Australian National University

Working paper 2011/5

Democratising the Governance of Climate Technologies

September 2011

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Abstract: Technologies for mitigating and adapting to climate change are inherently political. Their development, diffusion, and deployment will have uneven impacts within and across national borders. Bringing the governance of climate technologies under democratic control is imperative but impeded by the global scale of governance and its polycentric nature. This paper draws on innovative theorising in the deliberative democracy tradition to map possibilities for global democratic governance of climate technologies. It is argued that this domain is not beyond the reach of democracy. Civil society has a unique and expanded role to play in generating democratic legitimacy by *fostering* public deliberation; *translating* and *transmitting* concepts, ideas, and messages; and *promoting* and *facilitating* deliberative accountability.

Key words: climate change, technology, democracy, global governance

1. Introduction

Few aspects of the complex issue of climate change remain immune to politicisation. Technology is no exception. From the humble solar panel to planetary-scale engineering, climate technologies are deeply and inescapably political. The development and diffusion of technologies for mitigating and adapting to climate change shapes, and is shaped by, the distribution of power at various levels and in various ways. Technology transfer initiatives can be sponsored in ways that advance the interests of dominant or marginalised social groups; consolidate or weaken existing social and material inequalities; expand economic liberalisation or decentralise development; generate local friction through external imposition or minimise unintended consequences by maximising the participation of local

communities and end-users. The development of new technologies ranging from drought-resistant seeds to atmospheric chemical injections can proceed in ways that promote precaution or absolute faith in human ingenuity; bolster corporate profits and control, or privilege human wellbeing and democracy.[i] Given the political nature of climate technologies, questions concerning the development and transfer of technology for climate change should not be left to scientists, entrepreneurs, bureaucrats, and intellectual property lawyers. Nor should they be left in the hands of even the most skilful diplomats and negotiators. Instead such questions should be opened to democratic deliberation: the governance of climate technologies should be democratised. What can it possibly mean to democratise the governance of climate technologies? I suggest that it means subjecting decisions on the selection, prioritisation, and process of technology development and transfer to public control by those potentially affected by these decisions. Such aspirations are not entirely novel. Efforts have been advanced since the 1980s to bring a participatory element to technology assessment to maximise legitimacy and social sustainability. These manifest in a range of models including dialogues, public hearings, consensus conferences, and scenario workshops (Abels 2007; Joss 2002). Biotechnologies have attracted perhaps the greatest demand for such participatory technology assessment (pTA) initiatives by citizens concerned with the long-term social and environmental consequences of their deployment. Yet, democratising the governance of climate technologies differs from familiar pTA in a significant respect: the scale of governance. Whereas biotechnology governance occurs principally at the nation-state level, decisions on the development and transfer of technologies for climate change mitigation are increasingly sought at the global level. The impacts of these decisions (positive and negative) will be experienced at varying levels within

and across national borders. This poses considerable challenges for pursuing democratic control of governance. Public control of global governance will look remarkably different to democracy in the nation-state. But despite the absence of traditional liberal democratic mechanisms and architecture, the global realm is not necessarily beyond the reach of democracy, although innovative theorising is required.

In this paper I argue that a post-Westphalian, post-liberal, and post-electoral theorising on democracy offers a valuable foundation for mapping the possibilities for global democratic governance of climate technologies. The following section introduces this approach, which is based on the idea of the 'deliberative system' (Dryzek 2010). I subsequently map existing and emerging arrangements for governing climate technologies in deliberative systemic terms. This draws attention to the polycentric nature of authority: decisions are increasingly taken in multilateral institutions, and in public, private, and hybrid partnerships. Democratising polycentric global governance presents a challenge that scholars have barely begun to address. The deliberative systems approach treats democratisation as deliberative capacity building. This directs attention to the exchange of discourses in public space; the mechanisms for transmission of these discourses to empowered space; and the means by which authority is accountable to the public. Under conditions of polycentric authority, I argue, deliberative capacity building is best sought through 'nested' public spheres.

2. Democratisation: a deliberative systems approach

As public demands grow for legitimacy, transparency, and participation in global governance broadly, and global climate governance specifically, it is increasingly

implausible that technocratic approaches to mitigation and adaption will prove stable and effective. Yet, democratic aspirations are confronted with a uniquely complex set of challenges in global climate governance. These challenges arise from the nature of the issue, which encompasses many policy domains including health, environment, finance, social welfare, urban design, transport, agriculture and energy. Equally complex is the constellation of public and private actors involved in promoting, designing, and implementing actions to mitigate and adapt to climate change in each of these policy areas. Navigating these complexities in a democratically legitimate fashion is challenging enough within the nation-state, and this challenge is magnified at the global level where liberal democratic foundations and mechanisms are absent.

Dryzek's conceptualisation of the deliberative system offers an approach to mapping, evaluating, and enhancing the deliberative and democratic credentials of governance arrangements in liberal and non-liberal states, as well as beyond the state in multilateral and networked arrangements. This conceptualisation of the deliberative system comprises six elements (2009):

1. Public Space, where ideas are freely exchanged and discourses interact. This space is occupied by activists, social movements, journalists, bloggers, and ordinary citizens.

2. Empowered Space, where authoritative collective decisions are taken and outcomes produced (ideally following authentic deliberation). In a liberal democracy this may be constituted by a legislature, cabinet, or constitutional

court, for example. But empowered space can also be constituted by international organizations, multilateral negotiations, and networks.

3. Transmission, or processes through which deliberation in public space can influence that in empowered space (e.g., protest, lobbying, political campaigns, personal contacts).

4. Accountability, processes through which empowered space answers to public space. This may simply occur by providing an 'account' of positions and decisions taken. Even in the absence of sanctioning power, such a process (as part of a deliberative system) would enhance democratic legitimacy.

5. Meta-deliberation, opportunities for collectively reflecting on the organisation of the deliberative system and correcting its shortcomings. Through such a process, actors may legitimately choose to operate in a non-deliberative fashion under some circumstances but such a decision should be justifiable in deliberative terms (Thompson 2008).

6. Decisiveness, the deliberative system should be consequential itself rather than a smokescreen for actual non-deliberative decision-making.

Recognising the limitations imposed by the general deliberative democratic understanding of legitimacy, Dryzek advocates an expanded conceptualisation stressing discursive deliberation. He writes: '(d)eliberative democrats generally believe that legitimacy is achieved by deliberative participation on the part of those

subject to a collective decision. Moreover, this participation should have substantial influence on the content of the decision' (Dryzek 2010: 21-22). This generates a problem of scale: authentic deliberation is only possible within small groups. But capturing the interests, values, and perspectives of all stakeholders or affected people will often require increasing the size of the group beyond that which allows for authentic deliberation. This problem is magnified in global decision-making. In large scale political systems where deliberation in small groups is implausible, Dryzek argues that '(l)egitimacy is...achieved to the degree collective outcomes respond to the balance of discourses in the polity, to the extent this balance is itself subject to dispersed and competent political control' (2010: 22). Democratic legitimacy, thus defined, is likely to emerge in a democratic system that is *inclusive*, *authentic*, and *consequential* (ibid.).

Deliberative theorists stress different principles for measuring the authenticity of deliberation. For Gutmann and Thompson the overriding principle is reciprocity (arguing a position by offering 'reasons that can be accepted by others who are similarly motivated to find reasons that can be accepted by others' (1996: 53). For Dryzek, authentic deliberation induces reflection, is non-coercive, and connects particular claims to general points or principles (2010: 125). Steenbergen, Bächtiger, Spörndli and Steiner have developed a Discourse Quality Index (DQI) for assessing authenticity based on Habermasian discourse ethics (open participation; mutual justification; concern with common good or enhancing the welfare of the least advantaged; mutual respect; shared aim for rationally motivated consensus) (2003: 24-26). Deliberation that takes place in public space clearly needs to be judged against different criteria of authenticity because it is dispersed and not directed to collective decision-making. In public space, authentic deliberation ought to be

understood as discursive engagement that fosters inclusive, competent, and dispersed reflexive capacity (*see co-authored paper*).

The demand for inclusivity in the deliberative system has a normative and a rational justification. The normative justification concerns the fundamental principle that people should be adequately represented when decisions are taken that may affect them. Generally people will be unevenly affected by a decision, therefore it is appropriate that their representation be proportionate to their potential impact (Dryzek 2010: 126). Inclusivity also has a bearing on the quality of decisions made and outcomes generated. Pluralists have long argued that the most rational decisions are those that have been subject to critique from a range of perspectives (ibid.: 45-46). Ensuring inclusivity in decision-making venues beyond the nation-state is clearly a considerable challenge. Even if the proportionality principle is applied, it will rarely be plausible for all affected voices to be heard. Uneven representation in transnational networks is often problematised in North-South terms (e.g., Dingwerth 2007: 196-197; Biermann et al. 2007: 250-252). However Southern elites participating in global governance are not necessarily representative of all their domestic constituents, which suggests that genuine inclusivity ought to be sought by other means. Following the discursive tradition of deliberative democracy, it is useful to think in terms of representation of discourses that may capture the values, interests, and needs of potentially affected people.

Discourse here is understood as:

> a shared set of concepts, categories, and ideas that provides its adherents with a framework for making sense of situations, embodying judgments, assumptions, capabilities, dispositions, and intentions. It provides basic terms for analysis, debates,

> agreements, and disagreements. Its language enables individuals who subscribe to it to compile the bits of information they receive into coherent accounts organized around storylines that can be shared in intersubjectively meaningful ways (Dryzek 2006: 1).

Elsewhere (*co-authored articles*), discourse analysis of various public settings has suggested that four broad classes of discourse inform debates about how we ought collectively respond to the challenge of climate change. Each embodies assumptions about the nature of climate technology, its merits and/or hazards, and its proper role in mitigating and adapting to climate change.

Mainstream Sustainability - accepts that action to address climate change can be defined within the parameters of the existing economic order by existing authoritative actors and institutions. Competition and the profit motive are inherent to human relations, but sustainability is ultimately compatible with material growth through a decoupling of GHG emissions and productivity. For some, all aspects of climate governance can effectively be brought under the logic of the market. Trade barriers ought to be reduced to facilitate the commercial exchange of environmentally-sound technologies. Intellectual property must be protected to encourage innovation and entrepreneurship in mitigation and adaptation technologies. Compulsory licensing, whereby patent holders are compelled to grant usage rights to the state or others, is unjust and counter-productive. Others are less optimistic about the modernisation potential of unfettered markets and argue that governments ought to implement policies and regulations to ensure that appropriate technologies and services can compete in the market.

Expansive Sustainability – shares faith in the ultimate compatibility of economic development and ecological sustainability but is politically progressive emphasising power redistribution. The objective of global climate policy should not be simply decoupling profit and pollution in major industrialised economies. Instead, modernisation should serve human needs while evening out international inequalities. This may require carefully designed and monitored markets, or transferring mitigation and adaptation technology from North to South. Intellectual property rights are an obstacle to modernisation. Wealthy governments have a duty to transfer technology to developing countries so that future development and trade can occur on a clean and level playing field. Expansive Sustainability recognises the potential agency of local communities, indigenous peoples, youth, and NGOs. For some, it is particularly important to maintain nature's integrity. Manipulating natural processes through genetic engineering or the displacement of organic products for synthetic ones may yield unexpected adverse consequences due to the complexity of ecosystems. The agency of policy-makers to set appropriate parameters around technology development and diffusion is therefore stressed.

Limits - rejects the assumed compatibility of material growth and a stable climate. The viability and/or desirability of existing neoliberal development is questioned; unconstrained economic growth, population growth, meat consumption, and profligate material consumption are all criticised. But although the economy needs to be radically reorganised, this does not require redistributing power. Changes can be implemented under the guidance of existing authorities or by non-authoritative actors voluntarily modifying their behaviour. In technology debates, Limits may manifest in a rejection of actions that merely replace the type of fuel and technology that drives the present economy. Policy-makers should instead plan for

de-growth or a steady-state economy; technological innovation and investment should be directed at developing infrastructure that can support such a system and a transition away from a growth-dependent system.

Green Radicalism - is economically radical and politically progressive, seeking fundamental reorientation of economic development and redistribution of power. Unconstrained material growth cannot be reconciled with ecological sustainability. Concerns relating to human rights, justice, and equity are superior to short-term economic concerns. Powerful, Northern-dominated institutions like the World Bank should not be involved in climate finance and technology transfer. The North has a responsibility to repay its carbon debt accumulated over centuries of irrational development, colonisation, and exploitation. Adaptation costs must be borne by those historically responsible for GHG emissions. Technology transfer and investment in mitigation projects in the South should not be used by the North either as an opportunity to avoid or delay domestic de-carbonisation or as an opportunity to expand the exploitative international liberal economic system. Industrial-scale production and technology should be replaced with community-level processes and technologies that meet human needs, protect vulnerable people, and empower marginalised groups.

3. Global climate technology governance as a deliberative system

How do global arrangements for developing and transferring climate technologies look in the systemic terms outlined above? And how may deliberative capacity building be promoted within these arrangements for improving the democratic legitimacy of decisions and outcomes? These questions will be examined here.

The empowered space of climate technology governance is characterised by polycentric authority. This has been conceptualised by scholars in terms of fragmentation (Biermann et al. 2010); and a regime complex (Keohane and Victor 2011; Abbott 2011). These concepts capture the idea that decisions on climate governance more generally (and this is true of technology development and transfer specifically) are made in various uncoordinated or weakly-coordinated settings. Abbott (2011) has mapped sixty-seven discrete settings, including multilateral institutions, and markets and networks of public and/or private actors. The following four examples illustrate the different configurations of authority that appear in the empowered space of global climate technology governance.

1. Technology Mechanism of the UNFCCC: One of the most concrete outcomes of the sixteenth Conference of the Parties (COP-16) in Cancún, in December 2010, was the decision to create a Technology Mechanism for the transfer of technology for mitigation and adaptation (Decision 1/CP.16). The Technology Mechanism is expected to become operational by 2012 and will comprise a:

(1) Technology Executive Committee, responsible for policy analysis and general recommendations on technology development and transfer; promoting the preparation and use of local, national, and international technology road maps; and developing best practice guidelines.

(2) Climate Technology Centre and Network, responsible for providing advice, information, and training to developing countries; and facilitating a network of 'national, regional, sectoral and international technology networks, organizations and initiatives' (ibid.).

Both components will be guided by the Conference of the Parties. Although the private sector is expected to be engaged in the functioning of the Technology Mechanism, this is a state-driven and state-authorised arrangement.

2. Clean Technology Fund: The Clean Technology Fund (CTF) is a partnership of public actors, but one that does involve collaboration with the private sector and civil society. The World Bank coordinates the initiative, in cooperation with the multilateral development banks (MDBs). It was set up in 2008 as one of two Climate Investment Funds (CIFs). The CTF is intended to implement the technology transfer provisions of the UNFCCC and Kyoto Protocol, as such its mandate is limited by a sunset clause to ensure that it is phased out once new multilateral technology arrangements become operational. For the duration of its operation, though, it is not under the authority of the UNFCCC. Decision-making authority largely lies with the core membership of the CTF Trust Fund Committee, which comprises eight representatives from finance-contributing countries and eight representatives from eligible recipient countries. In addition, membership is extended to a representative of a country being considered for a project; a senior World Bank representative; and one (rotational) representative of the MDBs (CIF 2008: 6-10). The CTF aims to promote 'transformational actions' in low-middle- and middle-income countries by providing financing 'to contribute to demonstration, deployment and transfer of low-carbon technologies…' (CIF 2008: 3). Responsibility for determining whether project proposals meet the criteria to qualify as "transformational" lies with the MDBs. The partnership will not finance technologies at the R&D stage, but rather those that are already commercially available but require assistance to enter the market in developing countries. Projects and programs led by either the public and private sector are eligible for financing, including those in the

power sector; transportation; and building sector (ibid.: 4). CTF financed projects are intended to have social and environmental co-benefits to contribute to sustainable development.

3. The Climate Technology Initiative's Private Financing Advisory Network: CTI-PFAN is a multilateral, public private partnership of investors, entrepreneurs, technical experts and government representatives designed as a response to the lack of public resources available for investment in clean energy technology. Its objective is to bridge the existing gap between entrepreneurs who 'have good ideas but cannot find financing' and investors who 'have difficulties identifying and vetting attractive investment opportunities' (CTI-PFAN n.d.(1). As it is an informal network, its governance structure is minimal. Project proposals submitted by clean energy entrepreneurs in developing countries are assessed on the single criterion of whether they are potentially attractive to private investors. Although the approvals process is handled by the CTI Secretariat, which itself falls under the authority of the International Energy Agency, authority in CTI-PFAN effectively lies in the hands of those providing financing for projects. These financiers are 'specialist investment funds, institutional investors, philanthropic and developmental investors, strategic and industrial investors', as well as a range of public funding partners (governments, Asia Pacific Partnership on Clean Development and Climate; International Center for Environmental Technology Transfer; Renewable Energy & Energy Efficiency Partnership; and USAID) (CTI-PFAN n.d.: 2).

4. Carbon War Room: The Carbon War Room is a private partnership initiated by Richard Branson and other private entrepreneurs and business people. It aims to implement market-driven solutions to climate change by bringing together 'entrepreneurs, business leaders, policy experts, researchers, and thought leaders'

(CWR n.d.(1). 'The War Room operates across 25 battles in 7 theaters'. The 'theatres' and their respective battles are electricity (solar energy; renewable energy; grid solutions; energy storage), transport (local transport; trucks and trains; aviation; shipping; biofuels), built environment (energy efficiency; building materials; urban planning), industry (steel and cement; industrial energy use; GHG chemicals; finance and insurance), land use (forests; livestock and crops; waste management), emerging economies (villages; island nations; India and China), and carbon management (biochar; carbon capture and sequestration; climate intervention - i.e., geo-engineering) (ibid.). Ultimate authority lies with the Carbon War Room's executive board and executive team (each of which is constituted by business leaders and entrepreneurs), and individual 'operations' teams of private and public actors are built to plan and execute each 'battle'.

These four cases provide a small and incomplete snapshot of the actual empowered space in the global governance of climate technologies. What they represent are the different configurations of authority in this space: multilateralism, public partnerships, public-private partnerships, and private networks. The challenge of democratising such 'fragmented' governance arrangements is one that remains largely unaddressed in the literature.[ii] A deliberative systems approach to democratisation requires closer attention to civil society.

Non-state actors have played an active and important role in global climate governance since the issue of climate change reached the international political agenda in the 1980s (Newell 2000; Corell and Betsill 2001). But a deliberative system that is generating democratic legitimacy requires more from civil society than conducting research, lobbying politicians, and observing and reporting on multilateral negotiations. As noted above, '(l)egitimacy is...achieved to the degree collective

outcomes respond to the balance of discourses in the polity, to the extent this balance is itself subject to dispersed and competent political control' (Dryzek 2010: 22). Competent political control implies that the balance of discourses in the polity ought to be the product of authentic deliberation rather than of initial and unreflected judgements. These definitions and conditions generate a three-fold role for civil society in democratising global governance: *fostering* public deliberation; *translating* and *transmitting* concepts, ideas, and messages between the public space and empowered space;[iii] and *promoting* and *facilitating* deliberative accountability.

Clarity on this three-fold role can be sought, firstly, in the concept of the 'public sphere'. A public sphere is defined not by the actors engaged in communication but rather by a form of communication in which actors engage (Dryzek 2006: 24). Through deliberation, namely the mutual exchange of reasons, more rational and well-reasoned positions on issues of common interest emerge. A vibrant public sphere produces what Charles Taylor calls 'public opinion' as distinct from the passively inherited wisdom and unreflected assumptions that he calls the 'opinion of mankind' (1995: 261). Many public sphere theorists have moved away from Habermas's original conceptualisation of a single public and instead empirically observe and normatively support the idea of multiple publics (e.g., Fraser 1992; Mansbridge 1996). Those excluded from Habermas's conceptualisation of the bourgeois public sphere as it emerged in the eighteenth century (typically, non-white, non-male, non-propertied citizens) are better able to participate in politics by creating their own 'counter-publics' (ibid.). The public space of global climate governance certainly features multiple publics rather than an overarching sphere in which all participate as equals to reach a shared understanding of common interests. Frequently, as observed elsewhere (*co-authored article*), public deliberation in this

context occurs in discursively homogenous settings. In other words, the discourses outlined earlier (Mainstream Sustainability, Expansive Sustainability, Limits, and Green Radicalism) tend to be articulated in enclave-like settings among like-minded others. While enclaves may be valuable for generating and protecting marginal discourses, ultimately deliberative engagement across discourses is required for reflexivity to flourish. If such engagement does not emerge organically, civil society leaders or 'entrepreneurs' have a role to play in fostering it.

Given the plurality of publics, Eley argues for a conceptualisation of the 'public sphere' as 'the structured setting where cultural and ideological contest or negotiation among a variety of publics takes place' (1992: 306; also Fraser 1992: 125). Here, the public sphere is conceptualised in the singular. But I would like to suggest that democratising 'fragmented' global governance requires a pluralist conceptualisation of the public sphere. Due to the polycentric character of the empowered space (whereby decisions are made in multiple multilateral institutions and public, private, and hybrid partnerships) careful consideration is required of how public ideas, concepts, and messages can be most effectively translated and transmitted. By drawing on and extending an idea of Charles Taylor, I will argue here that a 'nested' arrangement is best suited to this task.

Following Tocqueville, Taylor (1995) recognised the potential for citizen alienation in polities where authority is centralised. However, he also observed this potential in a centralised public sphere. Just as Tocqueville prescribed decentralised power as an antidote to citizen alienation, Taylor prescribed decentralisation of the public sphere. He wrote:

> Just as in politics, local concerns may impinge only with difficulty on the center; so the national debate may become concentrated in a small number of mass media that are impervious to local input.… Tocquevillian decentralization is necessary in the public sphere as well. Indeed, one can support the other. The fact that important issues are decided locally enhances the importance of local media, which in turn focus the debate on these issues by those affected. But it is not only a matter of bringing certain issues down to the local level. The national debate can be changed as well by effective local public spheres (1995: 279).

The specific form of decentralisation that Taylor had in mind was one of 'nested' public spheres in which smaller spheres (local and regional) are nested in a larger (national) sphere. Democratising the global governance of such a multifaceted phenomenon as climate technologies requires an extension of this idea of nested public spheres. Specifically, to build deliberative capacity in this governance system public spheres ought to be nested in two ways: geopolitically and functionally.

Geopolitical nesting is what Taylor had in mind when he called for local issues to be subject to public deliberation at the local level. In cases where the scope of interest extended beyond local boundaries, local 'public opinion' should feed into and influence larger national deliberations (ibid.). In fact, the lines of influence should operate in both directions. The importance of geopolitically nested public spheres becomes clear when we consider the various ways in which people may be affected by decision-making in the different multilateral and networked authoritative sites outlined earlier. The Clean Technology Fund, for example, aims to promote

'transformational actions' in developing countries through the demonstration, deployment and transfer of low-carbon technologies (CIF 2008: 3). As noted above, the relevant MDB working in a recipient country is responsible for assessing whether the applicant country's investment plan is indeed transformational and suitable for consideration by the CTF Trust Fund Committee. Projects in these investment plans should be prioritized according to potential GHG saving; demonstration potential (of technology); development impact; and implementation potential (CIF n.d. (2). Only the first two of these criteria are arguably suitable for objective assessment. 'Development impact' raises subjective concerns about what constitutes a community's or nation's social, economic, and environmental priorities; whether these are served by the investment plan; whether an alternative set of technology projects would better serve these priorities; and whether the pursuit of these priorities in one locality impinges on the interests of another locality. Although stakeholders are expected to be consulted during the drafting of an applicant country's investment plan, there is clearly scope for improvement, as illustrated by two examples.

First, a Strategic Environment Assessment (SEA) of the Clean Technology Fund found that social and gender co-benefits were being overlooked in investment plans and that there is 'great opportunity to increase and maximize these…benefits as CTF projects are prepared' (CIF 2010: 10). The SEA report noted that these benefits will not materialise automatically when clean technology and renewable energy projects are introduced, but rather these projects need to be designed in a "pro-poor way" (ibid.: iv). The assessment found that most investment plans provided only a very general discussion of development impact limited to economic development and energy security and access but not in such a way that addressed existing inequities (ibid.). The assessment also pointed to inadequate consultation

with the public and civil society in designing and implementing CTF projects. Kazakhstan's investment plan was the only one that referred to a consultation process taking place, and this was web-based (ibid.: 12). Those responsible for preparing investment plans may not even necessarily set out to privilege certain interests, they may simply share a discourse such as Mainstream Sustainability that does not recognise such entities as class and gender. Exposing decision-making to public deliberation in which a range of discourses is engaged would therefore produce more socially, economically, and ecologically rational decisions. Of course, the epistemic demands of contributing to deliberation on climate technologies are often quite high and potential development impacts may not be entirely known among those most likely to be affected by the implementation of new technology projects. Consequently, the public deliberation of larger public spheres may be relevant for producing more rational decisions. This is not to imply a transfer of public control from the local to the global because a nested arrangement instead implies that learning and influence occur in both directions. Highly informed actors participating in global public spheres have a role to play in translating new and complex information to local public spheres. Translation may simply be linguistic but it is likely in these contexts to also involve translating technical concepts into lay concepts, and discursively 'foreign' ideas into familiar ones.

A second illustrative example concerns the CTF Concentrated Solar Power project in the MENA region (southern Mediterranean countries of the Middle East and North Africa), where investment plans have given inadequate consideration to regional trans-border water politics. One critical voice from civil society, the Bank Information Center, points out that this is serious concern given that the region is one of the most water scarce in the world and that the concentrated solar power

technology requires considerable water resources in its cooling process (BIC 2010). They note:

> The CTF investment plan...explains that the various countries in the program face different degrees of water shortages, but the analysis is lacking with respect to other factors. For example, while the document says that "water availability is not likely to be an issue" in Egypt, due to the ability to use the Nile river and the Red Sea as a source, it does not take into account the political controversy surrounding Egypt's, many argue unfair, share of the Nile's water resources, nor the ongoing efforts to reach a new treaty that might reduce Egypt's share (ibid.).

Again, what this illustrates is the importance of reflexive decision-making that can only come about by subjecting plans and decisions to the influence of public deliberation not only at a single level (in this case the national Egyptian public sphere), but also often at multiple local levels, and at the global level given the high epistemic demands.

This example of the Clean Technology Fund has perhaps suggested that the local public sphere is of primary importance. Taking another example, that of the Carbon War Room, will demonstrate that this is not necessarily the case when it comes to democratising the governance of climate technologies. With an objective of bypassing existing barriers to the scaling up of new technologies, the Carbon War Room is engaged in the development and potential implementation and diffusion of technologies (a) for which there are no public regulatory frameworks, and/or (b) which

are in many cases controversial. An example is geoengineering, or climate intervention in the War Room's lingo, which is pursued in Operation Climate Insure (CWR n.d. (2). This operation brings together investment advisors, venture capitalists, science academies (The Royal Society and National Academy of Science), individual scientists, and a private normative framework initiative (Climate Response Fund) with the ultimate aim of developing 'a diverse array of proven, low risk, high return emergency response technologies and related utilization plans to help restore climate equilibrium in the face of unwelcome environmental shifts' (ibid.). Preston (forthcoming) observes a pervasive 'presumptive argument' against geoengineering within popular and philosophical circles. Yet, he deftly draws out a range of ethical questions that challenge this 'presumptive argument' and illustrate the issue's complexity. Debate on these questions clearly ought not be left in the hands private, low-profile networks. Another controversial 'operation' is Operation Bright Skies, which is partnering with the US Department of Defence and stakeholders in the renewable jet fuel supply chain to scale up the use of biofuels in Defence force ships and aircraft (Hunt 2011). The question of whether productive land should be allocated to energy production is contentious in itself; many would certainly oppose such resources being directed to military uses. A technology that involves similar competing land uses is biochar, which the Carbon War Room is seeking to scale up through Operation Black Gold.[iv] Implementing these technologies for climate change mitigation carries a range of social and environmental trade-offs, and democratic legitimacy demands that potentially affected people are included in decision-making on these trade-offs. In the case of biochar, decisions about whose land will be used for burying the charcoal deemed capable of sequestering vast amounts of GHG ought not be made by non-transparent alliances of investors and entrepreneurial scientists.

The potential impacts of these decisions will be widely dispersed (both in the case of successful implementation and failed implementation), and certainly reach beyond the boundaries of any particular local, regional, or national public sphere. Moreover, the epistemic demands on participating in deliberation about technologies that may be barely at the R&D stage, is extremely high. Informed and critical voices in civil society are likely to be few and far between. Whether or not efforts are made to inform and provoke debates at local efforts, for the foreseeable future competent voices may only engage in what can be conceptualized as a global public sphere, rather than in the nested public spheres of the nation-state. However, this finally brings our consideration to the second form of nesting I proposed earlier, namely functional nesting.

The principal concern underlying the idea of functionally nested public spheres is that deliberation in public space needs to be effectively transmitted to empowered space while also maintaining critical distance between these two spaces. The importance of critical distance is a lesson that can be taken from the experience of consensual democracies at the state-level (*see co-authored article*). In consensual states it has been observed (Dryzek et al. 2003) that the environmental critiques of social movements became more moderate as they were brought into the decision-making circle, yet this moderation was not matched by satisfactory environmental performance in these states. Radical critique was no longer available in the public sphere despite evidently remaining relevant (*co-authored article*).[v] Nevertheless, it is becoming increasingly common and expected that civil society will be brought as closely as possible into the decision-making circles of the various sites that populate the empowered space of global climate governance (and global governance more generally). Civil society involvement may lead to more socially and ecologically

rational decisions and outcomes, so engagement should not necessarily be entirely avoided. But this does raise the question of how involvement (and the potential advantages it carries) can be achieved without sacrificing the critical voice which civil society can uniquely provide. One option is a division of labour, in which some civil society groups participate in empowered networks while others maintain an exclusively contestatory stance. The function of the former is pragmatic engagement: efforts may be made to influence the agenda but ultimately these groups have to conform to an assumed problem definition, agenda, and commitment to reaching a collective decision. The function of the latter is to maintain a vibrant exchange of discourses and critical disposition free from the constraints of current political realities and the pressure to make and implement decisions. To some extent this division of labour is already occurring, especially in the UNFCCC, but there are arguably inadequate connections between those on the inside and those on the outside.[vi] This creates a risk that those closer to the decision-making will become blind to ideas and concerns that conflict with the political status quo. Looking beyond the multilateral setting of the UNFCCC to the various networked settings in which decisions are made and implemented, there are even weaker connections between an 'inside' and 'outside'. The lower profile of these settings allows them to avoid the critical gaze of the vast majority of environmentalist civil society organisations and social movements. To provide a sketch of how functionally nested public spheres may look in practice, I will again take the Clean Technology Fund and the Carbon War Room as examples.

The CTF presently promotes civil society participation in two different ways. The first is as observers of most Trust Fund Committee meetings.[vii] A total of four civil society observers are permitted access;[viii] allowed to request the floor during meetings; request agenda items be added to the provisional agenda; and recommend

external speakers to address the Trust Fund committee. They have three primary responsibilities: '(p)reparing for meetings and gathering input from members of their organization/network/community on the issues that will be raised at the meetings; (t)aking into account the concerns of the larger civil society community...; (and) (s)haring information from the meetings and lessons learned on the process with the larger civil society community' (Resolve 2010: 5). The second form of participation is through the annual Partnership Forum for informal dialogue and consultation among stakeholders.[ix] This presents an opportunity for sharing 'knowledge, issues and accomplishments' and raising concerns and emerging lessons from projects (CIF n.d. (3). Participants include the members of the international development community, NGOs, the private sector, and scientists and technical experts (CIF 2008: 8). This existing CTF structure apparently already provides a foundation from which a public space featuring functionally and geopolitically nested public spheres may develop. But this depends largely on two factors: (1) the inclusivity of representation, which would better sought in the representation of discourses rather than exclusively geographical representation as is presently the case; and (2) how civil society observers and participants in the Partnership Forum execute their roles: whether they develop an exclusively pragmatic and elitist disposition or foster and maintain connections with more local public spheres and more radical contestatory public spheres. Given their proximity to empowered space, there is also a potential for engaged civil society organisations to perform the function of promoting and facilitating deliberative accountability. Accountability is generally treated as a property of relationships between representatives and their constituencies, or principals and their agents, in which those delegating authority can expect an explanation for the other's action and penalise poor behaviour. The relationship between the networks

described in this paper and those people potentially affected by their decisions is clearly not one of delegated authority, but in most cases assumed authority. Nevertheless, democratic legitimacy demands accountability. Mansbridge's notion of narrative or deliberative accountability is perhaps best suited to this context (2009: 384). Narrative accountability is a one-way process in which an actor provides an 'account' and reasons for decisions and actions. Deliberative accountability involves two-way communication between empowered actors and affected publics in which both ask questions and give answers. Even in the absence of sanctions, democratic legitimacy would be enhanced by successfully pressuring empowered actors to justify their actions and decisions, and ideally seek, reflect on, and respond to the needs and concerns of affected publics. Engaged civil society actors could thereby act as an intermediary and translator in this two-way communication (or at a minimum translate a justificatory account from empowered space to public space).

Unlike the Clean Technology Fund, the private Carbon War Room entails no systematic engagement with civil society.[x] Some projects (or 'operations' in its preferred military lingo) do partner with public actors such as national science bodies and government departments; the biochar operation also partners with the International Biochar Initiative and the Chesapeake Fund.[xi] But this ad hoc partnering approach alone does not present a means for transmitting discourse from public space to empowered space. Given the controversial nature of some of the technologies targeted by the War Room, and their potential for affecting people on a broad scale, democracy is undermined by relatively closed and opaque governance. It may be advantageous to insert civil society actors into deliberation on regulating the development and scaling-up of new technologies for climate change mitigation and adaptation. However, cautionary lessons on how this ought to be organised can be

drawn from the European experience of participatory technology assessments (pTA) of agricultural biotechnologies. Levidow's assessment of four exercises suggested a 'biotechnologising' of democracy rather than a democratisation of biotechnology, prompting him to call for 'autonomous forms of participation – neither sponsored nor welcomed by state bodies' (2009: 451). Levidow's primary concerns were the depoliticising limitations imposed on the scope of deliberation: all concerns were funnelled into discussion of regulating impacts rather than allowing public control of the 'innovation trajectory' itself; alternative visions of societal futures and consideration of non-technological or alternative technological solutions to recognised problems were kept off the agenda. This perhaps highlights the importance of civil society-initiated deliberation outside authoritative circles. Given the pervasiveness of discursive enclaves, however, the reflexive capacity of deliberative publics may be under-realised unless special attention is paid to promoting deliberative engagement across discourses. Individuals have the capacity to access different discourses and reflect on their relative merits. But if those with an initial predisposition to viewing the world through the lens of, for example, Mainstream Sustainability only engage with like-minded others, this reflexive potential is lost.

Conclusion

There is no denying that new technologies will be needed to transfer to lower polluting energy systems and to adapt to likely climatic changes. However urgent this may be, it would be a mistake to interpret this as granting open authority to investors, entrepreneurs, and scientists to develop and deploy innovations free of public scrutiny. The types of technologies pursued, the interests they favour, and the future societal visions they serve (or suppress) ought instead be the subject of public

deliberation and, ultimately, public control. In this paper I have considered how such public control may be generated in a global environment where decisions are taken and implemented in multiple settings that fall outside the boundaries of traditional liberal democracy. Dryzek's conceptualisation of the deliberative system was introduced as plausible option for pursuing democratisation in such a context. What I have presented here is merely an initial mapping exercise, with a specific focus on the role of civil society in promoting democratisation through deliberative capacity building. A more complete picture of the true health of the deliberative system requires further empirical analysis. Of particular importance is analysis of the authenticity of deliberation within the various settings where consequential decisions are made. To the extent that authenticity is lacking, consideration of how it can be enhanced is essential. This is important because even if the public balance of discourses is subject to competent and dispersed control through vibrant public debate and deliberative engagement across discourses at multiple levels, it will remain largely inconsequential unless empowered actors are receptive to hearing the public voice and engaging in their own deliberation in response.

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[i] There is a large body of literature in critical technology studies addressing these points in a broader context. See, for example, Johnson and Wetmore 2009; Kirkpatrick 2008; Barry 2001; Feenberg 1992; Winner 1989.
[ii] However, scholars have begun to analyse the democratic legitimacy of transnational networks (e.g., Bäckstrand 2010; 2008; Lövbrand et al. 2009; and Dingwerth 2007).
[iii] The importance of 'translation' in the deliberative system has been helpfully pointed out by Robyn Eckersley.
[iv] On the controversial nature of this technology, see Leach et al. (2010), which reviews the narratives in the debate.
[v] Anshelm and Hansson (2011) have similarly observed a pragmatic convergence of the positions of multinational corporations and environmental NGOs at the cost of alternative visions and values.
[vi] On the inside/outside distinction see Fisher 2010.
[vii] According to Smita Nakhooda, an observer for WRI, '(d)eliberations over investment plans are presently closed "executive sessions" (2009: 2).
[viii] One representative each from a developed country; Asia; Africa; and Latin America (CIF 2009, para. 11).
[ix] This is a Partnership Forum for the wider Climate Investment Funds, which includes CIF. It is informal in that that it does not produce any written texts that will inform negotiations but rather discusses 'the strategic directions, results and impacts of the CIF' CIF n.d. (1).
[x] This assessment is made on the basis of examining publicly available material about the initiative.
[xi] A joint program of the market-oriented conservation organisation, Forest Trends, World Resources Institute, and the Chesapeake Bay Foundation.

References

Abbott, K.W. 2011. The Transnational Regime Complex for Climate Change.

Anshelm, J. and A. Hansson. 2011. 'Climate Change and the Convergence between ENGOs and Business: On the Loss of Utopian Energies'. *Environmental Values* 20(1): 75-74.

Bäckstrand, K. 2010. The legitimacy of global public-private partnerships on climate and sustainable development. In K. Bäckstrand , J. Kahn , A. Kronsell , and E. Lövbrand (eds) *Environmental Politics and Deliberative Democracy*. Cheltenham: Edward Elgar, pp.85-104.

- 2008. Accountability of Networked Climate Governance: The Rise of Transnational Climate Partnerships. *Global Environmental Politics* 8(3): 74-102.

Barry, A. 2001. *Political Machines: Governing a Technological Society*. London: Athlone Press.

Biermann, F., F. Zelli, P. Pattberg, and H. van Asselt. 2010. The architecture of global climate governance: setting the stage. In F. Biermann, P. Pattberg and F. Zelli (eds) *Global Climate Governance Beyond 2012: Architecyture, Agency, and Adaptation*. Cambridge: Cambridge University Press, pp.15-24.

Biermann, F. M. Chan, A. Mert, and P. Pattberg. 2007. 'Multi-stakeholder partnerships for sustainable development: does the promise hold?'. In P. Glasbergen, F. Biermann, and A.P.J. Mol (eds) *Partnerships, Governance, and Sustainable Development: Reflections on Theory and Practice*. Cheltenham: Edward Elgar, pp.239-60.

CIF. 2010. Strategic Environment, Social and Gender Assessment of the Climate Investment Funds. SCF/TFC.6/Inf.2, October. http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/SCF%20Inf%202%20nv%20Soc%20Gender%20Assessment%20nov%202010_0.pdf

- 2009. Summary of the Co-Chairs, CTF Trust Fund Committee Meeting, January 29-30, 2009, paragraph 11. http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/CTF_Co-chair_Summary_01_29_09.pdf

- 2008. 'Governance Framework for the Clean Technology Fund'. www.climateinvestmentfunds.org/.../climateinvestmentfunds.../CTF_Governance_Framework_jan_0.pdf

- n.d.(1). 'CTF Observers'. http://www.climateinvestmentfunds.org/cif/CTF_Observers

- n.d. (2). 'Country and Regional Investment Plans'. http://www.climateinvestmentfunds.org/cif/Country%20Investment%20Plans

- n.d. (3). 2011 Partnership Forum. http://www.climateinvestmentfunds.org/cif/partnership_forum_2011_home

Corell, E. and M.M. Betsill. 2001. A Comparative Look at NGO Influence in International Environmental Negotiations: Desertification and Climate Change. *Global Environmental Politics* 1 (4): 86–107.

CRF. n.d. The Climate Response Fund. http://www.climateresponsefund.org/

CTI-PFAN. n.d.(1). 'PFAN Global Fact Sheet'. www.cti-pfan.net/upload/resources/file/PFAN%20Global%20Factsheet.pdf

CTI-PFAN. n.d.(2). 'About Us'. http://www.cti-pfan.net/aboutus.php?id=12

CWR (Carbon War Room). n.d.(1) About the Carbon War Room. http://www.carbonwarroom.com/about-cwr

- n.d.(2). 'Carbon Management: Operation Climate Insure'. http://www.carbonwarroom.com/sites/default/files/2.f.i_-_Geoengineering_1-pager.pdf

Dingwerth. K. 2007. *The New Transnationalism*. Houndmills: Palgrave Macmillan.

Dryzek, J.S. 2010. *Foundations and Frontiers of Deliberative Democracy*. Oxford: Oxford University Press.

- 2009. Democratization as deliberative capacity building. *Comparative Political Studies*. 42: 1379–1402.

- 2006. *Deliberative Global Politics*. Cambridge: Polity Press.

Dryzek, J.S., D. Downes, C. Hunold, D. Schlosberg, H.K. Hernes. 2003. *Green States and Social Movements: Environmentalism in the United States, United Kingdom, Germany, and Norway*. Oxford: Oxford University Press.

Eley, G. 1992. Nations, Publics, and Political Cultures. In C. Calhoun, ed. *Habermas and the Public Sphere*. Cambridge Mass.: MIT Press, 289-339.

Feenberg, A. 1992. Subversive Rationalization: Technology, Power, and Democracy. *Inquiry* 35(3): 301-320.

Fisher, D.R., 2010. COP-15 in Copenhagen how the merging of movements left civil society out in the cold. *Global Environmental Politics* 10(2): 11–17.

Fraser, N. 1992. Rethinking the Public Sphere: A contribution to the critique of actually existing democracy. In C. Calhoun, ed. *Habermas and the Public Sphere*. Cambridge Mass.: MIT Press, 109–142.

Gutmann, A. and D. Thompson. 1996. *Democracy and Difference*. Cambridge MA: Harvard University Press.

Jonson, D.G. and J.M. Wetmore (eds). 2009. *Technology and Society: Building Our Sociotechnical Future*. Cambridge, Mass.: MIT Press.

Keohane, R.O. and D.G. Victor. 2011. The Regime Complex for Climate Change. *Perspectives on Politics* 9(1): 7-23.

Kirkpatrick, G. 2008. *Technology and Social Power*. Houndmills: Palgrave Macmillan.

Leach, M., J. Fairhead, J. Fraser and E. Lehner. 2010. 'Biocharred pathways to sustainability? Triple wins, livelihoods and the politics of technological promise'. STEPS Centre Working Paper. http://www.steps-centre.org/PDFs/Biochar_web.pdf

Levidow, L. 2009. 'Democratizing Agri-Biotechnology? European Public Participation in Agbiotech Assessment'. *Comparative Sociology* 8: 541–564.

Lövbrand, E., T. Rindefjäll, and J. Nordqvist. 2009. Closing the Legitimacy Gap in Global Environmental Governance? Lessons from the Emerging CDM Market. *Global Environmental Politics* 9(2): 74-100.

Mansbridge, J. 2009. 'A "Selection Model" of Political Representation'. *The Journal of Political Philosophy* 17(4): 369-398.

- 1996. Using Power/Fighting Power: The Polity. In S. Benhabib, ed., *Democracy and Difference: contesting the boundaries of the political*. Princeton: Princeton University Press, 46-66.

Newell, P. 2000. *Climate for Change: Non-state Actors and the Global Politics of the Greenhouse.* Cambridge: Cambridge University Press.

Preston, C. Forthcoming. Re-Thinking the Unthinkable: Environmental Ethics and the Presumptive Argument Against Geoengineering. *Environmental Ethics* 20(4).

RESOLVE 2010. RESOLVE Facilitation of Self-Selection Process for Civil Society Observers on the CIF Trust Fund Committees. Final Project Report. (Copy held by author).

Steenbergen, M., A. Bächtiger, M. Spörndli and J. Steiner. 2003. Measuring Political Deliberation: A Discourse Quality Index. *Comparative European Politics* 1(1): 21–48.

Taylor, C. 1995. *Philosophical Arguments*. Cambridge Mass.: Harvard University Press.

Winner, L. 1989. The Whale and the Reactor: A Search for Limits in an Age of High Technology. Chicago: University of Chicago Press.