid runaway climate change.

Although the European Commission had proposed six options for structural long-term reforms of the EU ETS, the European Parliament has accepted only a short term, temporary intervention of changed auctioning timetables, termed ‘backloading’, which was fiercely opposed.⁹⁸ Hence, it can be argued that because of the refusal by policymakers to structurally

⁸⁶ Ibid.

⁸⁷ Ibid., p. 208.

⁸⁸ Tickell, *Kyoto2: How to manage the global greenhouse* (London: Zed Books, 2008), pp. 90-2.

⁸⁹ Ibid.

⁹⁰ Caney, “Markets, morality and climate change,” (2010a), p. 209; see also Tickell, *Kyoto2*.

⁹¹ Ibid.; Caney, “Markets, morality and climate change,” (2010a).

⁹² Ibid., p. 208.

⁹³ Scrap the EU ETS, “It is time the EU scraps its carbon Emissions Trading System,” (2013a).

⁹⁴ Scrap the EU ETS, “Time to scrap the EU ETS-Declaration,” (2013b).

⁹⁵ MacKenzie, “Making things the same: Gases, emission rights and the politics of carbon markets,” (2009), p. 451.

⁹⁶ Rogelj et al., “2020 emissions levels required to limit warming to below 2°C,” (2012).

⁹⁷ UNFCCC, “Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its seventh session, held in Durban from 28 November to 11 December 2011, Addendum, Part Two: Action taken by the Conference of Parties at its seventeenth session,” (2011), p. 2.

⁹⁸ European Commission, 2013 “Climate Action Commissioner Connie Hedegaard welcomes the European Parliament’s positive vote on the carbon market “backloading” proposal,” (2013); Lewis and Chestney, “Parliament hesitates in

mend a flawed EU ETS, they have ensured the ineffectiveness of the system, and have allowed it to become an unjust climate policy. When policymakers are delegated the authority to set up a policy that will reduce emissions, avoid human rights violations related to climate change and thus reduce harm to future generations and the worst-off, but fail to do so, it can be argued that, *ceteris paribus*, those policymakers have acted unjustly.

In this paper, we have addressed the failure of the top-down approach and have situated the emergence of bottom-up initiatives. Subsequently, we argued that whether ET is morally defensible depends on (1) the variant of the ET being implemented, (2) the extent to which a particular ET system is an effective climate policy tool, and (3) the extent to which ET respects justice-based criteria. When evaluating the largest ET system currently in effect we conclude that the EU ETS fails to respect both the effectiveness criterion as well as the fair burden distribution criterion of justice. Of particular concern are the EU ETS's characteristics of grandfathering and offsetting. We have argued that EU ETS's most pressing problem is the unwillingness of EU leaders to restore the centrepiece of the otherwise commendable climate policy. This, in our view, means that those leaders are acting in a morally reprehensible manner. Furthermore, we focussed on the development of ET mechanisms and scrutinized claims about the alleged inherent unethicalness of these trading systems. After evaluating the arguments of both sides of the debate, we conclude that the upstream accounting variant of ET, in which emissions allowances are auctioned to firms and business, and revenues fund mitigation and adaptation initiatives, can be satisfactory from a justice perspective.

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