



Democracy, climate change and global governance

Democratic agency and the policy menu ahead

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Abstract

The urgent challenge of climate change poses a critical test for modern democracy and rules-based international politics. Democracies need to shift from loose policy commitments to real and binding action. Yet, there are enormous collective action problems in combating climate change. Can democratic systems evolve to confront the challenge? At global governance level there has so far been a failure to generate a sound and effective international framework for managing global climate change, whilst at state level solutions are weak and struggle to transcend the normal push and pull of partisan politics. By setting out a range of focused governance and policy recommendations, this paper proposes steps for reforging a rules-based politics, from the nation state to the global level. To coherently combine democracy, markets and universal standards, global governance systems need to develop into inclusive and representative institutions with the legitimacy and capacity to translate policy commitments into real world outcomes. This will require the wealthy industrialised states to shoulder a significant part of the cost of the transformation in developing countries. The nation state holds the key; it must broaden and deepen the deliberative process through democratic agency, involving citizens and civil society in the making and delivery of policy and ensuring that flexible regulation is in place to encourage entrepreneurialism and drive technological innovation.

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Aims and objectives

This paper examines the role of democracy in meeting the urgent challenge of climate change. The challenge is multifaceted and multilayered, involving many actors and agencies, and demanding effective policy at both the level of the nation-state and global governance. Moreover, it is difficult to address because it requires long-term policy commitments, and solutions that depend on complex scientific and technical developments. It is also difficult to solve because it involves great costs and effort, and because of the complicated distributive implications involved at every turn.

In order to unpack the issues at stake, this paper is structured in five parts. The first section examines the relationship between democracy and climate change at the level of the nation-state, briefly reviewing existing literature and examining evidence for and against the claim that democracies are unable to address the problem. The second section focuses on the same issues in relation to global governance, concentrating on the enormous collective action problem that climate change poses to an international community of distinct nation-states, and the problem of multiple actors, organisational overlap and representation and accountability in international environmental institutions. The third section examines the policy debates about climate change, asking about the range of options available to nation-states and, in particular, liberal democracies. The fourth section focuses on the political elements of a democratic global deal on climate change, while the final section draws together the various arguments presented around the theme of democracy and the policy menu ahead.

1. Democracy: the democratic nation-state and climate change

At the most basic level, it can be argued that modern liberal democracies suffer from a number of structural characteristics that prevent them from tackling global collective action problems in general, and climate change in particular. These are:

Short-termism

The electoral cycle tends to focus policy debate on short-term political gains and satisfying the median voter. The short duration of electoral cycles ensures that politicians are concerned with their own re-election, which may compromise hard policy decisions that require a great deal of political capital. It is extremely difficult for governments to impose large-scale changes on an electorate whose votes they depend on, in order to tackle a problem whose impact will only be felt by future generations.

Self-referring decision-making

Democratic theory and politics builds on a notion of accountability linked to home based constituencies. It assumes a symmetry and congruence between decision-makers and decision-takers within the boundaries of the nation-state. Any breakdown of equivalence between these parties, i.e. between decision-makers and stakeholders, or between the inputs and outputs of the decision-making process, tends not to be heavily weighed. Democratic “princes” and “princesses” owe their support to that most virtuous source of power: their people. The externalities or border spillover effects of decisions they take are not their primary concern.

Interest group concentration

In democracies, greater interest group pluralism reduces the provision of public goods because politicians are forced to adopt policies that cater to the narrow interests of small groups (Olson, 1982). The democratic process rewards small, well organised interest groups and results in their proliferation. Also, strong competition among such groups leads to gridlock in public decision-making, delaying both the implementation and effectiveness of public goods provision (Midlarsky, 1998).

Weak multilateralism

Governments accountable to democratic publics often seek to avoid compliance with binding multilateral decisions if this weakens their relationship to their electorate. There is a notable exception; it occurs when strong democratic governments can control the multilateral game.

Concerns such as these have generated scepticism about the compatibility of democratic forms of governance with the need for the drastic and urgent changes in policy required to combat climate change. The implication is that they are unable to meet the scale of the challenge posed by climate change, and that more coercive forms of government may be necessary. Such thinking finds its historical precedent in the work of the “eco-authoritarians” of the 1970s, who argued that it might be difficult in democracies to constrain economic activity and population growth that results in pressures on the environment. They suggested that some aspects of democratic rule would have to be sacrificed to achieve sustainable future outcomes, since authoritarian regimes are not required to pay as much attention to citizens’ rights in order to establish effective policy in key areas (Hardin, 1968; Heilbroner, 1974; Ophuls, 1977).

Democracy versus autocracy

This type of argument has, however, been undermined by a body of theory arguing that there are a number of reasons why democracies are more likely than authoritarian regimes to protect environmental quality (Holden, 2002). Democracies have better access to information, with fewer restrictions on media and sources of information, and greater transparency in decision-making procedures. They encourage the advance of science, which is responsible for our awareness about climate change and other forms of environmental threat in the first place (Giddens, 2008: 74). Scientists and other experts are free to engage in research, exchange new evidence and travel to and obtain information from other countries. These factors make it more likely that environmental issues will be identified and placed on the political agenda, and tackled according to appropriate measures of risk. Moreover, concerned citizens can influence political outcomes not only through the ballot box, but through pressure groups, social movements and the free media – channels that are closed in autocracies. The presence of civil society also serves to inform the public, act as a watchdog on public agencies, and directly lobby government (Payne, 1995). There are many examples of cases where environmental interest groups have been able to overwhelm business interests pursuing environmentally damaging practices and of cases where they have changed the public agenda (Falkner, 2007; Bernauer & Caduff, 2004).

At the same time, authoritarian regimes have fewer incentives to adopt or stick to sustainable policies. Environmental concerns are often trumped by economic development plans and

external security, as was the case with the Soviet regime (Porritt, 1984). Leaders are unaccountable to the public, and have less ground to enact long-term policy (Congleton, 1992). And in authoritarian regimes, those in power control a substantial fraction of society’s resources, encouraging payoffs to a relatively small elite, resulting in less public goods provision (Bueno de Mesquita et. al., 2003).

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It does not seem unreasonable, then, to expect a strong correlation between democracy and environmental quality. Indeed, among the 40 highest carbon emitters internationally (cumulatively responsible for 91% of total world emissions), the countries that have the best records are all democracies; see Figure 1.¹

Figure 1: World carbon emissions, by country (measured in millions of metric tonnes of CO2)

Rank	Country	2000	2006	per capita (tonnes), 2006	% change since 2000
1	China	2966.52	6017.69	4.58	103
2	United States	5860.38	5902.75	19.78	1
3	Russia	1582.37	1704.36	12.00	8
4	India	1012.34	1293.17	1.16	28
5	Japan	1203.71	1246.76	9.78	4
6	Germany	856.92	857.60	10.40	0
7	Canada	565.22	614.33	18.81	9
8	United Kingdom	561.23	585.71	9.66	4
9	South Korea	445.81	514.53	10.53	15
10	Iran	320.69	471.48	7.25	47
11	Italy	448.43	468.19	8.05	4

1. The authors acknowledge that this table does not control for level of development and other variables. Nonetheless, we think it is a useful approximate indicator of emission levels during the period when the politics of climate change has become increasingly acute

12	South Africa	391.67	443.58	10.04	13
13	Mexico	383.44	435.60	4.05	14
14	Saudi Arabia	290.54	424.08	15.70	46
15	France	402.27	417.75	6.60	4
16	Australia	359.80	417.06	20.58	16
17	Brazil	344.91	377.24	2.01	9
18	Spain	326.92	372.62	9.22	14
19	Ukraine	326.83	328.72	7.05	1
20	Poland	295.00	303.42	7.87	3
21	Taiwan	252.15	300.38	13.19	19
22	Indonesia	273.93	280.36	1.21	2
23	Netherlands	251.73	260.45	15.79	3
24	Thailand	161.86	245.04	3.79	51
25	Turkey	202.38	235.70	3.35	16
26	Kazakhstan	143.45	213.50	14.02	49
27	Malaysia	112.14	163.53	6.70	46
28	Argentina	138.42	162.19	4.06	17
29	Venezuela	134.46	151.97	5.93	13
30	Egypt	119.32	151.62	1.92	27
31	United Arab Emirates	115.72	149.52	35.05	29
32	Belgium	148.57	147.58	14.22	-1
33	Singapore	107.64	141.10	31.41	31
34	Pakistan	109.11	125.59	0.78	15
35	Uzbekistan	106.35	120.84	4.43	14
36	Czech Republic	113.45	116.30	11.36	3
37	Greece	101.27	107.07	10.02	6
38	Nigeria	80.75	101.07	0.77	25
39	Iraq	73.58	98.95	3.69	34
40	Romania	93.33	98.64	4.42	6

Source: (EIA, 2006)

However, upon closer examination, the record is less compelling, and detailed empirical evidence is inconclusive. Environmental quality is not just measured by a broad based commitment to addressing emissions of carbon and other greenhouse gases (GHGs). While some studies have shown that authoritarian regimes have worse records than democracies on environmental protection,² others find no evidence to suggest that this is the case.³ Indeed across a range of measures and geographical areas numerous studies prove that outcomes are varied.

On balance, while evidence on the link between political institutions and environmental sustainability does seem to suggest that democracies are preferable to authoritarian regimes, we might expect the effect to be far greater than it actually is. Why is this the case? Part of the reason might be attributed to the different types of transmission mechanisms that translate policy commitment into policy outcomes. Battig & Bernauer (2009), for example, find that while the effect of democracy on political commitment to climate change is positive, the effect on policy outcomes, measured in terms of emissions and trends, is ambiguous. They observe that the causal chain from environmental risks to public perceptions of such risks, to public demand for risk mitigation, and to policy output is shorter than the one leading from risk via policy output to policy outcome. Because of that, outcomes are influenced by a range of other factors, such as the properties of the resource in question, mitigation

2. See Jancar-Webster (1993) and Desai (1998).

3. Cf. Grafton & Knowles (2004).

4. Midlarsky (1998) finds that democracies have a good record on land area protection, but not on deforestation, CO₂ emissions and soil erosion, while Didia (1997) holds that democratic countries in the tropics have lower deforestation rates, and Bhattarai & Hammig (2001) claim a similar result in Latin America and Africa. Li & Reuveny (2006) show a positive effect for democracy on emissions, deforestation, land degradation, and water pollution, but Barrett & Grady (2000) find that while political and civil freedoms mostly impact positively on air pollution, results for water pollution are mixed, and Torras & Boyce (1998) maintain that democracy is statistically insignificant for dissolved oxygen, fecal coliform and particulates emissions. Nuemayer (2002) demonstrates that democracies sign more multilateral environmental treaties and comply more fully with international obligations, while Ward (2008) claims that liberal democracies generally promote sustainability in fossil fuel emissions, but only very weakly.

costs, and the efficiency of implementing agencies. Politicians might easily declare a set of public policy commitments to climate change mitigation, but the outcome of such efforts is affected by factors that are often outside of their control. The result is that policymakers respond quite well to public demands for more environmental protection, but tend to discount implementation problems, hoping that voters will not be able to identify these within a short enough time period to use their votes as a punishment for any failure to deliver.

Political commitment and the deliberative democracy approach

An additional concern is that political commitment to tackling climate change is critical, yet may require political leaders to adhere to a particular course of action that is potentially unpopular, and hence contrary to structural democratic pressures. The actual implementation of policies that reduce global warming may infringe on the democratic preferences of citizens. In such a context, political leaders can be caught between a desire for recognition and esteem in the international community – recognition that comes from peer admiration for leadership – and the need to ensure accountability to domestic electorates (Keohane & Raustiala, 2008). However, good democratic leadership is not confined to policymaking alone – it also involves educating constituents about pressing issues that may not be obvious to them. In this sense, the fact that democratic publics do not always have fully formed preferences is an advantage as well as a risk. Citizens can significantly shift their preferences, faced with new information and evidence about pressing issues. The democratic citizen that is capable of being “fact-regarding, future-regarding and other-regarding,” is not simply a myth (Offe & Preuss, 1991: 156-7, in Held, 2006a: 232).

Such an approach to democratic “will formation” can be found within the tradition of what is known as deliberative democracy, broadly defined as “any one of a family of views according to which the public deliberation of free and equal citizens is the core of legitimate political decision-making and self-governance” (Bohman, 1998: 401).

Deliberative democrats advocate that democracy moves away from any notion of fixed and given preferences, to be replaced with a view that democracy should become a learning process in and through which people come to terms with the range of issues they need to understand in order to hold defensible positions. They argue that no set of values or particular perspectives can lay claim to being correct and valid by themselves, but rather are valid only in so far as they are capable of public justification (Offe & Preuss, 1991: 168). Individual points of view need to be tested in and through social encounters which take into account the point of view of others. Ultimately, the key objective is the transformation of private preferences via a process of deliberation into positions that can withstand public scrutiny and test. Empirical findings show that citizens can and do alter their preferences when they engage with new information, fresh evidence and debate (Held, 2006a: 247-255). These can lead to new and innovative ideas about public policy and about how democracy might function and work.

Deliberative democracy can, in principle, increase the quality, legitimacy and therefore the sustainability of environmental policy decisions. This is partly due to the uncertainty associated with environmental issues, which demands a wide range of experience, expertise and consultation. The complexity of climate change problems also require integrated solutions that have been vetted by multiple actors and that cut across the narrow confines of expert knowledge and the responsibilities of established institutions and organisations. And the concerns of environmental justice require the political process to be as inclusive as possible, giving voice to the under represented, including future generations. Effective and just action on climate change depends upon the continuing involvement

of citizens in the making and delivery of policy; conventional representative democracy is a poor way to achieve this alone. To remodel environmental politics around deliberative democracy is thus to create an opening for a change in the way democracies address environmental management in general, and climate change in particular.

In shifting from policy commitments to real and binding action, democracies have all too often been unable to override the problems of short-termism, collective action and other factors that cut against emission reductions efforts. This is not to say that democracies are

incapable of tackling climate change (certainly the alternative, in the form of authoritarian regimes, seems to be far worse). Rather, certain aspects of them typically fall short. The question now is whether democratic systems can be evolved to handle the problem better, and how this may be achieved.

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2. Democracy : global governance and climate change

Complex global processes, from the ecological to the financial, connect the fate of communities to each other across the world, yet the problem solving capacity of the global system is in many areas not effective, accountable, or fast enough to resolve current global challenges. What has been called the paradox of our times refers to the fact that the collective issues we must grapple with are of growing cross-border extensity and intensity, but the means for addressing these are state-based, weak and incomplete (Held, 2006b). While there are a variety of reasons for the existence of these problems, at the most basic level the persistence of the paradox remains a problem of governance. The abilities of states to address critical issues at the regional and global level are handicapped by a number of structural difficulties, domestic and international, which compound the problems of generating and implementing urgent policies with respect to global goods and bads.

One significant problem is that a growing number of issues span both the domestic and the international domains. The institutional fragmentation and competition between states can lead to these issues being addressed in an ad hoc and dissonant manner. A second problem is that even when the global dimension of a problem is acknowledged, there is often no clear division of labour among the myriad of international institutions that seek to address it: their functions frequently overlap, their mandates conflict and their objectives often become blurred. A third problem is that the existing system of global governance suffers from significant deficits of accountability and inclusion, which can result in less economically powerful states and, hence, their entire populations being marginalised or excluded from decision making.

Today, there is a newfound recognition that global problems cannot be solved by any one nation-state acting alone, nor by states just fighting their corner in regional blocs. What is required is collective and collaborative action – something that the nations of the world have not been good at, and which they need to be much better at if the most pressing issues are to be adequately tackled. The failure to generate a sound and effective framework for managing global climate change is one of the most serious indications of the challenges facing the multilateral order. The former British chief scientist Sir David King has warned that the threat posed by climate change is more serious than that of terrorism (2004: 177), and Sir Nicholas Stern has referred to it as “the greatest market failure the world has ever seen” (2004: xviii). In the broad view of the scientific community climate change has

the capacity to wreak havoc on the world's diverse species, bio-systems and socioeconomic fabric, and the process has clearly begun.

Anarchic inefficiency

The number of actors and variety of organisations involved in both agenda setting and policymaking at the level of global environmental governance has increased substantially over the past decade. In addition to private, public and civil society actors, new types of actors have emerged such as transnational activist networks (Keck & Sikkink, 1998), private rule-making organisations (Prakash & Potoski, 2006), government agencies and public-private partnerships (Borzel & Risse, 2005). Moreover, established organisations have adopted new roles and responsibilities. For example, many intergovernmental organisations have acquired a higher degree of autonomy from the governments that have established them, and many NGOs now engage in agenda setting, policy formulation and the establishment of rules and regulations (Corell & Betsill, 2001). However, the increased engagement of diverse actors does not necessarily guarantee either effectiveness or equal access of diverse voice. In fact, it often leads to double representation of the west and north through both powerful states and NGOs (Kahler, 2005, Biermann & Pattberg, 2008).

At the institutional level, while many international environmental agreements exist, and possess some admirable characteristics, they are often both poorly coordinated and weakly enforced. Furthermore, they are supported by a plethora of different international organisations fulfilling various functions. The current constellation of over 200 international environmental agreements suffers from a problem of what might be called "anarchic inefficiency," featuring a diverse set of players whose roles are largely uncoordinated among each other. The most prominent include:⁵

The UN system, including the United Nations Framework Convention on Climate Change (UNFCCC), the Environmental Management Group (EMG) and the Centre for Sustainable Development (CSD)

While international action on climate change relies overwhelmingly on the evidence presented by the UNFCCC (including the Kyoto Protocol), the UN system overall has so far been ineffective in reducing GHG emissions, and is hampered by major divisions between north and south. The internal UN system is also still arguably uncoordinated on climate change, although there are plans to change this (UN System Chief Executives Board for Coordination, 2008). The EMG, chaired by United Nations Environmental Program (UNEP), is a key vehicle for this cooperation, but it remains too early to judge its progress. The CSD has engaged with NGOs in a constructive manner, and has an important agenda-setting role, but is also relatively ineffective.

Global Environment Facility (GEF)

The GEF has a climate change remit, including serving as the main financial mechanism for UNFCCC. However, it has suffered legitimacy problems: developing countries have opposed GEF control of the Kyoto Adaptation Fund, perceiving a voting bias in favour of richer countries and the control of the World Bank. The current governance structure of the Adaptation Fund is regarded as an interim solution until this can be resolved. Elsewhere, the GEF has delivered important grants for climate change mitigation and adaptation, but has a tendency to support smaller technical or pilot projects that are not mainstreamed in countries or economic sectors.

The OECD Environmental Directorate

While this division of the OECD is technically proficient (having conducted agenda-setting work, for example, on environmental indicators and economic modelling of carbon markets) it is globally unrepresentative. It also regards climate change as amenable to technical, pro-growth economic

5. We would like to thank Michael Mason for his guidance through this maze of agents and agencies.

solutions, contrary to the views held by many of the key actors in the debate.

The World Trade Organisation (WTO) Committee on Trade and Environment

Collaboration between the UNEP and the WTO was proposed in 2006, yet the Committee has not even been able to agree to a limited environmental package within the Doha Round. There is little appetite to recognise climate change damage as grounds for unilateral member state exceptions (GATT/WTO Article XX) to world trade rules. Collaboration is, therefore, largely symbolic – the WTO is seeking more environmental legitimacy, while the UNEP wants access to WTO deliberations.

Environmental Chamber of the International Court for Justice (ICJ)

The ICJ has thus far played an insignificant role, with no cases since its formation in 1993. It has been hampered by limited rules of standing and divided opinion over the need for a separate International Court for the Environment (Stephens, 2009).

Representation and the responsibility of the wealthy

Problems with representation at the level of global governance are high on the list of obstacles to addressing climate change.⁶ Multilateral bodies need to be inclusive; unless both developed and less developed states come on board, the net reduction of GHG emissions becomes a much harder task, if it can be achieved at all. Ensuring effective representation is not a question of just providing a seat at the negotiating table in a major IGO or at a major conference. For even if there is parity of formal representation (a condition typically lacking), it is generally the case that developed countries have large delegations equipped with extensive negotiating and technical expertise, while poorer developing countries frequently depend on one person delegations, or have even to rely on the sharing of a delegate, and lack the negotiating strength to participate fully in discussions (Chasek & Rajamani, 2003). This is indicative not only of the problem of unequal access to decision-making, but of inequality of all types of resource. Many developing countries do not readily command the public funds, capacity or technology to come into compliance with agreed regulations designed to reduce emissions. As a result any future agreement cannot simply build on the traditional burden sharing approach of dealing with a problem inherent in the global commons; given the scale of transformation that is required for a sustainable future, wealthy industrialised states will have to bear a significant part of the cost of the transformation in developing countries.

3. The policy debate: squaring the circle?

The greatest differences in the debate about the politics of climate change tend to be revealed in issues of how to square the circle of participation, effectiveness and compliance. Or, to put the point more broadly – is it possible to combine coherently democracy, markets and universal standards? (Held, 2004: ch 9). The answer is far from straightforward; if international rules become stricter, we can expect reluctant states to become even more reluctant to be bound by them, while if participation increases, agreement may only become possible via lax rules (Keohane & Raustiala, 2008).

A critical component of a global deal will be the way in which market incentives are structured. In terms of targeting GHG emissions, two principal market-based instruments exist: cap and trade and taxation. Supporters of the former include Stern (2009) who points out a number of disadvantages with taxes. They do not allow certainty over how big future GHG reductions will be, since estimates are imprecise and there is a long lag time between policy output and actual outcomes. They are hard to coordinate internationally, and developing countries are unlikely to agree such arrangements,

6. For a more detailed overview of problems of accountability and representation in the transnational governance of environmental harm, see Mason (2008).

which impose economic burdens on industries without offering the offsetting gain of being able to sell emissions permits. Moreover, electorates in general are mistrustful of governments' use of tax resources, potentially opposing them in the belief they provide an excuse for "stealth taxation". A better approach is to set targets, and then seek out the cheapest method (via the price mechanism) of reaching those.

The cap and trade system

According to its supporters, cap and trade makes the most sense of the options available, because it allows for greater certainty about eventual emissions levels and produces better incentives for producers.⁷ At this point, it also appears to be the approach most likely to be adopted at the global level, with a European Union Emission Trading System (EU ETS) already in place, and a successful precedent in the form of markets for sulphur in the United States. However, global markets in carbon and other GHGs are likely to be far larger and more complex than any previous emissions trading schemes, with a commensurate increase in levels of risk, opportunity for leakage and distributional consequences. Negotiating a comprehensive global accord and meshing national systems so that they operate coherently will be a highly fraught and difficult process, if it can be achieved at all.

Indeed, while cap-and-trade seems to be an ideal solution on the surface, it is in fact an odd way to do business. Politicians like it because it is market-based, does not require the imposition of unpopular taxes, and can be worked out with special interest groups

in back room negotiations. Indeed, with regular auctions to sell off emitting rights, and the lack of a long term or stable price, cap and trade is a lobbyist and trader's dream (Helm, 2008). Yet, putting the dangers of rent seeking aside, it is not even clear that cap and trade will lead to required emissions reductions. As Sachs (2009: 2) observes, "a cap-and-trade system can be more easily manipulated to allow additional emissions; if the permits become too pricey, regulators would likely sell or distribute more permits to keep the price 'reasonable.' Since the long-term signals from cap-and-trade are less powerful than a multi-year carbon tax, the behavioural changes (e.g. choice of the type of power plant) brought about by cap-and-trade could well turn out to be far fewer, as well." Such concerns are borne out by the existing record on carbon emissions trading. The global market grew to £126 billion last year, up from £63 billion in 2007 and nearly 12 times the value in 2005. This represented the value of a total of 4.8 billion tonnes of carbon dioxide, up 61% from the 3 billion tonnes traded in 2007. However, the actual emissions cuts made and sold by United Nations-registered clean energy projects in developing countries fell by 30 % in 2008 to 389 million tonnes (Chestney & Szabo, 2009).

Is it possible to combine coherently democracy, markets and universal standards?

A tax on carbon

Contrary to the claims of cap and trade advocates, it can thus be countered that taxes are less likely to result in policy failure. Economic efficiency demands that those who create emissions should pay the costs, and taxes are the simplest way of forcing them to do so. Their advantages are many. They offer a broader scope for emissions reductions, as opposed to trading systems which can only be implemented among private firms or countries, and not among households and individual consumers. In this sense, they are the more democratic option, since they create greater coverage and are less susceptible to strategic lobbying for exceptions by firms or non-governmental organisations. Their universal guiding principle is distributive, since they simultaneously discriminate against polluters while allocating priority to the most vital cases of environmental need. They involve

7. As Stern (2009: 104) points out, greater certainty about emissions levels comes with less certainty about prices. Unfortunately there is always trade off – it is impossible to achieve both price and quantity certainty in an uncertain world. In this case, he suggests that price uncertainty is the lesser of the two evils.

less administrative costs, are less complicated and more familiar to policymakers, and provide new avenues of generating revenue to tackle climate change for governments that are increasingly unwilling to incur political costs by expanding general taxation. Finally, they place a clear price on emissions for many years ahead, allowing for better long term policy planning. Of course, there remains the substantial challenge of shifting taxation structures away from their primary focus on work and production toward a greater emphasis on pollution, externalities and consumption. It goes without saying that this will require a great effort, marked by short-term and long term objectives, which could be weakened by new election results, changing coalitions and so on.

A new policy mix

In reality, the policy mix is likely to contain multiple policy instruments. The prospect of large revenues from permit auctions has established significant political and economic interests in the creation and maintenance of markets for GHGs. Cap and trade also offers the potential for far greater levels of private sector funding than is the case for government financed funds and schemes, and will create significant private sector flows from developed to developing countries, an absolute necessity for reaching a global deal. However, if policymakers are serious about putting a true price on carbon and other GHGs – essential if markets are to sort out efficient supply and demand side responses – then taxation will have to form a key element of policy as well, in order to ensure predictability of outcome, and the generation of new resources for the provision of urgent environmental goods.

Unfortunately, putting a price on all GHG emissions (whether through tradable permits or taxes) is not enough on its own to deliver the needed reductions. Existing market-based schemes, such as the EU ETS, or carbon taxation by individual European countries and US states, have so far failed to generate large scale research into the development of breakthrough

technologies. Such schemes might eventually result in a levelling off or even a slight reduction of emissions, but will only stimulate a marginal diversification into alternative forms of energy such as solar and wind power. This is because private sector firms under invest in research and development if they fear they will not be able to earn a decent profit on resulting product development. What is ultimately required is a fundamental overhaul of energy systems through transformative technologies that require a combination of factors to succeed – not only market incentives, but also applied scientific research, early high-cost investments, regulatory changes (e.g. building codes and practices), infrastructural development, information instruments (e.g. eco-labelling of energy appliances) and public acceptance.

To ensure flexibility and encourage innovation, regulations should be based on achieving particular results, rather than simply specifying the methods or technologies to be used to achieve those outcomes (OECD, 2007). Care needs to be taken in choosing instruments in a policy mix to ensure that they are complementary and avoid unnecessary overlap, and that they are cost-effective. By setting too high a price or too tight a cap, policy will result in excess costs, while choosing policies that are too lenient will forego the potential benefits of added, cost-effective mitigation measures and risk the failure of meeting required targets.

If policymakers are serious about putting a price on carbon..then taxation will have to form a key element of policy as well

4. The political elements of a democratic global deal

Climate change is a problem with global causes and consequences. A coordinated international effort is therefore required to achieve cost effective and successful mitigation policies. However, the nature of the problem also means that international agreements will be difficult to reach. Countries and regions have very different interests in achieving a solution, implying a highly contested distribution of costs and benefits. In addition, developing countries, given their relatively small contribution to historical emissions, object to having their development impeded by restrictions. Finally, the challenges associated with enforcing a global solution may make some nations reluctant to participate, adding a source of uncertainty about how cost-effective the policies will be (CBO, 2005). However, despite the vigorous debate surrounding the type of policies required to combat climate change and how they should or should not be implemented, there is considerable overlap on what the political elements of a global deal might look like. At the most general level, most commentators agree that it should be broadly inclusive, multi-faceted, state-centric and sustainable.

Participation

The key requirement is participation from all countries, and most importantly, participation by the most powerful democracy in the world. The world has been waiting for the United States to join the collective effort against climate change; there is now reason to believe that it is ready to act (Stiglitz & Stern, 2009). The integration of less developed states is also crucial, as already noted. Even if the developed states of the world were to cut their emissions to zero by 2050, without significant cuts in the rest of the world the overall goal of keeping a global rise in temperatures to under 2°C would be missed. Developing countries need to be convinced that they can simultaneously reduce their emissions and increase their growth rate by increasing their energy efficiency. They need, for instance, to eliminate distortions in their energy markets, such as large oil subsidies. But for most developing countries, the cheapest form of energy is coal (or other high-emission energy sources), and in those cases, there is a real trade-off. Money spent to reduce GHG emissions is money that could be spent to provide education, better health and clean water, or to grow faster. In such cases, developed countries, it can be argued, should pay for the incremental costs. However, as Victor et al. (2009) have pointed out, this is unlikely to happen – it is simply unrealistic to expect industrialised nations to contribute the tens or hundreds of billions of dollars needed for such a compensation scheme when official development assistance (including for wars in Iraq and Afghanistan) currently stands at around \$100 billion for all purposes. Moreover, the countries that would get the most compensation, such as China, are now west's most potent economic competitors.

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Offset schemes and financial incentives

The alternative is some form of offset scheme that allows industrialised nations to fund emissions reductions in developing nations, and counting those reductions towards their own legal commitments. The idea is that this would require industrialised nations to pay a majority of the costs while also laying a foundation for the creation of a global emissions trading market. This was the aim behind the creation of the Clean Development Mechanism (CDM). However, although the CDM has,

after a difficult start, been successful in creating a global market for GHGs, its design is fundamentally flawed, and it has done very little to actually cut emissions or to assist host countries in achieving sustainable development (Pearson, 2005; Olsen, 2007, Muller 2007).

Another important requirement will be the prevention of deforestation, which contributes 17% of current carbon emissions, almost twice as much as transport (IPCC, 2007). Developing countries' tropical forests are an important source of carbon sequestration, yet they are not provided with any compensation for these environmental services. Providing them with financial incentives will help to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. In this regard, encouraging steps have been made in the implementation of the United Nations Fund for Reducing Emissions from Deforestation and Forest Degradation (UN-REDD). However, the establishment of a final framework for the transfer of funds is still some years away, with a final agreement only likely to come into effect after 2012. Moreover, there are serious concerns about the appropriate geographical scale of accounting and incentive mechanisms, monitoring, land tenure, elite capture of funds and the potential for fraud (Karousakis & Coffee-Merlot, 2007; Olander et. al, 2009; Bond et. al, 2009).

Participation and deliberation on a global scale are necessary, yet in their current forms, existing instruments of global environmental governance are ill-equipped to achieve results. What is needed are representative institutions armed with the capacity and legitimacy required to translate policy commitments into real world outcomes. If a global deal is going to work it must have an answer to the problem of governance, and embody an institutional structure that shapes and determines decisions which reflect the whole world in an even-handed way. Recourse to inclusive and broadly representative global decision-making channels is the most appropriate and effective way of doing this, and strengthening mechanisms of global governance will be key to constructing a global democratic response to the issue.

A World Environmental Organisation as a longer term goal, driven perhaps by the G2 + 1, but accountable to the G195

5. Democracy and the policy menu ahead

The challenge of tackling climate change will require the development of considerable additional institutional capacity and policy innovation. The goal of achieving this capacity, and the means to get there, will be undermined if countries of all stages of development are not directly involved in the shaping of solutions. Current policy development demonstrates this concern. The short term path to effective environmental governance is to integrate a broader set of interests into existing multilateral governance capacity. The existing mandate of the GEF could be broadened in order to help coordinate and fund international environmental agreements and reflect developing country priorities. Complementary to this, the UNEP could increase its status and responsibilities by becoming a specialised UN agency, with all the compulsory UN funding that this entails. The central challenge in the years ahead of compliance monitoring and enforcement could be facilitated through a formal international mechanism for settling environmental disputes through mediation and arbitration, potentially similar to the World Bank's investment dispute body (Mabey, 2007). Enhancing the capacities and responsibilities of the GEF and the UNEP in this way would be a step toward the more consolidated and formal institutional capacity of a World Environmental Organisation as a longer term goal, driven perhaps by the G2 + 1 (the USA, China and the EU), but accountable to the G195.

The key role of the state

In all of these challenges, states remain the key actors, as they hold the key to both domestic and international policymaking. The implementation of international agreements will be up to individual states, emissions trading and carbon pricing will require domestic legislation, and technological advance will need state support to get off the ground (Giddens, 2008). However, state strategies at the domestic level should involve the creation of incentives, not overly tight regulation. Governments have an important role in “editing” choice, but not in a way that precludes it altogether. This approach is represented in the form of what Giddens (2008) calls “the ensuring state,” whose primary role is help energise a diversity of groups to reach solutions to collective action problems. The state, so conceived, acts as a facilitator and an enabler, rather than as a top-down agency. An ensuring state is one that has the capacity to produce definite outcomes. The principle goes even further; it also means a state that is responsible for monitoring public goals and for trying to make sure they are realised in a visible and legitimate fashion.

This will require a return to planning – not in the old sense of top down hierarchies of control, but in a new sense of flexible regulation. This will require finding ways to introduce regulation without undermining the entrepreneurialism and innovation upon which successful responses will depend. It will not be a straightforward process, because planning must be reconciled with democratic freedoms. There will be push and pull between the political centre, regions and localities, which can only be resolved through deliberation and consultation. Most importantly, states will require a long term vision that transcends the normal push and pull of partisan politics. This will not be easy to achieve.

Governments have an important role in “editing” choice, but not in a way that precludes it altogether

All this takes place in the context of a changing world order. The power structure on which the 1945 multilateral settlement was based is no longer intact, and the relative decline of the west and the rise of Asia raises fundamental questions about the premises of the 1945 multilateral order. Democracy and the international community now face a critical test. However, addressing the issue of climate change successfully holds out the prospect of reforging a rule-based politics, from the nation-state to the global level. Table 1 highlights what we consider to be the necessary steps to be taken along this road. By contrast, failure to meet the challenge could have deep and profound consequences, both for what people make of modern democratic politics and for the idea of rule-governed international politics. Under these conditions, the structural flaws of democracy could be said to have tragically trumped democratic agency and deliberative capacity.

Table 1		
Guiding principles		
Inclusiveness, political equality, deliberation, environmental sustainability, and economic effectiveness		
	Governance	Policy
Nation-state	<ul style="list-style-type: none"> • Broadening and deepening of the deliberative process. • Transformation of private preferences via a process of deliberation into positions that can withstand public scrutiny and test. • Continued involvement of citizens and civil society in the making and delivery of policy • Leadership that confronts narrow interests, and sets out compelling scientific and economic case for action 	<ul style="list-style-type: none"> • Taxation of carbon and other GHGs • Just and equitable markets for carbon and other GHGs • Applied scientific research • Early high-cost investments • Regulatory changes • Infrastructural development • Information instruments
Global	<ul style="list-style-type: none"> • Promotion of inclusive and broadly representative global decision-making channels • Assistance for developing countries to access necessary resources, capacity and technology for mitigation and adaptation. • Broaden the existing mandate of the GEF • Increase the status and responsibility of the UNEP by upgrading to a specialised UN agency. 	<ul style="list-style-type: none"> • Develop effective offset schemes that allow industrialised nations to fund emissions reductions in developing nations • Establishment of a formal international mechanism for settling environmental disputes through mediation and arbitration. • Development of formal institutional capacity for a World Environmental Organisation

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