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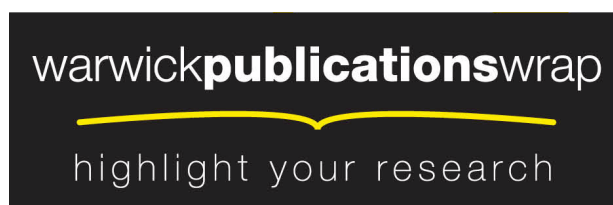
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Democracy, democratization and climate change: complex relationships

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Democracy, democratization and climate change: complex relationships

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Relationships between democracy and more particularly democratization on the one side and climate change and responses to that on the other are underexplored in the two literatures on democratization and climate change. A complex web exists, characterized by interdependence and reciprocal effects. These must be plotted in as systematic and comprehensive a way as possible. Only then can we establish whether democratization really matters for climate change and for responding adequately to the challenges it poses. And only then can we assess the consequences that a changing climate might have for democracy and democratization. Implications follow for international efforts to support the spread of democracy around the world and for climate governance. This collection of theoretically informed and empirically rooted studies combines insights from academics and more policy-oriented writers. A major objective is to facilitate dialogue among not just analysts of democracy, democratization and climate change but with actors in two fields: international democracy support and climate action.

Keywords: climate change; interdependence; climate governance; international democracy support

Introduction

Do global warming and increasing incidence of extreme weather events along with their environmental, economic, social and political consequences make democratic progress and sustainability more difficult? Where urgent measures are essential if states, societies, economies and the poor especially are to become more climate-proof, do democracy/democratic progress become vulnerable? Are the steps that science says are necessary to restrain harmful climate change incompatible with values and processes associated with freedom and democracy? Does democratization help or hinder the cause of climate (change) mitigation, defined as strategies to reduce the amount or rate of increase of greenhouse gas emissions (GGEs)? Does it help or hinder climate (change) adaptation, defined as precautionary steps and

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preventative measures against the harmful effects of climate change, coping strategies, protection and compensation and redress, especially in societies or groups like poor female-headed low-income households and indigenous peoples, who are most exposed to harm from climate change?

These are big, complex questions; any serious attempt to address them must recognize key areas of interdependence among them. The questions do not just invite theoretical discussion. They have huge practical relevance to the political choices that societies make, ranging from the type of governing institutions to narrower considerations of public policy response. These and related questions are the starting point of the material in this collection. It cannot pretend to offer convincing answers to all of them. Instead it raises and explores issues in ways that have received insufficient attention in the separate literatures on climate change and democratization. Much attention, a lot of it gender neutral or gender blind, has been devoted to the science of climate change and to the economic and financial implications of different ways of dealing with it. A sizeable literature exists on the international political dimensions too. By comparison the political dimensions at national and sub-national levels in many countries have attracted less scrutiny, as have the implications for international democracy support. Actually, when seeking answers to the questions an important point could be to distinguish between ideas about democracy and the record of established democracies on the one side and, on the other side countries that seem poised somewhere between democracy and autocracy and those in political transition.¹ Also relevant to the answers may be the strength, or weakness, of the state and effectiveness of governance. These properties offer additional ways of categorizing countries even where there are connections with the type of regime.²

This collection aims to engage several constituencies – those whose main interest is democracy or democratization, and those whose special interest is climate change and how the political arrangements and public policy in different countries respond to the challenges it presents. The issues raise considerations that are central to several social science (sub)disciplines – political theory, comparative politics, and policy studies – where none has a monopoly of relevant insights. To reach across constituencies and disciplines short *resumés* of essential knowledge are offered in the sections immediately following. The first section, a basic introduction to climate change, rests on the conviction that global warming is taking place and could accelerate further, and man-made causes are a significant contributory factor, notwithstanding the scientific uncertainties. The second section summarizes some principal findings from democratization studies highly relevant to exploring the interface with climate change. The third section explains why climate change matters for democracy and democratization. The fourth section examines whether democracy is relatively well-equipped to address climate change challenges, and assesses the importance of democratization. The fifth section relates climate change to international efforts to support the global spread of democracy. The sixth offers some conclusions. A final section briefly introduces the contributions in this collection.

A changing climate

The global climate is changing. The underlying tendency of scientific opinion is that this will continue and will do great harm as well as some good. *Climate Change: Global Risks, Challenges and Decisions* – one of the most up-to-date academic summaries of scientific knowledge – says that for many key parameters the world's climate is already moving beyond the patterns of natural variability that societies have been used to, for variables like global mean surface temperature, sea-level rise, ice sheet dynamics, ocean acidification and extreme weather events.³ The same assessment claims there is a significant risk that many of the trends will accelerate to the point where abrupt or irreversible climatic shifts become more likely. The people who will be harmed most are those who are least well equipped to cope with the destructive effects of climate instability including extreme weather events. In fact in terms of mortalities (but not monetary damage) developing countries dominate the upper reaches of the *Global Climate Risk Index*, which reports extreme weather events.⁴ The people who are most badly affected bear little or no responsibility for the carbon dioxide (CO₂) emissions specifically and the GGEs more generally that have propelled the global warming of recent decades. In contrast today's advanced industrial and post-industrial societies carry heavy responsibility.⁵ That said, with the near doubling in global warming that looks inevitable in the coming decades as past emissions take full effect, over 130 countries will be highly vulnerable to climate change and over 50 countries will suffer the kinds of acute impacts that some, particularly fragile states are experiencing today.⁶

The view of Anthony Giddens in *The Politics of Climate Change* that the older industrial countries must take the lead in reducing carbon emissions is then entirely reasonable.⁷ After all, even the Europeans, 'who have gone further than any other political actor to address the problem' have so far 'capped the costs they are willing to incur more than their emissions'.⁸ And yet the sentiment shared by United Nations Secretary General Ban Ki-moon at the Delhi Sustainable Development Summit in February 2009 – that the time has come to move on from arguing over who caused global warming, and that all countries should now accept a common, shared responsibility for tackling the looming problem⁹ – is gaining increasing traction. Indeed, South Africa's Minister of Environmental Affairs had already said that if dangerous climate change is to be avoided then 'substantial deviations below business-as-usual' baselines for emissions are needed in the emerging economies too.¹⁰

In reality developing world contributions to new GGEs will exceed the emissions of the developed world by increasing amounts in the years ahead. China, the world's largest non-democracy, and India, the world's largest democracy lead the charge, as their rapid industrial development and economic growth are fuelled by polluting coal-fired power stations. Land-use changes connected with deforestation in particular are another significant source of all GGEs; some developing countries including the democracies of Brazil and Indonesia are significant

contributors. Of course especially in China's case a significant proportion of its carbon emissions arise from manufacturing goods that are exported to the West. This means that calculations of national contributions to global CO₂ emissions made at the point of consumption instead of production shift greater responsibility back to the West. At the same time all the projections conclude that large and growing numbers of people in China, India and sub-Saharan Africa will be badly affected by climate change. Further economic progress remains indispensable for meeting universal basic needs and advancing human security in these countries, but effective climate mitigation makes good sense in terms of meeting the needs of adaptation there too.

Understanding the political capacity of countries to respond to the challenges of climate change is essential, especially if international negotiations on distributing financial, economic and other burdens of mitigation and adaptation are to produce agreements that countries can implement successfully. The United Nations Development Programme's (UNDP) *Human Development Report 2007/2008, Fighting Climate Change: Human Solidarity in a Divided World* was right to identify political imagination and government leadership as crucial determinants of whether the requisite action will be taken.¹¹ The example set by the poor performance of the Kyoto Protocol (linked to the United Nations Framework Convention on Climate Change, 1992), which determined binding targets for CO₂ reductions, is not encouraging. Similarly, the Convention on Biological Diversity which came into force as an international legally binding treaty in 2005 has not been followed through. Moreover, it seems that democracies can claim no special merit: at best the evidence suggests they are 'clearly more responsive at the political commitment than at the problem-solving level, not only in absolute terms, but also relative to non-democracies'.¹² Appropriate domestic policy initiatives, the capacity to act, and effective action could all count for more than just putting signatures to international agreements, where democracies do compare favourably. But these conditions may not all move in step. The huge investment that China is making in renewable energy sources – China's installed capacity already leads the world¹³ – and its energy conservation measures combined with its refusal to accept an internationally enforceable commitment to make absolute cuts in its CO₂ emissions illustrate the point.

Democratization

If climate change has huge potential importance and generated enormous debate in recent years then in the world of politics something very similar could be said of democratization. Here is not the place to survey all the major findings that have emerged from studying democratization since the start of the so-called third wave of democracy, which began in southern Europe and Latin America in the 1970s. Regular readers of *Democratization* need no reminders. But some of the main points relevant in the context of climate change because of the implications

for meeting the challenges of either climate mitigation or adaptation, or because the democratic prospect might be affected, are as follows.

Democratization understood as a journey can be quite hazardous. Often beset by difficulties, only sometimes does it issue in stable democracy let alone one characterized by liberal political credentials. Many countries that have embarked on democratic transition or have replaced authoritarian rulers appear to have settled – for the time being anyway – on an intermediate type of political regime, sometimes labelled democracy with adjectives or its mirror image, authoritarianism with adjectives (competitive authoritarianism being one example). Progress towards consolidated liberal democracy seems much less common than the survival of democracies that still fall short, in particular the electoral democracies that hold regular elections but without all the civil rights and rule of law associated with liberal democracy. The moral is that democratizing a polity can be very challenging. The possibility of failure seems to be increased where other daunting challenges like nation-building and state-formation, national economic reconstruction and growth compete for investments of political guile, social capital, material resources and technical know-how. New democracies can be fragile. Even when democratic progress does occur, neither wise leadership nor the capacity to govern effectively – let alone good governance – is guaranteed, notwithstanding the popular pressure placed on politicians and the institutions to produce strong economic performance. Among some divided societies transition away from authoritarian rule has produced alarming shortfalls in governability, and increase in inter-communal violence. Opposing politicians sometimes take advantage of the social discontents in ways that cause deep political uncertainty. The world's newer democracies range from some strong to relatively weak states and inadequate governing capability, as is true among non-democracies too.

All things considered then a process of political transformation where democracy is a goal can present a challenging environment for addressing the agendas of climate change. In developing countries especially, competition for the people's votes at election time places a premium on promises of economic progress, not reductions of GGEs. The view that environmental stress makes violent conflict more likely only when other adverse circumstances are also present may look less disturbing than the much more contentious claim that climate change causes civil wars, violence at the sub-state level. But weak institutions of governance or a political regime that lacks strong roots in society or exists in flux are both prime examples of such adverse circumstances.¹⁴ Smooth transition to stable democracy is then placed in even further peril.

The picture however is not all negative. Changes in the type of regime especially in a more liberal and democratic direction can be viewed as providing new opportunities for both climate mitigation and adaptation, as later sections will argue. For example there is the possibility of establishing institutions like civic associations and political parties that can convert popular concerns about climate-related issues into political demands that will be hard to resist, especially if the government is made accountable. In order to explore the balance sheet more

thoroughly, the next two sections will first treat climate change as if it is the independent variable and politics the dependent variable, and then reverse that relationship by investigating why politics and democracy and democratization specifically matter for the future of climate change and its effects. Table 1 is a summary of the main dependent-independent relationships together with intervening variables explored in the following sections.

The relevance of climate change to democracy and democratization

Several arguments suggest that climate change can be troubling for democracy and democratization, directly and indirectly through adverse impact on for instance livelihoods, human development and, ultimately, social harmony. One claim is that struggles for control over increasingly scarce resources like water have the potential to provoke disorder or more particularly create opportunities for corruption and other effects that burden the state. Governance could be overwhelmed to the point where democracy itself is undermined. 'Conflict constellations' identify causal linkages at the interface between the environment and society, capturing the mechanisms of risk to society and political stability, especially in weak and fragile states – among the most vulnerable to climate change.¹⁵

In these circumstances the case for tough action by the authorities to maintain or impose order can look very compelling, increasing the chances that more authoritarian and illiberal measures will be introduced where possible. Beeson for instance argues that growing environmental crisis is likely to undermine the conditions under which democracy and political pluralism can flourish, producing 'environmental authoritarianism' especially if a previous history of such rule exists, as in some Asian countries.¹⁶ Shearman and Smith make even more sweeping predictions about the perils facing liberal democracy, citing inability to address the economic and social damage caused by climate change.¹⁷ If global warming's effects were to lead to inter-state conflict over resources and accelerate the numbers of 'climate migrants' (a recent estimate of 26 million 'climate displaced people' is projected to treble in the next 20 years¹⁸) then the political reverberations inside states could still be significant even while avoiding full-scale violence. Warnings that increased numbers of so-called environmental refugees could come to threaten national security in the West occasion strong rebuttals.¹⁹ But analysts might still have to revisit the well-known thesis that says democracies live at peace with other democracies, if only because increase in internal social and political turmoil can have external spill-over effects.

The well-established proposition that stable democracy benefits from socio-economic development has particular resonance for sub-Saharan Africa, where emerging democracies are struggling to advance amid levels of poverty that could well deteriorate in consequence of climate change effects. Rural areas heavily dependent on rain-fed agriculture for sustainable livelihoods will be harmed. The belief that climate change exacerbates social inequalities²⁰ adds further disadvantage to the most vulnerable groups including the majority of

Table 1. Complex relationships between democracy, democratization, climate action and climate change: independent, intervening and dependent variables.

Independent variable	Intervening variables	Intervening variables	Dependent variable
Climate change (global warming; extreme weather events)	Conflict and political stability; development (economic, social, human); public attitudes and civic mobilization	Climate action (mitigation; adaptation), especially institutional responses; international cooperation (especially democracy support)	Democracy and alternatives; the democracies and non-democracies; regime transformation (democratization and alternatives)
Democracy (models); the democracies	Conflict and political stability; development (economic, social, human); public attitudes and civic mobilization	Climate action (mitigation; adaptation), especially policy responses; international action (especially climate action)	Climate change and its impact (global warming; extreme weather events)
Regime transformation (democratization and alternatives)	Political stability; governance; development (economic, social, human); political institutional choices	Climate action (mitigation; adaptation), especially policy responses; international cooperation	Political regime; climate change and its impact (global warming; extreme weather events)
Climate action (mitigation; adaptation); political/policy responses	Development (economic, social, human); state powers and governance; social distribution of burdens	Balance of democratic/climate priorities in international relations; international burden-sharing on climate action; international support for democratic governance; effectiveness of institutional and policy responses; implications for national self-determination; international energy trends	Climate change (global warming; extreme weather events); democracy (models) and alternatives; democracies and non-democracies; regime transformation (democratization and alternatives)

Notes: Effect of independent variables on intervening and dependent variables may be positive, negative or on balance neutral. Intervening variables may be a product of prior variables identified in the table or alternatively come from outside. Intervening variables may interact.

Source: Author.

women, children, elderly, sick and disabled people. This makes the core democratic value of meaningful political equality harder to realize.

Even in some well established wealthy democracies like the United States an increasing tendency to view climate change through the lens of ‘climate securitization’²¹ – meaning how to secure reliable and affordable energy supplies and energy autonomy (‘energy security’) so as to meet requirements of national ‘economic security’ and defence – may operate to the advantage of what C. Wright Mills called the ‘military–industrial complex’.²² Mills doubted that this ‘complex’ is truly politically accountable. Recent concerns about ‘climate securitization’ in the West also dwell on its potential to displace attention from the socio-economic and political forces such as social injustice and institutional failure that lie behind poor countries’ vulnerability to climate-induced harm. And almost anywhere growing frustration at the apparent inability of elected leaders to rise to the challenge of making an appropriate response to climate change, if or when the consequences of delaying action raise high alarm, could dent confidence in the political system and weaken attachment to democracy. Of course something similar could happen in non-democracies too.

Finally, on a more positive note countries ranging from Canada to Russia stand to reap economic gains from global warming. And increasing awareness of the man-made causes of climate change and its significance fuels a growth in civic and non-governmental organizations keen to draw attention to the consequences and influence the public policy response. Voluntary associational life, the green movement in particular, has been energized and enriched. Calls to take action are ‘bubbling and spreading from the bottom up’ in polities as varied as China and the United States.²³ Under certain conditions such civic mobilization could turn into a potential force for political liberalization and democratic change in societies with (semi-)authoritarian regimes.

Climate mitigation matters too

If climate change has political consequences then the same can be said of government induced attempts to reduce its magnitude by curbing GGEs. There are different approaches and policy solutions to this end. They imply different consequences for the balance between state and market. For instance, Giddens’ view that there ‘now has to be a return to greater state interventionism’ is echoed by Held, who says a return to state planning in the form of ‘flexible’ regulation, taxation and state subsidies for investment in renewable energy must all be included in the policy mix.²⁴ However, libertarians and free market advocates oppose extensions of state power, decrying at least some policy approaches to tackling global warming.²⁵ They are wary of delegating power to bureaucracies at the inter-governmental and supranational levels too, even though an enforceable international regime to reduce (the rate of growth in) global emissions may require this. The political ramifications of these considerations merit further discussion, given the evidence that liberal democracy thrives best in market and social market economies.

Another area for discussion is the opportunities that climate mitigation strategies offer to strong lobbies representing particularist interests, and the implications for democracy. Industries like nuclear power endeavour to shape the political decision-making process in their pursuit of the economic rents made available by the climate change 'pork barrel'.²⁶ The logic of collective action suggests that special interests like these can end up exerting a disproportionate influence on public policy compared to ordinary citizens even in a robust democracy – although similar tendencies may prevail in non-democracies too.

Arguments like those advanced by Giddens for taking certain environmental choices out of partisan political competition in order to give mitigation strategies the secure tenure they need in order to work, or Shearman and Smith's more radical solution of transferring power to specially trained philosopher/ecologists²⁷ are no less contentious. Implications for democratic accountability and control arise from consigning even highly technical public issues to 'the experts'. Yet the literature disagrees over whether adversarial politics among political parties has actually hindered progress on green and climate-related issues. This is said to be true of the United States.²⁸ In contrast weak party competition on the environment is said to have prevented Britain adopting a proactive climate strategy much sooner than it did; partisan dispute could have focused public attention more effectively, provoking decisive political leadership sooner.²⁹

In countries that rely heavily on oil and gas exports for foreign earnings and state revenue (rents) efforts to reduce carbon footprints that erode the value these resources command in world energy markets could have political consequences. The precise effects on political regime would vary. The so-called rentier states might be undermined, their governing capabilities reduced, causing politics in countries like Russia, Saudi Arabia and Iran to become unstable.³⁰ However, no one can be sure that transition to Western-style democracy would be the outcome. Other large exporters, like Nigeria and Iraq, which are struggling to build democracy and whose governance contains major weaknesses would likely face even more challenging times. All these states are important to the global balance between democracy and its alternatives, not least because they have sizeable populations. But even the majority of developing countries, possessing more diverse economic credentials, could find their chances of maintaining or moving towards stable democracy harmed by climate mitigation measures that impose net economic costs, even before the financial costs of adaptation (discussed below) are factored in. While reductions in national economic growth would restrain increase in emissions, climate policies that have the effect of retarding the development of a middle class would seem to impede democratization, when assessed against Barrington Moore's widely accepted aphorism 'no bourgeois no democracy'.³¹ And if the economic adjustment costs imposed by climate change or the financial costs of mitigation and adaptation are distributed unevenly in society – to the detriment of politically weak groups – the chances of reaching the democratic norm of political equality become more remote. Not just climate change but also some of the efforts to address it can lead to social injustice,³²

harming at minimum democracy's substance and reputation. In the long run democracies are generally thought to pursue more equitable strategies of development compared to non-democracies, although the fact that the oldest democracies have relatively high average income levels might explain this or provide an important enabling condition.

Nevertheless, in so far as climate mitigation – however it is achieved – slows the trajectory of global warming and thereby reduces all the burdens of adaptation later, the overall political impact of climate change in the future will be lessened too. In that way mitigation helps to improve the outlook for democracy and democratization. But if the present economic costs of mitigation were to hold back pro-poor development then the balance of political effects later is harder to model. Historically CO₂ emissions and emissions per capita have increased with economic growth. But growth that reduces poverty improves the chances of experiencing the kind of democracy where all essential rights and freedoms can be realized.

Finally on why climate mitigation matters, there is a general tendency in international negotiations for large and powerful or wealthy states to have strong voice and small countries and weak states – including many low-emission countries now facing significant costs of adjustment to climate change – to be international norm-takers, not norm-makers. The United States and China both have enormous veto power over coordinated global action to reduce GGEs, not least because their CO₂ emissions are far ahead of any other country. Just five governments – the United States, China, India, Brazil and South Africa – were responsible for producing the Copenhagen Accord at the 15th session of the Conference of Parties to the UN Framework Convention on Climate Change (December 2009). Most of the conference participants declined to give the Accord the status of formal agreement: their sensitivity to the undemocratic nature of the way the Accord emerged was palpable. But in fact any agreements that transfer powers to monitor and verify national undertakings or make further adjustments to international obligations to levels of governance above the state have implications for national self-determination generally, and for democracy specifically. Not only China but also India continues to express great concern over the issues of sovereignty. Arguably the democratic inheritance that a society can bequeath to its future generations is impaired once internationally binding commitments infringe future entitlements to make choices. Yet, as Beckman noted, 'few attempts have been made to show that future people would prefer being born into a less democratic political environment than one shaped by the destructive environmental policies of their ancestors'.³³ Of course some ideas about how to reconcile democratic principles and global climate governance can be found in existing literatures such as that on the politics of globalization, but they lie outside the terms of reference here.³⁴

In this section climate change and the effects of mitigation have been considered as the independent variables. But both the man-made origins of global warming and deliberate mitigation steps are themselves a reflection of human choices. These include conscious political decisions, non-decisions and sheer

negligence. So the next section takes climate issues as the dependent variable and examines democracy and democratization as sources of influence.

The relevance of democracy and democratization to a changing climate

Conventional wisdom maintains that democracies are more likely than non-democracies to care for the environment in general. The reasons are worth summarizing, before examining contemporary evidence relating to climate change specifically.³⁵

First, democracies are believed to place a relatively high value on human life and the quality of life. Second, autocrats are often believed to be preoccupied with preserving their own hold on power and maximizing personal gains, whereas democratic procedures force government to take a broader (and, perhaps, longer-term) view that speaks to the interests of society as a whole. Third, then, democratic institutions are responsive: they will act on society's expressed concerns including environmental concerns. Fourth, democratic governments are accountable for how well they perform. Fifth, political openness, power diffusion and the electorate's ability to change their government help a country develop the widest range of feasible solutions when tackling climate issues. Over time, mistakes are more likely to be publicized; public decision-making will become better informed – something of vital importance where climate science is concerned. Citizens are comparatively free to experiment with solutions in their own space. Sixth, the legitimacy that comes from the idea of rule by consent, and the political imperative for democratically elected leaders to persuade the people to follow them, foster society's cooperation in implementing tough decisions. This could be crucial in regard to burdensome measures of climate mitigation. A reliance on force in non-democracies can be less effective. Political regimes whose survival depends mainly on delivering material prosperity for the people will not prioritize environmental sustainability if that comes into conflict. Finally, there is a view that women show more concern for the environment than do men; that countries with high levels of female political empowerment perform favourably in terms of controlling CO₂ emissions looks especially relevant.³⁶

Needless to say not all of the above arguments and their assumptions are mutually compatible. They cannot all be equally true. Just as important, the question what specific features of democracy or liberal democracy in particular do benefit environmental sustainability admits different answers. Are the freedoms more significant than rule by the people? Does the political participation matter more than contestation? Is universal suffrage as important as the accountability that a vibrant civil society can exact from government? Is democracy's demonstrable predisposition towards some form of market-based economy more relevant? Finding answers to these questions is tremendously important, and requires more research in relation to climate issues.

There is some statistical support for claims that democracies are generally better for the environment compared to non-democracies. But even positive

studies tend to qualify their findings, such as by saying that different democracies will perform differently depending on what political feature counts most; moreover different environmental measures produce different findings.³⁷ One judgement states ‘On balance the link between democratic rule and environmental sustainability is not as strong as we might expect’.³⁸ And the inferences that are warranted from data for carbon emissions specifically are no less ambivalent (see below). Analytical distinctions between environmental performance in general and climate action in particular must be matched by comparisons among relevant climate action indicators among different democracies – for example developed world versus developing world democracies – and comparisons between well-established liberal democracies, different types of non-democracy, ‘democracy with adjectives’ and transitional regimes including democratizing countries.

Climate mitigation performance: big picture evidence

Climate mitigation performance can be assessed in different ways, each capable of producing distinctive findings. We should be clear about: what is being assessed and how? (statements of intent; actual policies; practical action; achievements that can be traced to intent); who is being assessed? (a government; the state; society); against what yardsticks? (e.g. previous performance; inter-country comparisons; what the science formerly recommended, or recommends now). Broad-brush statements about comparative regime performance can be unhelpful. Of course an important distinction is between performance over mitigation and adaptation. And we might want to compare what rich countries do at home and the support they give to climate efforts in poorer countries.

Moreover efforts to compare average performance for all democracies with all non-democracies could miss the point that the United States and China together stand apart in terms of: their current emissions; potential to exert global political leadership; their place in the global demographic balance between people who live in a democracy and people who do not. Comparing democracies with non-democracies as an approach to studying future climate change might consider attaching greater weight to the evidence that is drawn from these two countries. This applies especially to the United States if more positive leadership on mitigation by the United States is both a necessary and sufficient condition to unlock stronger commitments on mitigation by most other countries, China included. Similarly, when speculating on how much of the world will resemble democracy in the future a similar remark could be made about China’s political evolution in the meantime. When interpreting past performance issues the choice of period can influence the results in more ways than one. For example Gallagher and Thacker, analysing data for just 1960–2000, found that democracy seems beneficial for reducing carbon emissions but only when measured as a cumulative long-term phenomenon (a ‘stock of democracy’); they found no comparable correlation either for the level of democracy or recent transitions to democracy.³⁹

More recent big picture evidence for climate mitigation does not put democracies as a group in a good light. When the Kyoto Protocol finally came into force in

2005 not all wealthy democracies had ratified it. Subsequent CO₂ emissions exceeded the stated commitments, in many cases. Where countries appeared to meet their obligations this was partly accidental.⁴⁰ The economic slowdown affecting most countries during the 2008–9 financial crisis and later measures to cut public debt reduced carbon footprints temporarily. Prior to then leading democracies as a group continued to increase CO₂ emissions in total and on a per capita basis, while US emissions declined as a percentage of economic output. As CO₂ emissions from producing goods for export now accounts for over a quarter of all global emissions,⁴¹ the ‘carbon leakage’ from rich countries created by increasing offshore sourcing of locally consumed manufactures (sometimes in response to tightening environmental regulations at home) makes the democracies’ record look even less impressive. Early research shows that the lower per capita emissions of democracies compared to autocracies is achieved in the early stages of political transformation away from autocracy. Further progress from a hybrid or intermediate regime towards liberal democracy makes little difference.⁴²

Additional evidence from the *Climate Change Performance Index*,⁴³ an annual calculation of both the amounts and trends of national energy-related CO₂ emissions (excludes other GGEs) and incorporating expert local evaluations of climate policy, is very mixed. Emission trends and policy – important for predicting future trends, whereas simple extrapolations from past performance could be misleading – together account for 70% of the performance rating. Policy provides clues to understanding movement along the environmental Kuznets curve,⁴⁴ even though doubts remain over whether inter-temporal relationships between changes in per capita CO₂ emissions and incomes over time really do follow the inverted U-shape depicted by the classic Kuznets curve. That said, democracies dominate the upper ranks of the *Index* every year. But Germanwatch and Climate Action Network Europe, who produce the *Index*, determine that no countries – not even leading performers like Sweden – qualify for any of the top three places, which stand empty. More authoritarian cases like China, Russia and Saudi Arabia cluster in the lower reaches, but so too do Australia, the United States, Poland, Turkey and Canada.

Some credit for the relatively high ranking some European countries receive in the *Index* could owe something to the policy lead that the EU (especially the European Commission) is widely recognized to have taken on climate mitigation, particularly the introduction of a carbon emissions trading scheme, and to the ability of climate action leaders like Germany to influence EU policy.⁴⁵ These features remind us of the so-called ‘democratic deficit’ that figures in debates about EU democracy.⁴⁶ In fact in July 2011 the directly elected European Parliament voted against increasing the EU’s emissions reduction target from 20% to 30% (compared to 1990) by 2020, even though the recent economic contractions and slowdowns have made all targets more achievable than previously imagined.⁴⁷ Of the other major democracies, Japan and Canada (as did Russia) ratified the Kyoto Protocol eventually but Japan allegedly was ‘largely driven by prestige and reputational concerns’, not electoral pressure;⁴⁸ Canada has since announced its

withdrawal. France's relatively low per capita emissions benefit from its high proportion of electricity from nuclear power, whose 'green' credentials are questionable. Britain, India and Brazil among other democracies still plan substantial new nuclear capacity, notwithstanding the Fukushima nuclear disaster in Japan, 2011, which prompted Germany to close existing nuclear plants early and accelerate investment in renewables.

The positions that many governments have taken on binding targets for their country's CO₂ emissions including at the December 2009 conference in Copenhagen and subsequent international climate summits in Cancún (2010) and Durban (2011) also do little to boost democracy's reputation. In the United States at first some modest initiatives were signalled by the incoming Obama administration, but cross-party opposition in the Congress has prevailed since. Canada follows the United States; while Australia's government announced a carbon tax on major industrial polluters in 2011 but the main opposition party says it will reverse this. Japan like Russia put itself outside the extension to the life of the Kyoto Protocol up to 2017 that others agreed to in Durban. So, the developed world's promises will not keep global warming below 2 degrees Celsius above pre-industrial levels (which scientific consensus deems the maximum safe level) unless unrealistic mitigation efforts come from developing countries. And yet China's recent ratings for its policy initiatives in *The Climate Change Performance Index* are strongly favourable, higher than for many democracies. Since producing the 2008 White Paper *China's Policies and Actions on Climate* China has made a voluntary commitment to reduce the emissions intensity of its economic activity by 40–45% by 2020 (compared to 2005 levels) – a commitment that draws on concerns about future energy security and economic competitiveness, not just environmental concerns. China's total emissions will continue to be the world's largest. Even so, comparisons with the climate initiatives of the US federal government do not flatter the United States.

Public opinion data help explain the picture presented so far.⁴⁹ Actually the most striking contrasts are between the greater concerns about climate change expressed in parts of the developing world compared to some rich world democracies. A study of 15 countries commissioned by the World Bank ahead of the Copenhagen conference found an almost identical proportion of respondents claiming climate change is not a major problem in the United States (31%), Russia (30%) and China (28%). Resistance to paying more for energy was greater in the United States, Japan and France than in China and Vietnam. And half as many respondents again in Vietnam compared to India agreed that tackling climate change should be a priority, while both countries are making strong economic progress.⁵⁰ People in the United States as a whole show less concern than Europeans. But there are variations both across US states and among EU countries. In the Eurobarometer the numbers expressing concern ranged from around 90% in some Mediterranean countries to around 50% in Poland and the Czech Republic; it also found over 40% of Europeans claiming not to be informed/very informed about climate change and 31% claiming to having done nothing to reduce their

carbon footprint.⁵¹ Scepticism about global warming or its human causes or society's ability to counter it appears to be increasing among Western societies, as anxieties about the economy, public spending cuts and employment climb.

Summarizing from the evidence

On balance the presumption that democracies are more likely than non-democracies to act on climate mitigation is not completely refuted. There are theoretical grounds for believing it should hold, especially where democracy brings good governance.⁵² But the evidence does not provide unqualified support. It certainly does not tell us that democracies are doing what most climate science says is necessary. The findings from comparing countries seem to depend on the particular choice of countries from within different categories of regime and on what performance indicators are assessed, as well as the period consulted. The effect of such factors as a country's income level, economic performance and industrial and technological development,⁵³ carbon resource endowments and comparative advantage in international trade seem more influential than the type of political regime. Of course these other factors may well also have a direct influence on the kind of regime and political stability. Public attitudes are probably influenced as much by a recent felt experience of climate-induced harm and the competition from other high profile issues as by democracy per se; popular reflection on the longer-term global impact of maintaining contemporary lifestyles has not issued in fundamental change of mass behaviour.⁵⁴

Nevertheless, even if the argument that the influence of political institutions is secondary to the impact of the growth-oriented logic of capitalist development looks very plausible, the type of political regime and change of regime may not be wholly inconsequential. Indeed, once the level of analysis is taken down to provincial, regional, city, municipal and other local levels the picture looks much more varied. On the one side, action favouring the environment generally in China has been hampered by a tendency for 'the regulations and measures of sub-national governments to develop their own dynamics, speed and, partly, contents, thus deviating at least temporarily, and sometimes substantially, from national regulations'.⁵⁵ On the other side some US cities (e.g. New York) and states (e.g. California, with a Republican governor 2003–11) and some states in Australia have made conspicuous efforts to reduce CO₂ emissions. There is transatlantic inter-governmental cooperation at these levels.⁵⁶ But where profitable, environmentally destructive activities are important to the local economy, employment or public revenues the sub-national authorities often feature among the most prominent lobbyists against national initiative to impose emissions caps or other regulations. How we should see the connection between the devolution of power, local self-determination and opportunity for diversity that some arguments for democracy trumpet, on the one side, and willingness to engage in climate mitigation on the other side, is not entirely clear. Comparisons of large rich democracies and large developing world democracies such as India, Brazil and Indonesia do not obviously bring

extra clarity. But what is clear, however, is that the locus of political power and legal authority for public intervention in climate-related matters in federal as in other systems really does matter. It can influence a country's chances of supporting binding international agreements to reduce nations' CO₂ emissions.

In conclusion, getting the political and governance institutions right for climate mitigation might not be the same thing as getting the institutions right for liberal democracy; tensions can exist between the different objectives, and between different levels of government.

Democracy, democratization and climate adaptation

Are people in non-democracies more vulnerable to the effects of climate change compared to people who live in liberal democracies? Grounds for saying that democracy is more likely than non-democracies to take steps to insulate citizens from the harm done by global warming (adaptation) and help those who are harmed by extreme weather events (disaster mitigation) resemble the arguments suggesting democracy is more favourable for environmental sustainability generally.

If political equality defines the democratic ideal, then the empirical claim that power inequalities – mediated through political institutions – are associated with poor people suffering disproportionately from (climate-induced) environmental harm⁵⁷ is telling. Noteworthy also is the requirement of democratically elected governments to respect the expressed wants of voters, which underpins Sen's well-known extrapolation from South Asian experience that democracies blessed with free media are less likely than non-democracies to experience large famines.⁵⁸ So democratization that moves a country towards stable democracy carries hopes of better climate adaptation. Yet just as there are examples of natural disasters bringing people together rather than causing conflict so there are instances of non-democracies taking prompt, effective action to help citizens affected by disasters. China's internationally acclaimed response to the earthquake in Sichuan in 2008 is an example. Of course responsiveness to a sudden disaster does not guarantee equal responsiveness to a slow-onset crisis such as global warming's longer term effects, as Sen understood when acknowledging the persistence in India of widespread undernourishment short of a famine. One possibility is that the incentive to think ahead that faces a ruling party which is determined to govern for many years ahead, China's Communist Party for instance, is no less strong than the incentive facing political parties in competitive democratic systems, where at times governments behave negligently on the assumption that other politicians or other parties will have to deal with – and might even be blamed for – the bad consequences that come later.⁵⁹

And yet democracies including those in the developing world may still have a stronger incentive to engage in climate adaptation compared to mitigation, in the contrast with non-democracies. The political consequences for a government of not taking effective action in response to a clear and present danger will be more

concentrated and immediate than when failing to install climate mitigation ('precautionary adaptation') measures that promise future benefits of a more diffuse nature. Moreover the example of China cannot be seen as representative of all non-democracies, where differing regimes such as personal autocracies and military rulers usually tend to be much less durable compared to one-party states, and less far-sighted. A different point is that societies where people enjoy greater freedoms allow communities to use local knowledge to develop adaptation strategies that are most effective for them.

Nevertheless, while on balance climate adaptation might be served best by democracy, democracy is not a sufficient condition for adaptation. The material wherewithal and executive capacity are no less important. On the first, the belief that on the whole democracies outperform non-democracies in long run economic development⁶⁰ is clearly important, even if the political ferment accompanying democratic transitions harms the economy in the interim. The West's relatively favourable record in disaster mitigation and preparedness owes much to its wealth. Whereas in Africa, some emerging democracies included, adaptation governance is very weak.⁶¹ Democracy's claimed advantage in regard to development is itself double-edged, where development means higher CO₂ emissions. In terms of governance capacity and 'good governance' specifically, the advantages that stable democracy can bring must be weighed against any drawbacks that political transition towards stable democracy means for governance in the meantime, such as where resistance to democratic reform or violence persist. Institutionalization of the rule of law and an ability to detach public policy from strong neo-patrimonial and clientelist influences may well be crucial to the chances of successfully managing climate change, but these advances have been slow to appear in a number of emerging new democracies or proto-democracies.⁶² The benefits of good governance, integrity for example, are often delayed.

Take corruption for instance. Wealthy liberal democracies dominate the upper reaches (least corrupt) of Transparency International's tables scoring perceptions of corruption, although not to the exclusion of places like Singapore and Hong Kong. But the evidence from developing world democracies and democratizing countries is mixed: many have relatively high corruption. In India for example Anna Hazare's hunger fast against corruption attracted much international media attention in August 2011. Rock's study of data from many countries for 1996–2003 suggests an inverted U relationship between the development of democracy (if defined as something more than merely electoral democracy) and corruption, such that democratization's impact depends on how quickly public institutions of trust, transparency, accountability and government effectiveness can be built and their subsequent durability.⁶³ Democracy, executive capacity, 'good governance' and integrity are not synonymous; each term individually connotes a bundle of properties. The prospects for effective climate adaptation depend on the impact that democratization has on each and every one. Similarly, democratization's consequences for economic and human development could turn out to be at least as important to adaptation as are the more direct consequences of

democracy itself. The connections between democratization and adaptation probably work out differently and with differential effect in different countries, and even between different locations within a country. And vary in accordance with whether relationships are gauged in the short or much longer term, especially where a country's democratic progress turns out to be jagged or accompanied by politically unsettling side effects.

Climate change and international support for democratization

The question of how to support democracy's spread in the face of the effects of global warming and extreme weather events while endeavouring to reduce GGEs merits more attention than hitherto, especially for organizations involved in international democracy support. Such support activities tend to focus on the short term; often they – indeed must – respond to internal political events, which can be unexpected as in the nature, timing and rapid spread of the 'Arab awakening' in 2011. In recent years democracy support has faced increasing hostility from governments seeking to maintain their own state's sovereignty. Independently the established democracies' weakened public finances now pose constraints. Declining public support for democracy assistance in the United States and an approaching end to European Union enlargement are other adverse developments. Moreover if, as is often said, climate change considerations are not yet mainstreamed into the programmes and priorities of the large and well resourced industry of international development cooperation,⁶⁴ then the fact that most democracy support practitioners do not engage with these considerations either should be unsurprising. There is little immediate influence these practitioners can exert on climate change or its primary causes; there are many more obvious ways of trying to further their own objectives. That said, might the connections between climate change and politics now offer not a distraction let alone an unnecessary burden but new opportunities?

First, on the negative side, if tackling climate change rises further up the agenda of international politics and the urgent need for more effective action becomes harder to resist, then high-level attention to supporting democracy abroad among Western leaders could be a casualty. Both issues have to compete with other compelling international concerns like the state of the global economy and nuclear proliferation. The fact that in recent years democracy support lost much of the momentum it enjoyed in the 1990s makes it especially vulnerable, especially if the Arab awakening falls away or is found to jeopardize overriding foreign policy goals in the West.⁶⁵ Foreign policy-makers face strategic choices where democracy or human rights support might damage relations with governments that reject foreign political interference but whose cooperation in tackling global climate change is vital, China and Russia for example. Policy conflicts could also arise if democratization seems likely to weaken – albeit temporarily – governmental capabilities to implement climate mitigation and/adaptation measures, China's massive investment in renewables for instance. The West could make its offers of

adaptation support conditional on respect for civil liberties and political rights, especially where politically weak (semi-)authoritarian rulers lack the means to protect citizens from natural disasters and yet imagine that by conceding some externally demanded political reforms their incumbency will remain secure.⁶⁶ However, there are ethical objections to this, like those against notions that the politically motivated denial/manipulation of international assistance in humanitarian emergencies (such as extreme weather events) are acceptable. Any clear evidence that international climate finance serves mitigation or adaptation goals notwithstanding the political regime could be trumps. Yet the chances of international transfers related to climate action becoming a new 'resource curse' that damages the prospects for democracy demand serious consideration. After all, international commitments to developing countries to strengthen governmental capacity and for managing environmental risks specifically, already dwarf the few billion dollars spent annually on democracy assistance.

On a more positive note, both at the national and the international levels political leadership can make a difference. Political agency should explore how democratic advance could offer solutions to climate change problems, and vice versa. The political commitment to and resourcing of democracy support could benefit. For example, helping to empower local communities and foster participatory decision-making is one approach to enlisting popular involvement in climate management that might deliver more than top-down direction and centralized 'command and control' methods, in climate adaptation. Inside authoritarian countries, concern about climate change especially its harmful local effects might be tapped as a catalyst for political mobilization. Civic mobilization that first emerges in response to local environmental problems could then move on from pressing the authorities to respond in concrete policy terms to specific environmental grievances, and demand more fundamental changes to the political system especially if the environmental grievances are not addressed. There could be openings here for international support to civil society.

Rather different as a strategy for international partners both in development cooperation and democracy support would be the systematic identification of opportunities for institutional reform and capacity-building in the areas of 'good governance' that have most relevance to climate action, especially in emerging democracies. Governance support seems to have gained favour as an entry point for democracy promotion in recent years.⁶⁷ In conflict-prone societies help with strengthening both the state and the rule of law potentially could serve both liberal democratic and climate action objectives, especially adaptation. Indeed, Dutt's argument from statistical inquiry into governance and industrial-based CO₂ emissions that 'improving governance' (understood as the quality of bureaucracy, democratic accountability and absence of corruption) and strengthening institutions (rights and liberties) 'could ultimately lead to reduced emissions'⁶⁸ offers guidance to international partners in all three fields of cooperation: development cooperation, democracy assistance, and global climate action. The grounds for allocating more democracy support increase where a fragile new democracy

looks particularly vulnerable to climate change's harmful effects. Where windows for political change do present themselves international actors can advise on constitution-building, such as designing representative institutions that will reduce the likelihood of climate instability creating political instability and contributing to a complex causal mix of violent conflict in the future.⁶⁹ More broadly, synergies exist between the kinds of international development cooperation that really do reduce poverty and advance human development, reduce vulnerability to climate harm, and make stable democracy more likely. And as Carothers argues, harnessing development aid budgets to democratic goals remains difficult but is impossible.⁷⁰

In international politics many countries are determined to uphold the stance on non-intervention enshrined in longstanding United Nations documents that tend to constrict international democracy promotion. And many of the developing world's newer democracies such as Brazil, South Africa and Indonesia have not consistently supported initiatives at the United Nations condemning human rights abuses elsewhere.⁷¹ Furthermore, global climate change discussions among states have manifested sharp North–South divisions, with much finger-pointing between the developing world, especially India and China on the one side and advanced industrial democracies on the other. However this divide seems to be eroding. Negotiating blocs representing small island states like the Maldives and least developed countries who are experiencing or anticipate great harm from climate change (around 80 countries in total) show growing impatience with the reluctance of China, India and others to embrace legally binding targets for reducing their CO₂ emissions. This became apparent at the Durban climate change talks (December 2011), where these blocs made common cause with the EU on a 'roadmap' to establish a global legal agreement to succeed the Kyoto Protocol, after 2017. If rich countries do start delivering the financial and technical support for developing country adaptation and mitigation that was promised in the Copenhagen conference (2009) and the UN climate change talks in Cancún (2010), then some North–South relations should improve.⁷² Potentially this could improve the atmosphere for democracy and human rights support. In the past doubts have been raised about the West's moral authority to preach these values to countries where lives and livelihoods are being threatened by the accumulated global warming for which countries in the West are chiefly responsible.⁷³ By advancing an equitable solution to international burden-sharing on the challenges posed by climate change now, wealthy democracies could enhance democracy's standing as a form of rule and raise their credibility as actors committed to seeing democracy spread more widely.

Concluding remarks

The relationships between democracy, democratization and climate change are complex. The heuristic device of independent variable and dependent variable uncovers intervening variables that will affect the outcome (dependent variable), some of them occasioned by the independent variable or influenced by how

society and politics react to that variable; others including international factors could exist separately, entirely or in part.

A commitment to taking climate action does not neatly map onto the distinction between democracies and non-democracies or the distinction between developed and developing countries. Democratization can make it more difficult for countries to engage with climate mitigation. The political incentive structures and other constraints typically facing elected leaders can distract them from long term global goals. Being a wealthy democracy does not guarantee popular commitment to reducing GGEs as a political priority. Whatever other aims democracy might serve, increase in the number of democracies does not seem an obvious solution to global warming especially if democratization actually promotes material economic advance. Democracy seems better structured than non-democracies to protect the rights and basic needs of groups most at risk from climate-induced threats, but democratization alone does not ensure effective climate adaptation. Maybe Walker struck the right note: after reviewing the environmental effects of shifting from top-down to bottom-up approaches to conservation in three democratizing countries in southern Africa he concluded that we should not ask whether democracy is good for the environment but rather *how* and *when democratization* in its varying forms makes changes in the structures controlling decision-making and access to material resources favour legitimate social, material and environmental objectives together.⁷⁴

The changing global climate is no respecter of the political or economic status of countries, but its effects do differ among them. Some fragile democracies and developing countries that are attempting to democratize may be as or more vulnerable to climate-induced harm than stable authoritarian and semi-authoritarian regimes. Combining the economic progress needed to meet basic human needs (many millions of Indians lack access to commercial electricity) with climate mitigation and adaptation *and* with moving towards democracy/consolidating and improving democracy presents enormous challenges. Persuading citizens in established rich democracies to act in accordance with what science says the long-term global public good requires, for example relinquishing cheap-energy intensive life styles, seems an uphill task. Many elected politicians seem reluctant to take it on or prove inept when dealing with the genuine scientific doubts and policy uncertainties. Combating the political influence of organized economic interests that benefit from the status quo is another challenge, almost anywhere. And yet climate change – or the policy response – could precipitate political changes that engulf entire regimes – democracies, non-democracies and aspiring democracies. Even when public pressure for better climate adaptation boosts political liberalization and/or democratization we cannot expect emerging democracies in the developing world to privilege mitigation over economic growth, if the two are thought to conflict. The exceptions would be where popular preferences for material improvement expressed at the ballot box are overridden, or where voters' demands concentrate on human development gains like education and health care that require comparatively little energy.⁷⁵ Appropriate international transfers from

the rich to poor world could make an important difference where conflicts among objectives arise.

Does one overarching question link climate change issues, democracy and democratization? One candidate might be: is it necessary to climate-proof democracy in the democracies and thereby render international efforts to support democratization more resilient in the face of the threats climate change poses? A different candidate asks whether we should now refocus on making the democracies more 'fit for purpose' – defined as meeting the main mitigation and adaptation challenges of climate change. That could mean refashioning specific institutional arrangements or even the dominant ideas and models of democracy itself. A strand within green political thinking doubts whether even liberal democracy can provide solutions to environmental issues like climate change; alternatives like deliberative democracy that emphasize public participation are offered in the literature. But even within the confines of liberal democracy institutional tinkering could make a difference. In the United States the political checks and balances handed down by its constitution inclines towards legislative gridlock, impeding decisive action; apparently parliamentary democracies score better on environmental sustainability than presidential democracies.⁷⁶ Perhaps none of the questions in this paragraph should take precedence. But if choices must be made and then implemented the implications for research and practice in respect of democratization, responding to a changing climate, and the future climate, could all be profound.

Contributions

The following contributions expand on the above themes. They include normative reasoning and more social scientific consideration of the politics, range over mitigation and adaptation, and address implications for the demand for policy and policy outputs regarding climate action and international democracy support. Here, furthering exchange among different interested communities is as valuable as fostering dialogue among scholarly disciplines.

Ludvig Beckman examines whether type of political regime should matter when apportioning national responsibilities for remedying climate harm. Marianne Kneuer compares the 'climate protection performance' (emissions) of not just democracies and autocracies but the (intermediate) regimes that lie between them, finishing by considering implications for international democracy support. Thomas Hilde employs an epistemic democratic conceptual framework to infuse institutions for climate adaptation with the flexibility and adaptability requisite for coping with the complexity and uncertainty inherent in climate change. Richard Calland and Smita Nakhoda's case study of South Africa's energy resource planning scrutinizes civil society's ability to influence public policy in this crucial sector. Edward Page studies normative aspects of emissions trading (markets in allowances conferring entitlements to emit CO₂) through two lenses central though not exclusive to democratic discourse: procedural justice and

political legitimacy. Liane Schalatek applies democratic principles to the governance of instruments for allocating funds and implementing climate action around the world, arguing that human rights and democratic values will be advanced if public finance is democratized. Christopher Hobson bridges debates about international democracy promotion (visited more briefly in other contributions) with the concerns of policy communities committed both to this and to advancing effective climate action, and identifies areas of tension. Finally, in a special policy perspectives section actors who try to influence relevant policy processes share their own insights. First, Jana Mittag investigates how civil society action can contribute to developing country strategies to combat climate change. Second, Lili Fuhr and Sarah Wykes explore some civil society perceptions of how improving the governance of natural resources, oil specifically, connects to increased climate protection and action to secure the same.

Acknowledgement

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Notes

1. Significant volumes like Compston and Bailey, *Turning Down the Heat* and Giddens, *The Politics of Climate Change* discuss climate policy and politics in advanced industrial democracies but few comparable studies of developing world democracies, non-democracies and countries in political transition exist. Compston and Bailey's new *Feeling the Heat* will be a major addition.
2. Political regime refers to the basis and nature of the political power relationship between the rulers and ruled, for instance whether rule rests on consent or otherwise and the respect accorded to human rights, whereas the state means the governmental structures that deliver essential public goods like defence and public order. Governance is a more recent and protean term. Here it refers to the capabilities of the state machine and how well it performs the functions normally associated with policy and implementation, i.e. (good) governance.
3. Richardson, Steffen and Liverman, *Climate Change*.
4. Harmeling, *Global Climate Risk Index 2011*, 5, says 650,000 people worldwide have died from extreme weather events since 1990. The United Nations Development Programme's *Human Development Report 2007/2008*, 77, claims 98% of people affected by climate disasters live in developing countries. See also Global Humanitarian Forum, *The Anatomy*, 68, for an account of the mechanisms whereby climate change threatens the United Nations Millennium Development Goals.
5. UNDP, *Human Development Report 2011*, 9, which in addition notes the 'striking gender inequalities of natural disasters'. According to the UN Statistics Common Database, Africa accounts for only 3.6% of global CO₂ emissions but contains 14% of the world's population.
6. DARA Climate Vulnerable Forum, *Climate Vulnerability Monitor 2010*. This source reckons that over 99% of all climate-related mortality presently occurs in developing countries, and one-third of this occurs in India. Future climate change predictions are

- highly contingent: estimates by Climate Analytics, *Climate Action Tracker Up-date* say the earth is likely to be about 3.5 degrees Celsius warmer in 2100 than it was before pre-industrial levels.
7. Giddens, *The Politics of Climate Change*, 4.
 8. Busby, 'The Hardest Problem', 92.
 9. Ramesh, "'Strong Arm' Tactics".
 10. Media statement by Marthinus Van Schalwyk, Minister of Environmental Affairs and Tourism, Cape Town, 28 July 2008, reported in South African Government Information, <http://www.info.gov.za/speeches>. Differences in current GGEs among developing countries with or without China are as pronounced as their contrasts with the developed world.
 11. United Nations Development Programme, *Human Development Report 2007/2008*, Overview, 2.
 12. Bättig and Bernauer, 'National Institutions and Global Public Goods', 298; Neumayer's 'Do Democracies Exhibit' reached similar findings. On the failure of signatories to the Kyoto Protocol to honour their commitments Helm judged in 2008 that increased emissions from aviation alone have offset the very modest CO₂ reductions attributable to Protocol-inspired measures. Helm, 'Climate-change Policy', 212, 218.
 13. The Pew Charitable Trusts, *Who's Winning?* 3.
 14. The derivation of conflict from environmental causes and more particularly climate variability is much disputed. For instance Buhaug in 'Climate Not to Blame' found that over the short term armed conflict in sub-Saharan Africa owed more to ethno-political exclusion. Buhaug did not investigate climate change's indirect longer-term impact, mediated through persistent economic underperformance, but the role played by political institutions in preventing, managing, or worsening the effects of violent conflict should not be ignored. For recent wider-ranging discussion that in general downplays the direct impact of climate change on armed conflict, and challenges the idea of a mediating link through its effects on economic growth, see Gleditsch, *Climate Change and Conflict*.
 15. German Advisory Council on Global Change, *Climate Change as a Security Risk*, 77; DARA Climate Vulnerable Forum, *Climate Vulnerability Monitor 2010*.
 16. Beeson, 'The Coming of Environmental Authoritarianism'.
 17. Shearman and Smith in *The Climate Change Challenge* (e.g. 134, 158) argue that the best response would be a Platonic form of authoritarianism based on the rule of experts.
 18. Global Humanitarian Forum, *The Anatomy*, 49. However the UK Government's *Migration and Global Environmental Change* foresees three-quarters of all climate migration occurring within national borders, predominantly from rural to urban areas.
 19. See discussion in Hartman, 'From Climate Refugees'.
 20. Found in for example Global Humanitarian Forum, *The Anatomy*, 3.
 21. Floyd, 'The Environmental Security Debate', and see also Hartman, 'From Climate Refugees'.
 22. C. Wright Mills' *The Power Elite* portrayed the 'military-industrial complex' as an existential threat in the United States.
 23. Koehn, 'Underneath Kyoto'; see also Newell, 'Civil Society, Corporate Accountability'.
 24. Giddens, *The Politics of Climate Change*, 96; Held and Hervey, 'Democracy, Climate Change', 101–6.
 25. Thus Newell and Paterson, *Climate Capitalism*, 75, who explain that emissions trading schemes are strongly supported by financiers because they employ market

- mechanisms, prefer stronger governance of carbon markets, using ‘command and control’ measures to do what markets will not do.
26. The term is taken from Helm, ‘Climate-change Policy’, 226.
 27. Giddens, *The Politics of Climate Change*, 114, argues for the first and Shearman and Smith, *The Climate Change Challenge* (e.g. 134, 158) for the second.
 28. See Bryner, ‘Failure and Opportunity’.
 29. Carter, ‘Combating Climate Change in the UK’.
 30. United States National Intelligence Council, *Global Trends 2025*.
 31. Moore, *Social Origins*.
 32. Giddens, *The Politics of Climate Change*, 152–5 notes that ‘green taxes’ potentially can create social injustice. Miliband (currently leader of the Labour Party in Britain) writes in ‘The Politics of Climate Change’, 198 that a strategic role and ‘strong action’ by the state are needed precisely to prevent the costs of tackling climate change from falling disproportionately on the poor.
 33. Beckman, ‘Do Global Climate Change’, 620.
 34. There are few easy answers: for example Fisher, ‘COP-15 in Copenhagen’, 11, says the massive expansion of civil society participation at the Copenhagen conference (December 2010) ‘was not only accompanied by civil society disenfranchisement, it actually contributed to it’.
 35. The following draws mainly on Holden, *Democracy and Global Warming*; Payne, ‘Are Democracies?’; and Ward, ‘Liberal Democracy and Sustainability’.
 36. UNDP, *Human Development Report 2011*, 8, 63.
 37. See for example Winslow, ‘Is Democracy Good’.
 38. Held and Hervey, ‘Democracy, Climate Change’, 92.
 39. Gallagher and Thacker, *Democracy, Income*.
 40. UNDP, *Human Development Report 2007/2008*, 8.
 41. Peters et al., ‘Growth in Emissions’.
 42. Quan Li and Reuveny, ‘Democracy and Environmental Degradation’.
 43. Burck, Bals and Parker, *The Climate Change Performance Index Results 2011*.
 44. The environmental Kuznets curve was derived in the early 1990s but is now contested. It suggests that indicators of environmental degradation and pollution first rise and then fall with increasing income per capita. One scenario is that total energy use (and, possibly, emissions) per capita continue increasing while energy (and, possibly, emissions) intensity measured in relation to gross domestic product (GDP) decline with long-term economic growth. UNDP, *Human Development Report 2011*, 32, declares that in very high human development index countries improvements in carbon efficiency have not kept up with economic growth, hence continuing to increase per capita CO₂ emissions as the carbon intensity of economic production falls. Moreover although CO₂ emissions per capita have a strongly positive association with incomes there is no association with the health and education components of the UNDP’s Human Development Index (UNDP, *Human Development Report 2011*, 5). Dutt, ‘Governance’, 715 explains statistical findings that support the environmental Kuznets curve in terms of policies, strength of institutional capacity and the means to implement policies effectively.
 45. Schreurs and Tiberghien, ‘Multi-level Reinforcement’, 31–5. The fact that wealthier EU member states accepted the principle of differentiated burden-sharing for emissions reductions among EU states also helped.
 46. Antholis and Talbott argue in *Fast Forward*, 34, that proportional representation in the parliamentary system of countries like Germany helps explain their relatively stronger commitment to climate action compared to the United States, by giving ‘environmental activists political power well beyond their numerical strength’. How democratic is this?

47. However at the Durban climate summit in December 2011 the EU offered to place its existing emission-cutting pledges inside the legally binding Kyoto Protocol.
48. Busby, 'The Hardest Problem', 83–6.
49. Poll findings taken from UNDP, *Human Development Report 2007/2008*, 66–7; Busby, 'The Hardest Problem', note 34; Compston and Bailey, *Turning Down the Heat*, 93–6; and Eurobarometer, *Europeans' Attitudes*, supplemented by annual *Transatlantic Trends* surveys of The German Marshall Fund of the United States.
50. Figures from World Bank, 'Public Attitudes Towards Climate Change'.
51. Eurobarometer, *Europeans' Attitudes*.
52. Dutt, in 'Governance', 713, maintains 'a given improvement in political institutions, is associated with lower CO₂ emissions (from industrial activity) if it takes place in a country with a better level of governance than in a country with a worse level of governance', whereas at lower levels of governance the incremental impact of improvement in political institutions is small. Dutt equates 'political institutions' with civil liberties and political rights, and views governance as a composite of quality of bureaucracy, democratic accountability and absence of corruption.
53. Per capita income is the most important determinant of carbon dioxide emissions per capita, according to US Government Energy Information Administration, *International Energy Outlook 2009*.
54. Newell and Paterson, *Climate Capitalism*, 9.
55. Cheng Qian, *A Portrait of China's Climate Policy*, 24; see also Mol and Carter, 'China's Environmental Governance'.
56. See Kötter, *Toward a New Climate Network*.
57. UNDP, *Human Development Report 2011*, 10.
58. Sen, *Development as Freedom*, 178–84.
59. In *Fast Forward* (105–6) Antholis and Talbott imply that Republican Party politicians who obstruct stronger US federal action to reduce CO₂ emissions are not persuaded that their stance will cost votes in the future, especially among today's youth.
60. See for example Halperin, Siegle and Weinstein, *The Democracy Advantage*.
61. Madzwamuse, *Climate Governance in Africa*. Failure to take account of the needs of the most vulnerable, particularly female-headed households in rural areas is noticeable. Ghana's progress at integrating climate adaptation into broader development programmes, however, sends a more positive message.
62. The statistical investigation by, Bäck and Hadenius in 'Democracy and State Capacity', 20–1, shows democratization of highly authoritarian countries leads to a reduction in the administrative capacity, whereas further democratization of a semi-authoritarian regime has no such effect. Democratization at higher levels of democracy is followed by increasing state administrative capacity, contingent on the development of such institutions as a free press and competitive party politics. Southeast Asia is one region where liberal democracy and quality of governance certainly do not go hand in hand, as Emmerson, 'Minding the Gap' shows.
63. Rock, *Corruption and Democracy*. Compare unfavourable corruption perception scores such as 2.1 (Kenya), 2.4 (Nigeria) 2.9 (Argentina), 3.3 (India), 3.7 (Brazil), 3.9 (Italy), 4.3 (Latvia; Slovakia) with the favourable scores of 9.3 (Denmark; New Zealand; Singapore). Transparency International, *Corruption Perceptions Index 2010 Results*.
64. See for example Global Humanitarian Forum, *The Anatomy*, 76; UNDP, *Human Development Report 2007/2008*, 190; and Bapna and McGray, *Financing Adaptation*, 11.
65. Burnell, *Lessons of Experience*; see also Burnell, *Promoting Democracy Abroad*, esp. chapter 10.

66. Arndt and Bach, *Foreign Assistance*, 19, suggest that suspending allocations of climate finance to countries like Zimbabwe until governance and policy performance improve there could provide new (and stronger) incentives for reform.
67. I owe this point to Julia Leininger.
68. Dutt, 'Governance', 720.
69. The Climate Change and African Political Stability Research Programme on Constitutional Design and Conflict Management, based at the University of Texas at Austin, aims to inform the US government's democracy and governance aid programmes in this way. Successful initiatives in democratic institutional design would strengthen a democracy's chances of weathering adverse climate-induced developments such as in the economy, compared to all but the most repressive autocracies. See Kuperman, *Can Political Institutions*.
70. Carothers, 'Democracy Assistance'
71. See Gowan and Brantner, *The EU and Human Rights at the UN*.
72. The Durban climate talks (2011) adopted a management framework for a Green Climate Fund, leaving the details of how to mobilize the finance to be determined later.
73. German Advisory Council on Climate Change, *Climate Change as a Security Risk*, 174. Singer, 'Changing Values', 159, argues 'our behaviour is culpably violating the basic human rights of people in the developing world'.
74. Walker, 'Democracy and Environment', 297–8.
75. See UNDP, *Human Development Report 2011*, 5.
76. Ward, 'Liberal Democracy and Sustainability', 402.

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