

Book Reviews

Climate Change Policy in the European Union: Confronting the Dilemmas of Mitigation and Adaptation?

Edited by Andrew Jordan, Dave Huitema, Harro van Asselt, Tim Rayner and Frans Berkhout

Cambridge: Cambridge University Press, 2010, 284 pp.,
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As the authors note in the preface to this notable book, climate change is shaping up to be one of the defining issues of this century. They are probably being modest in making this claim, for climate change might well become one of the defining issues in human history so far. If climate change mitigation policies are successful, humankind will have had to radically alter its developmental paths to make them sustainable. If, on the other hand, climate change mitigation fails and global average temperatures increase dramatically above pre-industrial levels, the world that will result will be an unimaginable one.

In designing, adopting, and implementing climate mitigation and adaptation policies, policy makers face extremely serious decision dilemmas, knowing in advance that any choice made—including avoiding making choices—will have very serious and long-lasting consequences which will affect different peoples in different ways. Moreover, since climate change is a particularly wicked problem, choices need to be made often in the dark as regards potential ramifications and impacts.

This timely book systematically explores the dilemmas that policymakers face in the context of climate change and how they confront them. In doing so, the book focuses on the European Union, where the debate on the governance of climate change has enjoyed the highest profile and has been the most vibrant. The EU is an important emitter of greenhouse gases, particularly from a historical perspective, and has proclaimed itself a leader in the global politics of climate change. Moreover, being composed of 27 member states at different stages of economic, social, and political development, it could be seen as a microcosm of the entire global climate change problematic.

Of course, one could also make the point that the EU is losing relevance in the international climate change negotiations, particularly after having being marginalized at the Copenhagen COP in December 2009. How the EU reconsiders and revises its strategy in the light of the changing geopolitical order will constitute a very interesting area for research in the years to come.

Be that as it may, the way the EU has handled climate-related dilemmas so far constitutes an important case study, given the breadth and depth of the legal and policy framework it has developed.

As one example of its leadership in climate change policy, the EU granted, under the Sixth Research Framework Programme, a large research project to a consortium comprising more than one hundred researchers. This project, called “Adaptation and Mitigation Strategies: Supporting European Climate Policy” (ADAM), had the objective of providing academic input to the development of EU climate change policy post-2012. The ADAM project has produced, over the three years of its duration, an impressive amount of academic literature spanning a large number of scientific disciplines, and has served to train a new generation of climate change researchers; in that sense it can be considered a success. The book under review here forms part of a series of four books¹ presenting the main findings of the ADAM project all published by Cambridge University Press.

In order to achieve their goal, the authors in *Climate Change Policy in the European Union: Confronting the Dilemmas of Mitigation and Adaptation?* have looked backwards in time in order to be able to project forwards. That is, they have studied the ways in which policymakers have grappled with the dilemmas of the past in order to provide insights and advice on the future evolution of EU climate-change policy. As will be explained below in more detail, it is this future-oriented aspect that constitutes the most interesting and useful aspect of the book.

The book is divided into five parts. Parts I and II provide the background for the research by discussing the policy-relevant institutional and regulatory complexities of the EU, the dilemmas that arise in climate-change policy, and the fundamental research questions that the book seeks to address. Part I consists of an introductory chapter, written by Andrew Jordan, Dave Huitema, and Harro van Asselt, setting out the plan of the book and the fundamental questions to be addressed. The second part begins with Chapter 2, written by Andrew Jordan, Dave Huitema, Tim Rayner, and Harro van Asselt, which develops in more detail the choices policymakers have to make and the dilemmas they face, as well as the different approaches to climate-change governance in the EU. Chapter 3 provides an overview of the evolution of EU climate-change policy. These two parts of the book are discussed jointly in the next paragraphs.

The book’s conceptual starting point rests on three key governance-related observations. First, the EU is both complex and emergent, “always in the process of becoming—its constitution, institutions and policy remit have not been reached, and may never reach, a stable equilibrium” (p. 14); in this unending road, the EU is shaped by formal as well as by informal features. Among the former, the editors count the nature of the EU as a liberalizing organization, its relatively

¹ The others being, Mike Hulme and Henry Neufeldt, eds., *Making Climate Change Work for Us: European Perspectives on Mitigation and Adaptation Strategies*, 2010; Frank Biermann, Philipp Pattbergh and Fariborg Zelli, eds., *Global Climate Governance Beyond 2010: Architecture, Agency and Adaptation*, 2010; Joyeeta Gupta and Nicolien van der Grijp, eds., *Mainstreaming Climate Change in Development Cooperation: Theory, Practice and Implications for the European Union*, 2010.

narrow range of formal policy powers, the enormous strength and reach of its legal system, the relatively limited access to financial resources, its relatively weak administrative capacities, the lack of a coherent “core executive”, and the fact that the EU is the only international organization featuring a parliament (although one that is very different to domestic parliaments). Among the relevant informal features are the several important norms and values that deeply inform the EU policymaking processes, such as economic and social cohesion, consensus, undifferentiated integration, subsidiarity, and negotiated enforcement.

Of course, the authors’ particular understanding of these norms is not beyond dispute. Their particular understanding of the “norm” of subsidiarity, discussed on page 43, is worth commenting on, given its likely continued relevance for EU climate policy. According to the authors, subsidiarity stipulates that policymaking should occur at the lowest effective level. This seems to create a rebuttable presumption in favour of leaving power to lower levels of government. However, the authors consider that what emerged from the subsidiarity debate within the EU in the 1980s and 1990s is a “particular interpretation of subsidiarity which places a much higher burden of proof on the EU to demonstrate that action within its sphere of authority is more effective, than on states to justify the benefits of the status quo” (p. 43). Needless to say, this understanding of subsidiarity is very controversial, and many commentators hold exactly the opposite position—maintaining that subsidiarity in the EU systematically favours shifting competences away from member states to the EU.² At the heart of the debate lies the question of which interests are to be promoted. If it is those of the member states, then subsidiarity will tend to locate power within member states; if, on the other hand, the ends to be promoted are those of the EU, then the power will generally belong to the EU. And according to Gareth Davies, the norm of subsidiarity in the EC Treaty seems essentially geared to further the objectives of the Community, not those of member states. In any case, we should note that, in relation to climate change, both the EU and its member states share common aims, at least in relation to mitigation, and therefore the issue of allocation of powers will not be as conflict-ridden as in relation to other areas of environmental policy. Moreover, the authors not only recognize the tensions associated with subsidiarity, but also aim to go beyond the traditional discussion—generally conducted in rather polar terms—by showing that EU climate-change policy is actually multileveled and strongly influenced by both international and domestic policies.

Second, policymakers need to make choices under extreme time pressures involving values that are often non-commensurate with each other and at other times may be mutually conflicting. Indeed, this shows that difficult governance dilemmas are unavoidable and straightforward answers do not exist. Useful lessons can be extracted from this insight. One lesson might be for academics to invest a greater effort in better understanding the entire gamut of factors shaping decision-making processes, rather than limiting themselves—as is sometimes the case—to providing ready-made recommendations generated through simple (but unrealistic) theories, and then using them to normatively assess policy outcomes.

² Gareth Davies, *Subsidiarity: The Wrong Idea, In the Wrong Place, At the Wrong Time*, 43 *Common Market Law Review* 63-84 (2006).

The choices policymakers need to make, and the associated dilemmas, are grouped by the editors in six categories:

- 1) The choice of what problem to address—governing bodies must first identify a problem before addressing it, and this is not a straightforward matter (leading to problem-perception and framing dilemmas);
- 2) The choice of level at which to act (leading to level and scale dilemmas);
- 3) The choice of when and in what sequence to act (leading to time and sequencing dilemmas);
- 4) The choice of how to act (leading to mode and instrument dilemmas);
- 5) The choice of who wins and who loses (leading to distributional dilemmas);
- 6) The choice of how to deliver policy results (leading to implementation and enforcement dilemmas).

The third key starting point is that all these choices need to be confronted by the EU *in the form in which it exists*, that is, as a leaderless system of governance-without-government, often unable to achieve and maintain a unified position at the international level, and sometimes acting in a hypocritical manner, as when it strongly advocated individual, absolute, targets for developed countries within the Kyoto negotiations, only to redistribute its own target later among its member states.

The way of structuring the problem of climate-change governance just outlined is used in Part III of the book to assess choices made in four prominent areas of EU climate-change policy: the emissions trading scheme, the mechanisms to promote renewable energy, the burden-sharing agreement among member states, and adaptation policy. By applying the same analytical framework to assess all these areas, the book provides a robust structure and ensures methodological harmony across all chapters, if possibly at the risk of causing some fatigue among the readers.

In Chapter 4, Constanze Haug and Andrew Jordan focus on the burden-sharing agreement that was negotiated by member states in order to distribute the EU target under the Kyoto Protocol, as well as on the new “effort-sharing agreement” adopted by the EU unilaterally for the period 2012 to 2020. Their analysis shows that burden-sharing has become established as a fundamental governing principle in the EU, although it could over time be replaced by a more market-based approach as the EU ETS expands. The authors also consider that, as mitigation becomes more expensive, other criteria of distributive justice, such as mitigation potentials and estimated costs, might have to be incorporated into the formula currently used, which relies to a large extent on the distribution of wealth among member states. The authors suggest that burden-sharing might also be extended to cover adaptation, although they do not expand on how this could be done.

Haug and Jordan’s valuable chapter contains what would appear to be a (minor) factual mistake. On p. 95 they write that “even if it is blatantly obvious that a Member State will overshoot its target, the Commission can only take action after 2010. By then, the EU-15 would be guilty of non-compliance under the Kyoto Protocol”. In fact, the EU would only be guilty of non-compliance if the EU-15 *as a whole* fails to meet its target under the Protocol. As long as this

is not the case, the fact that one or more member states fail their targets will have an effect only under EU law, not under international law. Moreover, the authors do not discuss the availability of measures that the EU could employ to avoid non-compliance with its overall Kyoto target, such as asking member states which have reduced their emissions below their Kyoto targets to assign their excess AAUs to the EU.

In Chapter 5, Roger Hildingsson, Johannes Stripple, and Andrew Jordan examine the evolution of the EU policy framework for the promotion of renewable energy. Their analysis shows well the complexities of a policy field in which a large number of interests need to be carefully balanced. These span climate change, security of supply, employment, and internal-market considerations. The authors rightly conclude that deploying the amount of renewable sources of energy needed to comply with 2020 targets will require substantial policy and institutional reforms at the national and EU levels, and therefore will continue to provoke acute governance dilemmas. Given that many consider that reaching the 2020 targets is well-nigh impossible, the author's conclusion is carefully balanced. Perhaps missing in this chapter is sufficient attention to the enormously contested issue of biofuels, which raises many policy dilemmas of its own.

In Chapter 6, Harro van Asselt explores the historical evolution of the emissions trading instrument within the EU by usefully rehearsing and synthesizing a large amount of literature. The chapter seeks, on the one hand, to explain the role of policy processes in shaping "textbook" ideals, and on the other to identify future dilemmas, among which the author correctly counts the distribution of competences between the EU and member states and the distribution of costs and benefits among member states and among covered installations. This chapter makes no mention of the dilemmas created by the recent inclusion of the aviation sector into the EU ETS, and by the more than likely introduction of the shipping sector therein. Indeed, from 2012 onwards, the EU ETS will cover emissions from all flights departing from and arriving at an airport located within the territory of the EU, and this has given rise to complaints about the possible extraterritoriality of that measure, adopted in the absence of international agreement at the ICAO on how to deal with those emissions. A similar scenario would arise if the shipping sector were to be included in the EU ETS. But of course, this can be explained by the fact that, as the editors make clear in Part I, the book is confined to the internal aspects of EU climate policy, while touching only lightly upon the international dimension.

In Chapter 7, Tim Rayner and Andrew Jordan explore the EU's attempts to develop a coherent policy on adaptation to climate change, which so far is lacking. They compare adaptation and mitigation policies in order to explain why the EU approach to each has been so different, and conclude that the EU will need to integrate them more thoroughly than is currently the case, in order to exploit potential synergies and to reconcile both policies with other policy goals, such as subsidiarity and global competitiveness.

In Chapter 8, Eric Massey and colleagues explore the implications of the emerging EU adaptation policy in the water sector, and ask the important question whether mainstreaming adaptation into EU water policy will suffice to confront the challenges brought on by climate change. Their

answer is that this will depend on whether certain weaknesses in the EU's Water Framework Directive, and the soft style of governance currently pursued thereunder, are properly addressed.

In the last chapter of Part III, the editors synthesize the main findings gathered from their analysis of the evolution of EU climate-change policy, and by so doing set the stage for the last part of the book, which is thoroughly future oriented. In general, the analysis made in this third part of the book is both accurate and illuminating, although on a couple of occasions it does not go as deep as this reviewer would have liked. Of course, the fact that EU climate-change policy is developing with such extraordinary rapidity means that it is almost impossible to keep abreast of it. However, this is not a problem that particularly afflicts this book, given its robust conceptual framework and its strong focus on the future of EU policy. In fact, this book is more forward-looking than any other book this reviewer has seen in the area of climate-change policy.

Part IV of the book constitutes a rather fascinating exercise in futurology in the context of climate-change policy. Moreover, from a methodological perspective it is the most challenging to produce, involving as it does the development of policy scenarios and the undertaking of a policy exercise, which this reviewer had the privilege of attending.

In fact, it is at this point that the book really challenges the reader to think about the past, present, and future of EU (and international) dilemmas related to climate-change policy. Chapter 10, by Frans Berkhout and colleagues, is mainly a background chapter, discussing the "methods to explore the key choices and dilemmas that may emerge in the EU under diverging international frameworks and policy objectives with regard to climate change" (p. 213). It starts off by discussing the role of scenarios in exploring the future, both in the context of policy research generally and climate-change research particularly. It then develops a scenario approach to understanding how climate policies could evolve over the longer term (2020-2040), and the choices and dilemmas they might pose to policymakers. The goal is to develop alternative future worlds (which are internally consistent), so that it becomes possible to test the robustness of EU climate policies against different future scenarios, and to generate policy recommendations. The authors consider that future EU climate-change policy will be mainly shaped by two variables: the political objective of climate policy (mitigation and/or adaptation), and the degree of political coordination around it. The combination of these variables generates four possible climate-policy worlds: coordinated mitigation; autonomous mitigation; coordinated adaptation; and autonomous adaptation.

Although the authors take care that the four scenarios are based upon internally consistent assumptions, it is not clear whether they are consistent *in relation to each other*. To take an example, how likely is it that a world that is not capable of agreeing upon a coordinated mitigation strategy will manage instead to achieve agreement upon a coordinated adaptation strategy? It would seem more likely that, in such a world, mistrust and frustration will lead states to seek to protect themselves unilaterally or through bilateral or (restricted) multilateral agreements against the impacts of climate change. In assessing this point, it is important to consider that, if mitigation policies fail to substantially reduce global emissions, some of the consequences of

climate change might well include large interstate and even intercontinental migrations, which may well increase tensions among states and make cooperation even more difficult. On the other hand, the two scenarios just discussed could be rendered consistent if climate change turns out to generate milder impacts than initially foreseen, so that the rational strategy becomes one of adapting to relatively mild impacts rather than drastically reducing emissions.

In order to explore these scenarios, the authors selected and interviewed fifty-four EU policymakers, policy advisors, researchers, members of think tanks, and NGO and business representatives. The interviewees were presented with the four worlds and asked to elaborate their potential implications for current and future policy strategies. In addition, in a separate policy exercise, a different group of people was brought together to simulate future negotiations on burden-sharing within the EU. The objective was, on the one hand, to reflect upon future dilemmas that can arise in climate-change policy and consider whether they are similar to current dilemmas; and, on the other hand, to consider whether today's policies and institutions are well prepared to handle those dilemmas. Chapter 11, by Johannes Stripple and colleagues, summarizes the findings from these exercises.

A fascinating insight relates to the impact that different future worlds might have upon the functioning and rationale of the EU itself. Whereas under a coordinated mitigation approach the role of the EU is expected to increase, under more autonomous mitigation or adaptation scenarios the importance of the EU might decline sharply. Of course, the question could be asked how could these future scenarios affect the role of the EU in climate-change policy when one takes into account the broader context of EU policy-making, given that climate change is not the only challenge the EU faces, and Community action has to be understood within the broader picture. What seems clear is that less coordination at the international level, in the context of climate change, would be more likely in a world that is also not coordinated in other areas, and that in that event, EU climate policy might have to be totally reframed in order to maintain its salience, for instance by focusing on protecting the competitiveness of EU industry (p. 234), and perhaps also maintaining security of energy supply.

Next, the chapter applies the analytical framework comprising the six aforementioned categories of dilemmas to explore how they would be dealt with under each of the scenarios. The crucial policy question of which scenario is more likely to occur is left open. Nevertheless, the approach taken is very useful because it serves to test the robustness of current EU climate-related policies. And the finding is that current EU climate policy “appears quite robust, so long as policies retain some flexibility and governors are sensitive to the need to remain adaptive” (p. 246). However, the authors also conclude that the EU is currently relying heavily on only one instrument for mitigation—the EU ETS—which appears to be robust in only one or two of the four worlds, but less so in the rest. This is a truly important and worrying finding. Policymakers should therefore dare to “‘think the unthinkable’ a bit more”, and consider what they would do if the world starts moving in the direction of less coordination. This includes, for instance, giving more thought to the issue of geoengineering, an option to which the book pays little attention (perhaps in view of the fact that it is, for the moment, a non-issue at EU level), as well as to the

possibility that stronger (i.e. more harmonized and stringent EU climate measures) may generate a backlash among member states and citizens alike if they perceive a threat to their sovereignty and freedoms, or if the process of European integration loses momentum.

Chapter 12, by Andrew Jordan and colleagues, constitutes a final reflection on the findings of the book and what they may hold for the future of EU climate policy. As such, the chapter will be warmly welcomed by the reader, because it demonstrates the coherence of the entire research project, including the strong methodological work underlying ADAM. The findings are important, and sometimes go against common perceptions. A few are highlighted here: first, the paradoxes of governance that the EU faces have not led to a sclerotic system of governance; on the contrary, the EU has emerged as an important, coherent, and active source of climate-policy innovation, both at international level and within the EU, and has put in place a highly complex (albeit not yet effective) governance framework; second, although EU climate-change policy is rich in rhetoric and enacted norms, its effectiveness has not yet been demonstrated third, the EU has yet to decide on the long-term focus of its climate policy, in particular in relation to the place of adaptation—but arguably also (although this is not mentioned at this point in the book) in the role of geoengineering (if any)—in the policy mix.

It is at the moment of finishing the book that one begins to truly appreciate the value of all the work undertaken in the preceding chapters. Indeed, producing the last chapter is only possible if all the background work has been realized. Also, the reiterated application of the same analytical framework throughout all chapters allows the reader slowly to grasp the complexity of the topic and understand the role of the governing bodies therein—and thus to enjoy more fully the end, which alas leaves one yearning for more.

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Requiem for a Species: Why We Resist the Truth About Climate Change?

By Clive Hamilton

London: Earthscan, 2010, 286 pp.,
ISBN 978-1-84971-081-7, pb £14.99.

In *Requiem for a Species* Clive Hamilton presents a stark account of an impending climate catastrophe. He does not appeal to radical scientific findings, and his aim is not to draw attention to potential catastrophic events lurking at the extreme tails of probability distributions. There is indeed no need for this. Hamilton bases his views on what mainstream climate scientists and international advisory bodies such as the Intergovernmental Panel on Climate Change consider *highly probable* scenarios. For instance, even if we engage in a massive international effort to

stabilize global cumulative emissions at 450 parts per million carbon dioxide equivalent, it is more probable than not that global average temperature will increase at least two degrees Celsius above pre-industrial levels by 2100 (p. 12). This increase may sound manageable, but Hamilton stresses that many climate scientists (including James Hanson, head of NASA's Goddard Institute for Space Studies) project that two degrees of warming would "pose a substantial risk, both because of its direct impacts on climatically sensitive Earth systems and because of the potential to trigger irreversible changes in those systems. The latter includes the disappearance of Arctic summer sea-ice and melting of much of the Greenland and West Antarctica ice-sheets" (p. 12). The human consequences of this sort of climate change are well emphasized in the book: not just significant sea-level rise, but also water scarcity, loss of agricultural land, and more frequent natural disasters, such as flooding, with attendant famine, mass migration, and conflict.

Hamilton claims the book is not a call to arms, for the time for that has passed. But his urgent tone and the ultimate message of the book—that we need to grieve for our old ways of life *in order to change appropriately*—suggests otherwise. It is true that the book does not aim to bring out the fresh-faced environmental warrior in us; it is rather a wake-up call to irresponsible citizens who have already failed on a number of fronts. Hamilton is right to pursue this dark line in an attempt to drum up action. Continuing to appeal to our ability as rational actors to respond to real threats, or to the capacity of our democratic institutions to reflect well-informed preferences, is no longer credible, given our track record. The green movement has been talking about global warming since the late eighties, and many may perceive the length of debate and lack of concerted action to be indicative of the uncertain state of the science, or the inevitable failure of collective rationality. Hamilton's approach is the effective one at this stage: to make clear that our inaction thus far has been *mere folly*, and not at all proportional to evidence of the severity of the climate change problem, nor to our capacity to do something about it.

Hamilton elaborates on our follies in the early chapters "Growth Fetishism", "The Consumer Self", and "Many Forms of Denial": we are short-sighted creatures who do not properly appreciate consequences that are removed in time and space from their causes. We blindly and selfishly track economic growth indicators such as GDP, our democratic systems are easily manipulated by big business (witness the huge backlash campaign in the 1990s against climate science and proposed emissions reductions), and we have unrealistic ideas about the abundance of Earth's resources and our ability to control natural processes. Hamilton treats these as symptoms of a more fundamental problem; he searches further for the root causes of our irrational response to the climate change problem, and why reform seems so hard. His diagnosis is the precarious sense of self that has arisen in the developed world—an individualistic self that is apart from others and Nature, and that finds expression in consumption and the acquisition of goods. Changing an old habit is one thing, but having to re-conceptualize one's very identity when it turns out to be non-viable is no easy task. This is a big change.

While Hamilton rightly recognizes that the times call for a big-picture analysis, his extended criticism of the dominant notion of self in the chapter "Disconnection from Nature" turns out to be rather eccentric. Hamilton focuses on our hubris regarding our ability to conquer Nature. He

finds the origins of this hubris in the materialist, mechanical philosophy inspired by Descartes and Newton, according to which matter obeys rigid physical laws and does not have goals or a life-force of its own. This is a favourite target for environmental ethicists. Hamilton (p. 150) is critical even of James Lovelock, originator of the Gaia hypothesis about Earth, for not going far enough with his Earth-as-organism metaphor:

In the end, Lovelock concedes that he talks of the Earth being alive only in a metaphorical sense, arguing that we should “*imagine* it as the largest living thing in the solar system” ... Yet it is difficult to believe that we can be motivated to change the way we live just imagining Gaia to be alive rather than feeling it intuitively to be so.

Hamilton appears nostalgic for a spirituality that recognizes a life-force in all things, including rocks, mountains, and complex systems like the Earth itself. This may well be a helpful way of conceptualizing Nature for the purposes of averting climate catastrophe, but it is unlikely to resonate with the majority of people, and only serves to marginalize Hamilton’s message.

Another misplaced target in the book is the “economic way of thinking”. Hamilton makes some reasonable criticisms of Nicholas Stern’s³ and Ross Garnaut’s⁴ climate policy recommendations. In particular, he regards their common cumulative emissions target—550 ppm CO₂ eq.—to be too lenient, and their optimism regarding the prospects for clean coal to be unwarranted. This is all very well. What is objectionable is Hamilton’s criticism (p. 53) that Stern participates in dangerous economic styles of thought simply for referring to greenhouse gas accumulation in the atmosphere as a “market externality”. To be sure, the assumptions underlying many economic models may be questionable, and undue weight may be placed on economic indicators like GDP as a measure of a nation’s well-being. Moreover, Stern himself⁵ claims that economists as a group are not properly confronting climate change to the tune of the predictions made by climate scientists. This does not mean, however, that economic modelling as a whole is bankrupt. Indeed, economic models are as good as the ethical values that we plug into them—what value we give to parameters like the social discount rate for assessing consequences affecting future generations, for instance, or how we choose to measure well-being. To reject public economics as a whole, that is, models for negotiating the criteria of efficiency and equity in a global climate deal,⁶ seems a prime example of the sort of passivity and blame-shifting in the face of crisis that Hamilton cautions against; it hardly amounts to confronting the problem and using our best tools to determine a way forward.

One might tell the big-picture story a little differently from Hamilton. The belief that continued economic growth and new technologies are the best way forward, whatever Nature throws up, is arguably not fundamental to our constructed self, but rather a disingenuous rationalization for failing to ensure the just distribution of resources internationally and across generations.

³ Nicholas Stern, *The Economics of Climate Change: The Stern Review* (2007).

⁴ Ross Garnaut, *The Garnaut Climate Change Review* (2008).

⁵ Nicholas Stern, *The Economics of Climate Change*, 98(2) *American Economic Review* 1 (2008).

⁶ *Ibid.*

We have responded appropriately to environmental problems before. Consider the hole in the ozone layer and the political process by which CFCs were banned in the late eighties. This is evidence that we do not always resort to technological fixes when it is obvious that the best course of action is to reduce our impact on the Earth's atmosphere. The sticking point with carbon dioxide emissions and climate change, however, is that abatement requires the developed world to give up much more than certain types of aerosols. Our inaction shows an underlying lack of compassion amongst people, never mind the problematic relationship between people and the rest of Nature.

Indeed, one could see discussions around climate change as drawing attention to the developed world's neglect of its ethical duties vis-à-vis the world's poor. This is something that should make us all uncomfortable—an “inconvenient truth” as Al Gore says. Many writing on who should bear the costs of climate change recommend some mix of responsibility for polluting (“polluter pays”) and capacity (“ability to pay”). It is blatantly obvious that the developed world is responsible for considerable environmental damage the world over, and, in particular, has consumed vast quantities of the global carbon commons. Furthermore, many ethical positions recommend that developed nations shoulder the burden of climate change costs, simply because they are richer. To this end, Henry Shue quotes Thomas Nagel on a common-sense principle of justice:

When some people have less than enough for a decent human life, other people have far more than enough, and the total resources available are so great that everyone could have at least enough without preventing some people from still retaining considerably more than others have, it is unfair not to guarantee everyone at least an adequate minimum.⁷

If we acknowledge this very reasonable principle, it follows that not only does the rich world have a lot to do in terms of bearing the costs of climate change mitigation and adaptation, but also that we have been acting unethically in the international arena for some considerable amount of time. Maybe this is hard to own up to.

Hamilton does build up to a message about the importance of genuine democracy towards the end of the book. My criticism is mainly one of emphasis—there is no point blaming economic science *per se* for our predicament, and it is splitting hairs to argue about whether the Earth has a life-force of its own. Moreover, optimism about science and technology is not in itself unreasonable. Hamilton himself comments that, ironically, it is environmentalists who have expressed most faith in market-driven technological innovation to deliver on renewable energies, provided carbon is priced appropriately. He claims (p. 167) that we do in fact have the technological capacity to reach respectable cumulative emissions targets; what we lack is the political will and the institutions to facilitate such rapid change. Admittedly, the quick-fix geoengineering strategies that scientists are beginning to entertain suggest a foolhardy confidence in our ability to manipulate the Earth's atmosphere. Hamilton criticises such “Plan B” proposals (for instance, the deliberate pollution

⁷ Henry Shue, *Global Environment and International Inequality*, 75(3) *International Affairs* 531 (1999).

of the atmosphere with sulfate aerosol particles) in Chapter 6: “Is There a Way Out?”. Again, however, one might argue that it is not so much faith in technology that drives these research proposals, but rather a futile wish to solve the climate change problem without having to change the status quo distribution of privilege and wealth.

Climate change is indeed a great moral challenge. Global citizens—i.e. all of us—need to assert that we care about future generations and about contemporary wealth inequalities. In this spirit, in the final chapter of the book, Hamilton calls for a strengthening of democracy at the international level. He writes (p. 223):

And we can begin preparing for the impacts of climate disruption not by self-protection but by vigorous political engagement aimed at collectively building democracies that can ensure the best defences against a more hostile climate, ones that do not abandon the poor and vulnerable to their fate while those who are able to buy their way out of the crisis do so for as long as they can.

This is a big change in direction, of the proportions that Hamilton speaks of. That is, his message that we need to “despair, accept and act” is fitting. Hamilton advises that we grieve appropriately. That is, we should despair about the failure of humanity to prevent the climate change problem from reaching current levels, we should accept the new vision of the future that this entails and the need to transform our previous way of life, and we should act to make the best of the situation as we can. Unlike other drier reports and softly spoken analyses of climate change, this book frankly communicates the urgency of the problem, and I hope many people read it.

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Climate Change Justice

By Eric A. Posner and David Weisbach

Princeton: Princeton University Press, 2010, 220 pp. (incl index),
ISBN 978-0691137759, £19.95.

The first thing that should be said about this book is that it is poorly named. Rather than *Climate Change Justice*, a more accurate title would be *Climate Change Policy Without Justice*. The basic argument of Posner and Weisbach is that any insistence on distributive justice in climate negotiations has kept, and will continue to keep, the international community from doing what is necessary to mitigate climate change. The authors argue that, instead, climate change policy must be based in what they call “International Parentianism”, which is, they argue, a straightforward conception of national self-interest where all “nations believe that they

are better off with a treaty than without” (p. 195). Posner and Weisbach offer a painfully rationalistic and narrowly focused argument—one that is both mistaken and, more dishearteningly, unimaginative.⁸

To their credit, the authors seem to show an authentic desire for a treaty that will actually work to bring down GHG emissions and slow the impacts of climate change—they are neither climate denialists nor skeptics. They also illustrate a clear interest in, and justification for, global justice; they insist that the rich do have an obligation to help the poor, and the impacts of climate change increase those duties. So justice is indeed owed to the present and future poor who will be most vulnerable to climate change. And yet the key argument of the book is that there is no obligation to fulfill this duty *through a climate treaty* (p. 170). Global climate policy and global justice policy must, the authors insist, be separated—any viable climate treaty has to ignore any conception of justice. In the authors’ eyes, distributive justice as it relates to climate change is powerfully salient, but simply not realistic or feasible as an approach to climate policy (p. 9). Posner and Weisbach argue that attempts to push a climate agreement with elements of distributive justice (or, for that matter, any ethical considerations at all) actually undermine the possibility of any agreement. And any agreement would be better for the poorer nations—those who will be more susceptible to climate change—than no agreement at all.

The key mistake here is the assertion that a focus on distributive justice has derailed past and present climate-policy negotiations. The authors close Chapter 3 with the claim that a focus on distributive justice was what led the US away from complying with Kyoto. There is no solid evidence offered to back this up, and one could make a thoroughly supported argument that it was the false ideological dichotomy of economic growth versus environmental policy, and a huge and coordinated disinformation campaign by anti-environmental think tanks and energy and commerce interest groups, that led to the US position. The authors also make the argument that COP negotiations in Copenhagen failed because too much was attempted in a single negotiation—addressing poverty, past injustices, and climate change all at once (p. 197). Yet justice concerns were jettisoned after the first few days in Copenhagen, and the final disagreement centered on perceived national interests and economic costs on the part of the US and China (which the authors acknowledge). Rather than blame a concern for justice, it seems that it was the focus on pure economic self-interest on the part of the largest emitting nations that led to the impasse. In other words, one could just as easily argue that Posner and Weisbach’s supposed cure to the climate negotiations—an exclusive focus on national economic self-interest—is, in actuality, the ailment itself.

Another mistake made by the authors is to develop the argument that a climate treaty should not be used to “redress historical grievances and to correct global wealth inequalities” (p. 187) or primarily to help the poor, while proceeding on the assumption that parties are *actually focused*

⁸ It should be noted that *Climate Change Justice* began as a paper by Posner and Cass Sunstein in the *Georgetown Law Review*, and was completed by the current authors after Sunstein moved on to a position in the Obama administration.

on such an approach in the negotiations. They overplay this line at times, insisting that climate policy is not the most direct or effective means of helping poor people and nations, and yet redistribution for addressing inequity is the central goal of climate-justice advocates. However, most arguments based on equity and development rights do not focus solely on helping the poor; rather, the idea is to develop a workable climate policy based on the level of state emissions and the capacity of states to pay for or develop mitigation technologies. Others look beyond distributive justice to basic human needs and rights—the capabilities necessary to have a fully functioning life. Such an approach frames a conception of climate policy that puts some key responsibilities on more developed economies, higher emitting nations, or the highest emitting individuals globally. These views are not, strictly speaking, purely redistributive, or even primarily about distributive justice.

What Posner and Weisbach offer is yet another disheartening book on climate change. This is not all that odd for a volume on the topic, but it is depressing in a distinctive way. The science covered is itself sobering, but it simply reflects the physical reactions of the planet. The discussions of policy and law at a global level are often frustrating, but in part because they are after-the-fact reminders of past failures. With *Climate Change Justice*, Posner and Weisbach demonstrate that it is not just glaciers and global agreements that are melting away, but our very ideals and imaginations as well.

At the same time, the book reflects a narrow approach to the climate-policy realm, focusing on levels of emissions and the immediate self-interest of individual nations, and rejecting a broader approach based on principles and ideals, such as justice. Unfortunately, the authors' narrow definition of state interests limits the value of even an interest-based approach. State interests and imperatives are not solely economic and short term. States also have to address issues of security, long-term economic development, and legitimacy in the eyes of their citizens; these should also be part of the understanding of state interests as they relate to climate change. The narrow and short-term interests relating to immediate economic costs may be countered by attention to those other imperatives of responsible states.

There are other issues with the book as well, starting with its use of climate data. In the first chapter, the authors go through a range of tables illustrating various ways of rating the contribution of countries to climate change. They start with the usual lists of high emitters, with the US on top. But their argument also is that we should ignore historical responsibility for emissions. Here the authors seek to establish that developing nations are just as guilty as the most developed nations in terms of their impact on a changing climate. To illustrate this, the authors combine figures about actual carbon emissions with figures relating to land-use policies whose effect is to eliminate carbon sinks. The resulting tables of “Cumulative Emissions of CO₂ (including land use change) Per Capita, 1950-2000” and “Greenhouse Gas Intensity of Economy, 2000” have Belize and Guyana, and Zambia and Belize, respectively, top the list of guilty nations (pp. 37-8). The book's argument is that the data can be used to show blame in many ways, so we should not depend on it at all—which in turn means that we should drop historical responsibility and per-capita emissions from fossil-fuel combustion as differentiating principles in treaty nego-

tiations. It is frustrating to see these intelligent scholars using the tactics of climate skeptics—presenting the science as confusing, uncertain, and manipulable—in order to deny the duty of the richest and most developed nations to address the climate change that their industrialization has produced.

The authors also repeat the tired criticism that it is poor governments of the South that are corrupt and cannot be trusted to spend international aid properly. They claim that “Nearly all poor states have a class of wealthy elites, and these wealthy elites usually control the government or have considerable influence over it” (p. 128). The authors do not entertain the possibility that the governments of rich states could be described the same way; rather, they use these common descriptions of poor nations as an easy way to dismiss the idea of redistributive aid as a part of a climate agreement. Clearly, targeted aid offers ways around corruption, and yet the authors offer no discussion of how climate assistance can be technological and focused on mitigation or adaptation strategies—from new energy technologies and the retrofitting of existing industry to the raising of sea walls.

After Copenhagen and Cancun, many will be trying to rethink approaches to climate policy and governance. Rather than blame justice for the failure of such negotiations, as Posner and Weisbach do, we should see instead the limitations of the authors’ focus on the economic self-interest of states. It may be possible, with a cosmopolitan consideration that the authors briefly address and dismiss (pp. 172-3) to move beyond the optimization of the self-interest of individual states, and to start extending our consideration of such interests beyond borders, to the more global level. This is the central challenge of our shared dilemma of climate change—and climate change justice.

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Human Rights and Climate Change

Edited by Stephen Humphreys

Cambridge: Cambridge University Press, 2010, 348 pp. (incl. indexes),
ISBN 978-0-521-76276-2, hb £55.00.

Serious problems require thoughtful and effective solutions. Climate change constitutes a serious problem. Whether human rights are able to offer solutions may be debatable, but this collection of essays does a very solid job of shedding light on the emerging relationship between climate change and human rights. The collection (which partly emerged out of a meeting hosted in 2007 by the International Council on Human Rights Policy), edited by Steven Humphreys, consists of

ten chapters, not counting the introduction and conclusion, examining the relationship between climate change and human rights while affording separate attention to specific issues of theory, corporate responsibility, and forest management.

Human Rights and Climate Change falls into two parts, with the first offering a portfolio of different takes on how human rights and climate change relate to each other. By way of introduction, Humphreys lays the foundation for the succeeding chapters by discussing a number of central aspects of the relationship between human rights and climate change. For instance, he highlights that the forging of links between the two has been hampered by the fact that climate change has, by and large, occupied the natural scientists, while human rights organizations have a tendency to focus on more immediate (and often real) dangers. In addition, Humphreys identifies a number of reasons why human-rights solutions may be of little assistance in addressing climate change. These include problems of enforceability of human rights, the difficulty of establishing extraterritorial responsibility, and the fact that different human rights are likely to conflict in the climate change setting. Despite this, Humphreys pragmatically (and correctly) asserts that, nevertheless, a strong link exists between the two, for climate change is likely to increasingly infringe upon the enjoyment of human rights.

Humphreys is also the author of Chapter 1. Here, he seeks to link the many conceptions of justice (corrective, substantive, procedural, and formal) implicated by climate change with human rights. His reasons are two fold. Firstly, if the human-rights claims made in connection with climate change are to be widely recognized, they will need a strong normative basis. Secondly, human-rights arguments have gradually taken over the role of “justice” discourses “to the extent that injustices that cannot easily be articulated in human rights terms may appear exotic” (p. 45). This reviewer is inclined to agree with Humphreys on both counts, and the latter point may very well prove to be a limiting factor in the role which international human-rights law can play in the attempt to conjure international solutions to climate change. While the human-rights vocabulary may prove useful in a domestic setting and go some way towards highlighting the injustices which climate change is likely to result in, it may likewise have the potential to divert valuable attention and funds away from attempts to carve out global support for the need to address anthropogenic climate change. In the same vein, the human-rights vocabulary may be judged, by some, to be an ill-fitting response to the problem of climate change, which raises economic, ethical, scientific, and social issues.

If the sceptical (at times) but compelling analysis of the legal connections between climate change and human rights found in Humphreys’ first two pieces is unsatisfactory to those who are unimpressed by the impasse in global climate-change negotiations, they may find comfort in Simon Caney’s chapter on the theoretical links between the two. Caney puts forward an argument based on the premise that climate change violates a series of human rights, which in turn gives rise to a number of duties. Caney identifies in this connection the rights to life, health, and subsistence. He then goes on to argue that the consequent responsibility can serve as a basis for compensation. While Caney’s arguments are subject to the limitations highlighted by Humphreys in relation to enforcement and extraterritoriality, it is hard to disagree with Caney

when he argues that a human-rights approach may help with moving debates on mitigation and adaptation beyond mere cost-benefit calculations.

In contrast to the human-rights focus pursued by Humphreys and Caney, the chapter by Dinah Shelton explores the role that rights (not necessarily human rights) and duties may play in the relationship between states. Shelton's approach examines the role that the state can have in pursuing claims against other states on behalf of its population and future generations. Relying on the *Trail Smelter* decision, customary norms and the US Supreme Court's decision in *Massachusetts v. EPA*, Shelton convincingly argues that a future role may exist for states to engage in litigation against other states to protect their territories from the harms of climate change. As the links between climate change, sovereignty, and inter-state rights seem to be underexplored in the literature on rights and climate change (thus far, most attention has been afforded to human rights), Shelton's chapter serves an important purpose. Moreover, it maintains a pragmatic focus, insofar as Shelton seeks solutions within existing state-focused structures, which are sometimes dismissed in cosmopolitan settings, although they are likely to persist.

The final two chapters in part one of the book—respectively, by Peter Newell and Sam Adelman—challenge existing social and legal structures of relevance to climate change and human rights. Newell discusses the effect which corporations have on the enjoyment of human rights, highlighting the limitations of solutions that focus primarily on states. Refreshingly (compared to many other writings on corporate responsibility), Newell's chapter acknowledges that law as a political tool ought to be used cautiously as it often has a tendency to “crowd out and undermine the effectiveness of other strategies” (p. 130). Somewhat more ambitiously, Adelman argues that a link between human rights and climate change is found in the notion of sustainable development, and consequently Adelman supports the recognition of such a right. In the process, Adelman takes us through a critical appraisal of the Kyoto Protocol and its emphasis on market mechanisms, the perils of state sovereignty, and a good deal of the literature on environmental rights, before endorsing a “meta-right” (p. 172) to sustainable development. Adelman finally accepts that climate change is ultimately a political problem, while noting that “climate change ironically provides an opportunity for the construction of a more rational and egalitarian global order” (p. 178). As intriguing as this may be, Adelman ought to have spent more time discussing his proposal for a “meta-right”, for his all-too-swift treatment of the matter leaves the reader wishing for more.

The second part of *Human Rights and Climate Change* is narrower in focus. It examines the interactions between human rights and climate change as these play out in relation to the Kyoto Protocol, standards of health, disasters, and other topics. Philippe Cullet puts forward a compelling case for placing greater emphasis on *vulnerability* (as well as human rights) in the attempts to hammer out a post-2012 successor to the Kyoto Protocol. In doing so, Cullet would like to see a shift in focus away from economic development towards human development, highlighting the role that a human right to a clean environment can play in this. Echoing the cosmopolitan argument put forward by Caney, Cullet argues for the adoption of personal minimum emission entitlements grounded in human rights, instead of existing grandfathering approaches.

Frances Seymour's contribution on the links among forests, climate change, and human rights highlights some of the implications which climate-change responses may have for human rights on a domestic level. Seymour methodologically portrays how countries that seek to, for instance, reduce emissions from deforestation and forest degradation (REDD) will have to take into account a series of civil and political as well as economic, social, cultural, and procedural rights. These rights include property rights, rights of access, and rights to participation. In this way, the chapter aptly draws attention to the fact that human rights are also important when states draw up solutions to climate change, insofar as certain human rights may qualify the measures taken by authorities. What is more, although Seymour's chapter focuses on forest management, and in particular REDD, her analysis is clearly relevant to other mitigation strategies, including REDD+.

Paul Hunt and Rajat Khosla's contribution on climate change and the right to health further underlines the link between human rights and climate change. In fact, the chapter illustrates how existing human-rights obligations (in this case, the right to the highest attainable standard of health) to some extent place states under an obligation to address climate change through adaptation as well as mitigation. Again, while these observations are subject to the limitations highlighted by Humphreys, they are a further indication that for policy and law makers to ignore climate change is to risk incurring human-rights responsibilities. Echoing the expanding literature on environmental justice, Jon Barnett's chapter concisely makes the point that climate change is likely to affect the most vulnerable people the most. This is shown through three case studies (East Timor, China, and the South Pacific atolls), where populations already neglected by national governments often find themselves occupying land that is likely to be affected by, for instance, flooding, drought, and landslides. Further underscoring the link between human rights and climate change, Barnett observes that the fact that such exposed groups are vulnerable to climate change in the first place is due to them often not enjoying the full protection of human rights. In this context, Barnett highlights how access to various resources and government entitlements is often restricted as a result of discriminatory practices. Thus, Barnett concludes, that in certain areas improving human rights standards may go farther towards addressing vulnerability to climate change than the existing climate change legal regime is able to do. One notable example of this would be the right to freedom of expression which is often curtailed for some groups, consequently disadvantaging them when it comes to having their voices heard. Following a "justice" line of argument, and using Hurricane Katrina and Cyclone Nargis as case studies, John Mutter and Kye Mesa Bernard illustrate how natural disasters often augment existing injustices and lead to further human-rights violations. Mutter and Bernard argue that a human-rights vocabulary needs to be taken into account by authorities in disaster planning and post-disaster zones, for the non-discrimination ethos of human rights may go some way in addressing the injustices which women, children, low-income groups, and the elderly, among others, face.

The major strength of *Human Rights and Climate Change* is that it succeeds in addressing a range of broad issues in a clear and concise manner. Moreover, the collection strikes a good balance between theoretical and practical aspects of both human rights and climate change law,

as well as related fields. Even though *Human Rights and Climate Change* is somewhat wide in its remit, and some chapters would perhaps have benefited from more in-depth discussion, it maintains a coherent and well-structured focus. Bearing in mind that the book is one of the first collections (no doubt many more are to come) dedicated to the topic, some fluctuation in coverage is perhaps to be expected. In many ways, however, this is the book's strength, for *Human Rights and Climate Change* does an excellent job of analysing the many links between climate change and human rights. As the consequences of climate change will manifest themselves over time, human-rights lawyers, courts, and tribunals are likely to find themselves confronted with climate-change-related questions, and *Human Rights and Climate Change* is a good place to start reading about them.

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Legal Design of Carbon Capture and Storage: Developments in the Netherlands from an International and EU Perspective

Edited by Martha M. Roggenkamp and Edwin Woerdman

Antwerp: Intersentia, 2009, 360 pp.,
ISBN 978-90-5095-801-1, pb £123.00, €95.00.

In the light of pressing calls for incisive global action to tackle climate change, Carbon Capture and Storage is increasingly seen by many as an appealing option. As readers of this journal would be aware, the CCS process consists of capturing and compressing carbon dioxide emissions from coal-fired power plants or industrial installations; transporting the resulting CO₂ stream to suitable storage sites (depleted oil or gas reservoirs or saline aquifers); and injecting it underground, where it is meant to remain permanently and safely stored. By avoiding CO₂ release into the atmosphere, this technique is deemed an effective way to reduce emissions from the energy and industrial sectors, thus mitigating climate change. Although the technology is still in demonstration, and arguments concerning costs and risks are holding back its development, international, regional, and national legislation to govern CCS activities has been emerging worldwide.

Building upon recent legal and policy developments, this excellent book provides not only an extensive examination of existing international and EU regimes concerning CCS, but also a detailed analysis of Dutch laws dealing with legal and regulatory issues associated with CCS. Also discussed are pending legal questions and gaps, with potential answers provided in an accurate and clear form. In so doing, the volume successfully provides an account of the CCS process and the issues associated with its regulation both to a readership familiar with CCS—such as academics, practitioners, industry participants, and policymakers—and to an uninitiated audience.

The work is the result of an evidently successful collaboration between sixteen academics affiliated with the Groningen Centre of Energy Law at the Faculty of Law of the University of Groningen. In view of the variety of different legal areas involved in the current CCS debate, the legal expertise collected in this volume constitutes one of its main strengths.

Following Part I's introduction, the relationship of CCS with international and EU law is explored in Part II. From an international law perspective, Brus's chapter identifies key questions concerning CCS with respect to state sovereignty within the territory of a state employing the process, as well as the state's international responsibility for any transboundary damage caused by these activities. It also addresses the role of the precautionary principle, the international regime for offshore CCS, and the treatment of transboundary storage, with a brief reference to the climate change regime. While interesting, this comprehensive analysis suffers from a rather complex structure, which sometimes makes the flow of the discussion slightly confusing and fairly general. For instance, the description of issues associated with cross-border storage could have been more clearly set out, and it is a shame that the analysis of public participation has not been further developed.

Notwithstanding these limitations, this part provides a valuable illustration of key questions associated with CCS under international law, combined with a useful explanation of the process leading to the amendment of the London Protocol and the OSPAR Convention. Neither of these instruments was drafted with CCS in mind (their primary aim being the protection of the marine environment), and they came to be seen as unwitting legal barriers to the technology. The enabling amendments will constitute the legal framework for offshore CCS activities.

The book provides an extensive and engaging overview of the implications of, and obstacles to, CCS within the Kyoto Protocol's Joint Implementation and CDM mechanisms. Negotiations concerning the eligibility of CCS under JI and CDM are still ongoing, and the book is a valuable resource to understanding the most controversial questions, such as the "additionality" of CCS projects, the permanence of emissions reductions they generate, and the adequacy of monitoring methodologies.

The volume insightfully analyses the CCS Directive and other relevant EU legislation governing key aspects associated with the deployment of CCS in Europe. The Directive is the first CCS-specific piece of legislation governing CO₂ geological storage in the territory of EU Member States. Interestingly, the authors took the decision not to confine presentation of the Directive's regime to a single chapter. Instead they identify key themes associated with the process—for example, transport of CO₂, storage, or long-term liability—and illustrate how the Directive's provisions address them in combination with other relevant EU legislation. Choosing such a "problem-specific" approach is an appropriate way to reflect the challenges of regulating the technology, and provides the reader with an effective understanding of the broader context in which CCS legislation is emerging. Nevertheless, an overview chapter on the Directive would have constituted a useful guide for the CCS neophyte.

In consideration of the costs and investment needs associated with CCS, the private sector is reluctant to significantly invest in the technology. With this in mind, the book provides a useful assessment of how the EU Emissions Trading System is intended to stimulate CCS deployment, and highlights its pros and cons compared with alternative methods, such as subsidies, a carbon tax, or mandatory CCS. As these issues have led to proposals for allocating public funding to support CCS deployment, Vedder's excellent contribution is devoted to the role and legitimacy of public incentives for CCS under EU state-aid legislation and EU competition law rules. It draws on the provisions of the CCS Directive and lessons learned from the gas storage market. As this area of EU law is increasingly being considered by the European Commission to assess CCS incentives, this analysis will certainly constitute a leading model for future research.

Importantly, this volume, by its Part III, constitutes the first edited collection specifically addressing how the Netherlands might regulate CCS. While the analysis is necessarily speculative because CCS-specific legislation has not yet been introduced in the country, the research methodology used will be extremely helpful to assess forthcoming initiatives. The study explores Dutch legislation dealing with legal issues emerging from CCS deployment at the domestic level, relating to the planning and permitting regimes, and the safety and ownership rights associated with the transport of CO₂, as well as with the post-injection liability regime and the challenges posed by the CCS Directive in this context. Because the liability of the operator for leakage of CO₂ is one of the most contentious legal issues concerning CCS, Wissink's analysis of its implications under national law provides a much-needed contribution to the debate.

If here the generalist is left behind, the specialist reader will enjoy the examination of the Dutch third-party access regime for the CO₂ transport network; the review of available options for establishing a competent authority for CCS; and the potential tax treatment for CCS operators under Dutch tax law. Overall, this part of the volume successfully addresses all major legal uncertainties arising from CCS, and suggests interesting practical solutions. Although confined to Dutch law, these solutions contain valuable lessons for other jurisdictions grappling with the problems of CCS regulation. Thus the volume would undoubtedly have been strengthened by analysis at similar depth of comparable mechanisms in other key jurisdictions, such as the United States, Australia, Norway, or the United Kingdom, where comprehensive CCS legislation has been emerging.

The contribution of this volume to CCS debates is significant. It fills a gap in the academic legal literature, which had not up to this point produced a dedicated compendium on the legal regime for CCS, due to continuous developments in the field. The result is an original and multivoiced legal analysis of existing legislation, combined with a stimulating assessment of cross-cutting legal issues and an enriching discussion of how they might be addressed within the Netherlands and beyond.

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Towards Auctioning: The Transformation of the European Greenhouse Gas Emissions Trading System—Present and Future Challenges to Competition Law

By Stefan Weishaar

The Hague: Kluwer Law International, 2009, 255 pp. (inc. index).
ISBN 9041131981. £88, €118.99.

Towards Auctioning is an analysis of the allocation methodology of the EU ETS through the prisms of microeconomics and competition law. Weishaar clearly shows how the choice of the initial allocation mechanism may affect the system's success in achieving economic and environmental goals, and the extent to which competition law can remedy shortcomings in the allocation methodology that either facilitate illegal collusion between (or abusive dominance by) auction participants, or promote inefficient windfalls in allowance distribution.

Weishaar concludes that auctions are superior to free allocation at achieving economic goals, and that certain auction methodologies are better than others at dispelling anticompetitive behaviour. He finds it unlikely that permit distribution rules can be challenged under EC Treaty Article 81 (prohibiting cartels), and engages in an interesting exploration of the potential use of Article 82 (prohibiting firms dominant in an industry from abusing their position), ultimately finding this unlikely as well. After a lengthy discussion of State Aid (prohibitions on EU Member State governments from providing biased support to domestic businesses) in this field, the author concludes that while free allocation probably does constitute State Aid, exceptions to this regime may apply to render free allocation by governments legal.

The book's focus thus meanders from using competition law as a tool to remedy the shortcomings of allocation methods to using competition law to challenge the methods themselves. Upon discovering that the latter approach is unlikely to succeed, the book comes to the conclusion that the traditional firm-focused application of competition law is most likely to constrain anticompetitive behaviour—especially as the National Allocation Plans (NAPs) drawn up by Member States during phases I and II (2005-2007 and 2008-2012, respectively) of the EU ETS fade, and auctions rise in importance in the centralized, auction-focused phase III (2013 onwards).

Because of the unavailability of adequate data from the pre-2010 auctions, Weishaar takes a microeconomic view, allowing him to focus on a robust theoretical framework. However, *Towards Auctioning* would be bolstered by some analysis of the degree of inefficiency demonstrated in NAPs and the estimated ease of collusion between auction participants. While accurately estimating losses from anticompetitive conduct is notoriously difficult, to completely ignore the extent of their impact is to miss a fairly sizeable issue here. This additional material would have buttressed Weishaar's concerns by demonstrating that effective anticompetitive conduct in these

auctions is possible, and the potential social-welfare losses stemming from suboptimal allocation methodologies are large.

One slight distraction is Weishaar's analysis, alongside auctioning and grandfathering, of the "Performance Standard Rate", the relative standard (akin to sectoral crediting) used in the Dutch NO_x ETS. Given the level of absolute-standard use in the EU ETS, this is a digression that, while interesting from an academic perspective, confuses matters unnecessarily in places. Another distraction is the amount of background information given to parts of the analysis. Much space is devoted to basic economics and the "joint application" jurisprudence under Articles 81 and 82 EC. While fascinating (especially the latter), neither particularly assists the reader in understanding Weishaar's thesis, and they could perhaps have been abbreviated and folded into the narrative.

The thrust of the book substantially depends on the premise that the secondary market is flawed, but why and to what extent this is so is a matter not dealt with. The better the secondary market functions, the less worrisome are the concerns about initial allocation. Moreover, as Weishaar himself suggests, there are good reasons to depart from allocative efficiency initially: protecting trade-exposed industries or rewarding "early movers". Slightly more baffling is the author's belief that the secondary market will lose "most of its importance" (p. 200). This is true to the limited extent that any delay in the market reaching equilibrium will be reduced by a more efficient initial allocation. However, a robust and liquid secondary market is not an alternative to effective initial allocation but a wholly integral part of the EU ETS, and should remain so even when phase III ushers in more widespread auctioning.

One of the great virtues of this work is the evident care the author has taken in crafting the substantive arguments. The complex legal terrain is skilfully addressed. However, whilst the author's message is certainly discernible, especially to those familiar with the area, at certain points meaning is obscured by the choice of language. Especially in passages composed of dense, technical, economic language, the grammar, vocabulary, and idiom deployed require the reader to go through a sentence or a paragraph repeatedly to clarify Weishaar's meaning. At other points words and names from the ETS literature are simply misspelt. Such shortcomings in the editorial process are regrettable, detracting from the book's readability.

Towards Auctioning was published in November 2009. While I was writing this review, the draft auctioning regulation for phase III was unanimously approved by the European Commission's Climate Change Committee. Weishaar's arguments are sufficiently enduring so that much of his analysis has remained unaffected. A second edition incorporating analysis of the new regulation may well follow. And perhaps a third edition, or a separate work, might apply Weishaar's framework to the data from the upcoming auctions to search for econometric evidence of anti-competitive conduct. If the secondary markets turn out to be flawed, the losses associated with anticompetitive behaviour in auctions would certainly recommend caution in the preparations for phase III. In the meantime, this book constitutes a bold foray into a complicated juncture of

legal regimes, exploring the core themes likely to define the debate in this area for some time to come.

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⁹ This review is written in the author's personal capacity, and any views expressed are the author's and not those of Freshfields Bruckhaus DeringerLLP.