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Individual responsibility and voluntary action on climate change

Abstract

In addressing climate change mitigation, matters of responsibility are core. It is widely acknowledged that individuals and households need to contribute to efforts to significantly reduce greenhouse gas emissions in order to meet international reduction targets (Pachauri 2007; Stern 2007). However, the role of individual responsibility for climate change mitigation in policy, discourse and practice, concomitant with the State and international regimes, remains largely undertheorised. Thereby the mechanisms that determine in what ways individuals should reduce their emissions and how actions taken at the local level link to the global level are not fully understood.

Recent debate concerning the lack of provisions for voluntary measures by individuals and householders in the Australian Government's proposed Carbon Pollution Reduction Scheme (which includes an emissions trading scheme) illustrates that voluntary mitigation efforts may be poorly integrated at the national and hence the international level. This has important implications for achieving the deep global cuts in greenhouse emissions required to avoid dangerous climate change.

Moreover individual responsibility for climate change implies that actors have authority not only over their "personal, private sphere" (Stern 2005) behaviour and lifestyles but that this authority extends to influence broader structural change.

This paper will consider individual responsibility for climate change mitigation as it is expressed through forms of voluntary action; how perceptions of agency may contribute to broader level change; and the implications for linking local level climate change action with the global level.

Introduction

Climate change presents as a 'diabolical' problem (Garnaut 2008) and represents the greatest challenge to humanity of this century. According to Gardiner (2006), the problem of climate change is characterised by three key factors: its complexity, lack of causality and institutional inadequacy. Each of these contribute to what Gardiner describes as a "perfect moral storm" as they represent areas of ethical deliberation essential to resolving the climate change problem but for which existing ethical frameworks are inadequate.

Gardiner (2006) reasons that the complexity and longevity of the climatic impacts of anthropogenic greenhouse gas (GHG) emissions is signified by the extension of climate change obligations both spatially, as a global issue, and temporally, as an intergenerational one. Who should bear the costs and burdens of climate change is thereby unclear as there is no single causal agent that can be identified as responsible for the problem. Climate change therefore demands an unprecedented level of global cooperation which calls into doubt the adequacy of existing institutions to address the problem. This positions climate change "as the moral challenge of our generation" (Ban Ki-Moon in UNEP 2009: ii) and throws up ethical contestations not only internationally between states but also between each nation and its citizens.

Responses to the climate change challenge remain largely within the province of international institutions that apply "top-down" strategies to be delivered by states through their national climate policies. However, governments often emphasise responsibility for climate change action at the individual and household level, that is, from the "bottom-up". This assumes that the summation of local actions is (or can be) linked up to national efforts which will lead to global changes (Accountability and Consumers International 2007; WWF-UK 2008). How bottom up approaches, those necessary actions at the local level, translate into global level action has received little attention (Goldspink and Kay 2007; Lindseth 2004) and is symptomatic of the essential failure of states and their publics to negotiate their respective roles and responsibilities in countering climactic change (Bickerstaff and Walker 2002).

The emphasis on climate policy playing out on the international stage has also largely overridden the growing signs of dissent from civil society evident in an expanding grassroots climate movement. This movement displays deep concerns regarding the ability to achieve an effective international agreement with the urgency and social transformation required to deter the threat of catastrophic climate change (Hansen 2007). Over 5,200 local actions in 181 countries were held on a global day of action (see

www.350.org) recently, calling for a safe target of 350 parts per million (ppm)[1] for CO2 emissions, whereas global negotiations and the majority of nations' target setting remain focused on higher levels (450 – 500 ppm) (IPCC 2007; Stern 2007; Garnaut 2008). This exposes the layers of contestation between institutions and civil society and the need for a better understanding of how local and global processes interrelate.

The aim of this paper is to call attention to the most local level of action for climate change abatement, the individual, and to assess what factors may create and restrain agency for voluntary action. I propose that there is an inherent emphasis in developed societies on locating responsibility for climate change, both in terms of its causes and effects, with individual actors. The expectation being that, through their "personal private-sphere" behaviours (Stern 2005), actors possess the authority to effectively reduce their greenhouse gas (GHG) emissions. This "individualization of responsibility" (Maniates 2002) for climate change mitigation lies within the context of a dominant neoliberal discourse that plays throughout the developed world (Harvey 2006; Matravers 2003; Maniates 2002) so that the political ideology of individualism now extends into each person's lifestyle choices and behaviours (Matravers 2007: 73). I will argue however that due to a range of constraints on personal level actions, individual agency is currently significantly thwarted. I will draw on recent empirical evidence to support this proposition and conclude with some recommendations for a way forward.

Individual responsibility as agency

"The self is not a passive entity, determined by external forces; in forging their self-identities, no matter how local their specific contexts of action individuals contribute to and directly promote social influences that are global in their consequences and implications" (Giddens 1991: 2)

Taking individual responsibility for climate change infers that actors are able (and willing) to take mitigation actions, that they are *actors with authority* (Biermann *et al*. 2009), possessing the power to engage in practices that will effectively reduce carbon emissions. Individual agency in this sense should be distinguished from the "unintended consequences of everyday activities" (Pattberg and Stripple 2008: 8), such as the 'simple and painless steps' (WWF-UK 2008) of changing household lightbulbs and purchasing energy efficient appliances.

There is also an understanding that 'reflexive' individuals employ "active agency" which "connotes the capacity of human beings to reason self consciously, to be self-reflexive and to be self-determining" (Held 2005: 12). "Active agents" are also bestowed with "both opportunities and duties" (Held 2005: 12).

[1] According to 350.org current levels of CO2 in the atmosphere of 387 ppm need to be reduced to 350 ppm based on scientific evidence to avoid dangerous climate change (defined by the IPCC as a greater than 2 degree rise in atmospheric temperature).

They create opportunities to take action but also, concomitantly, have a duty that this action "does not curtail and infringe on the life chances and opportunities of others" (p. 13). Agency therefore implies a moral duty not only to act but to act without infringing the rights of others, thus expanding the notion of agency set out by Biermann *et al* (2009) to incorporate a fundamental moral dimension of agency in individual action for climate change abatement.

The role of agency also needs to be understood as being embedded in an association with structure (Biermann *et al* 2009; Beck 1992; Giddens 1991), so that:

> *"Modernization involves not only structural change, but a changing relationship between social structures and social agents. When modernization reaches a certain level agents tend to become more individualized, that is, decreasingly constrained by structures. In effect structural change forces social actors to become progressively more free from structure. And for modernization successfully to advance, these agents must release themselves from structural constraint and actively shape the modernization process."* (Lash and Wynne 1992: 2 in Beck 1992)

The ability for individual actors to effect social change is thereby contained within the understanding of the agent-structure relationship. Reflexive individuals are not simply conceived as reactive to social conditions but they can also actively intervene to change prevailing structures. There is an acknowledgement, however, that those social actors are both free to act, but that their actions can be curtailed through institutional restraints. Moreover, as Pattberg and Stripple (2008) imply, individual action without critical reflection (such as 'small and painless steps') can simply prove to reinforce the prevailing social norm (Gregory 2000: 495).

Voluntary action as behaviour

Voluntary individual/ household action to reduce carbon emissions is of particular interest to Western governments, as, reticent to prescribe regulatory provisions for their citizens' behaviours and lifestyles, they expect their climate policy objectives (such as GHG emission reduction targets) will be voluntarily fulfilled through personal and household level behavior change[2] (Lorenzoni *et al* 2007). Perhaps, not surprisingly then, the voluntary action that people take around their lifestyles and homes, with particular emphasis on how an individual's behaviour is motivated by their concern about climate change, has been the focus of much empirical research (Norgaard 2009; Whitmarsh 2009; Bickerstaff *et al* 2008; Lorenzoni *et al* 2007; Lorenzoni and Pidgeon 2008).

Whitmarsh (2009) describes individual voluntary action as behaviour with *intention*. This behaviour is understood to sit within a broader range of co-dependent influences (namely, cognition and affect).

[2] Examples of climate change information campaigns targeted by governments at individual lifestyle and behaviour change include: "Be Climate Clever: I can do that" in Australia; in the UK, DEFRA"s "Are you doing your bit?"; and the European Commission's "You Control Climate Change (see http://www.climatechange.eu.com/).

Voluntary action on climate change focuses on one aspect of this account – the behavioural - but with the understanding that in order to act people need "to know about climate change in order to be engaged; they also need to care about it, be motivated and able to take action." (Lorenzoni *et al* 2007: 446) This action is dependent on a wide range of influences as individual behaviour is a "product of social and institutional contexts" (Lorenzoni *et al* 2007: 446) that create a complexity of motivations and constraints on voluntary action which has received little normative attention in relation to climate change. Whitmarsh (2009) further makes the distinction between intention and impact arguing that most research has focused on the *impact* of action (for example, by measuring how much a household's energy costs have been reduced) rather than the *intent*. She captures the relevance of this distinction in three ways: noting that people may undertake actions with the intention of mitigating carbon emissions but that these may consist of "'futile activities'"; i.e. be ineffective; secondly, that intention can reveal the motivations underlying action; and thirdly, intention uncovers the harder to conceptualise range of values, beliefs and virtues that underscore pro-environmental behaviours.

Behavioural intention to mitigate climate change draws attention to the academic literature concerned with why people are failing to respond to the climate change threat through changes within their individual lifestyles (Norgaard 2009: 14). There is now widespread agreement that rationalist information deficit approaches (that is, that by providing information about climate change, voluntary changes in behaviour will follow) have firstly, proven largely defeatist or unsustainable, and, secondly fail to acknowledge the complex mix of behaviours, attitudes, values and social norms that undergird behavioural change. "The widespread lack of public reaction to scientific information regarding climate change" (Norgaard 2009: 3) and the "failure to integrate this knowledge into everyday life or transform it into social action" (ibid: 29) becomes even more perplexing when placed within the context of people's stated high levels of concern regarding the effects of climate change. At least in the developed world (where substantial impacts are yet to be felt), high levels of concern have been demonstrated along with an acknowledgement that individuals have a responsibility to take action to reduce their carbon emissions (Norgaard 2009; European Commission 2008; Pidgeon *et al* 2008; The Climate Institute 2007; Accountability and Consumers International 2007; Lorenzoni and Pidgeon 2006).

Individual agency and the value: action gap

Norgaard (2009) has noted the disparity between people's concerns regarding climate change and the adoption of low carbon behaviours. The discrepancy between individuals' stated intentions and their actions has been widely described as the "value-action" gap (Darnton 2006; Macnaghten 2003; Kollmus and Agyeman 2002; Blake 1999). There is a range of barriers proposed that contribute to the gap,

however, of most relevance here is that people feel they lack the sense of empowerment to undertake actions that will lead to a less carbon-intensive lifestyle.

Recent empirical research undertaken by Räthzel and Uzzell (2009) expose why the value-action gap may be an artifact of the research process itself. Psycho-social research has focused on individual environmental behaviours which they argue, in turn, reinforces individualistic responses. Their argument is based on two core presumptions of individual responsibility and pro-environmental actions. Firstly, that people's concern is primarily focused on problems at the local level and, secondly, that they possess the power to do something about them. Räthzel and Uzzell found that people display a spatial biasing in relation to their response to issues such as climate change, so that:

> "Ironically, then, although people feel that they are responsible for the environment at the local level this is precisely the level at which they perceive minimal problems. The areal level which they perceive has the most serious environmental problems is the areal level about which they feel least personally responsible and powerless to influence or act."(p. 328)

Both the research and responses to action on climate change have remained centred on an individualistic causality and failed to take into account the broader social and political contexts (ibid). They argue that people's "sense of powerlessness might be a reflection of a larger issue, namely the reality of individualisation and competitiveness that govern society at large" (p. 333) and that the "reductionist individualism" evident in a focus on individual level responsibility and action might rightly dislocate people's ability to respond for the good of society as a whole. This "psycho-social dislocation" (p. 333) is constructed by an artificially created "dichotomy between individuals and society" and "the local and the global" (ibid).

According to some social theorists (Giddens 1991; Beck 1992; Beck and Beck-Gernsheim 2002), the individualization of responsibility is an extension of the modernizing processes themselves. Individuals are therefore both actively engaged in, and responsive to, the conditions of globalization that surround them, down to the very lifestyles they lead. So, where governments and global institutions state that any successful GHG emission mitigation strategy will require significant changes in lifestyles and behaviours (IPCC 2007b: 12; see also Stern 2007; Garnaut 2008) "'lifestyle' connotes *individual* responses to/ responsibility for social and environmental change" (Evans and Abrahamse 2009: 501, emphasis in original). This has important implications for the role of individual action in meeting climate change imperatives. In determining the efficacy of response, the nature of these voluntary acts, how they are enacted and the relationship between the actions of institutions (whether global, national or local) and individuals becomes critical. It is important then to determine which types of action undertaken at the

personal and/or household level will contribute to the best outcome in terms of global environmental change. The following section outlines a preliminary typology of individual action to assist this task.

A Typology of Voluntary Action

There are a myriad of ways that individual actors can and do undertake voluntary action to reduce their carbon footprints.[3] I have constructed a typology of voluntary actions (see Table 1) which goes a little way in classifying the types of action choices individuals are presented with in contemporary, developed Western societies.

Hierarchical	**Individualist**	**Egalitarian**
E.g. personal carbon trading	***E.g. consumer-based actions***	***E.g. grassroots climate groups***
Compulsory scheme	Voluntary	Voluntary
Transfers responsibility from the state to the individual/ household level	Responsibility shifts from 'citizens' to 'consumers'. (Maniates 2002; Spaargaren & Moll 2008; Scerri 2009)	Responsibility lies with the individual but is also shared with wider society (Garvey 2008; Harris 2008; Dobson 2006)
"Top down"	"Top down" and "bottom up"	"Bottom up"
Power remains with the state &/ or global institutions	Two potential avenues of power are revealed: 1. State power remains dominant (Maniates 2002; Scerri 2009) 2. State power is "hollowed out", authority lies with consumers & global organisations (Spaargaren & Moll 2008)	Power is shared amongst citizens

Table 1: Three types of voluntary action

This typology draws on Douglas's (1970) Cultural Theory which has been influential in classifying behavioural worldviews on climate change (Ney (2000) and Thompson (2000) in IPCC 2001b; Hulme 2009). Cultural theory sets out 4 distinct profiles that describe people's different views of nature and society: hierarchical, egalitarian, individualist and fatalist. Each discourse expresses different concepts of responsibility and thereby provides a means to expose and track constructs of responsibility within contemporary climate change debate. Fatalists perceive nature as a lottery and climate change outcomes as a function of chance (consequently, fatalists do not engage in climate policy discussions nor do they believe that their individual actions will effect change); individualists perceive nature as resilient and rely

[3] Guidance for individuals and households in this matter has undertaken exponential growth in recent years but to detail these here is well beyond the scope of this discussion. See Accountability and Consumers International 2007 for a comprehensive listing within the UK and USA.

on markets to respond to climate change 'stimuli'; hierarchists perceive nature as manageable and prefer the use of regulation and technologically-based 'solutions'; and egalitarians perceive nature as fragile and regard the engagement of deliberative processes and civil society as critical in a climate change response (O'Riordan and Jordan 1999: 86-7).

The typology attempts to offer a distinction between the types of voluntary actions available to actors based on their cultural preferences. In the table I represent these according to the cultural theory classifications of hierarchical, individualist and egalitarian (it is presumed that fatalists don't engage in voluntary action). Contrary to how these preferences are delineated here, each of these three typologies does not imply a clearcut scope of action, rather, even though people favour a particular cultural worldview, their behaviour incorporates characteristics across all three domains. A brief outline of each typology follows.

In a top-down hierarchical approach to climate change mitigation, global agreements are incorporated into national policy which could be prescribed to the individual through compulsory personal carbon trading. Personal Carbon Allowances (PCAs) have been a focus of research and policy deliberation in the UK, where the government has considered a compulsory scheme where individual and household level carbon emissions would be budgeted to fulfill national targets. In brief, a PCA scheme would operate similar to an emissions cap and trade scheme, that is, a cap or limit is initially established and carbon trading on an individual level can occur up to the limit of the cap (Seyfang and Paavola 2008). Over time the cap is reduced so that the total amount of carbon allowed to be emitted is reduced over time. Individuals would have something like a carbon credit card to 'swipe' to surrender their allowances from their carbon allowance accounts (Roberts and Thumin 2006: 4). The principle of PCAs has been found appealing (Vandenbergh and Steinemann 2007) if not practical from an administrative perspective (Lane *et al* 2008). Voluntary community-based schemes have gained some traction with Carbon Rationing Action Groups (CRAGs) established in the UK, USA, Canada, Australia and recently in China[4].

Consumer-based actions have been widely critiqued in relation to pro-environmental behaviours, particularly climate change (Scerri 2009; Accountability, Net Balance Foundation and LRQA 2008; Spaargaren and Moll 2008; Accountability and Consumers International 2007; Maniates 2002). Voluntary consumer actions range widely from buying carbon offsets, for example, to offset a lifestyle choice such as an overseas holiday; to paying a premium to encourage renewable energy uptake (e.g. Greenpower)[5]; to investing in less energy intensive appliances (from washing machines to solar panels).

[4] See http://www.carbonrationing.org.uk/
[5] See www.greenpower.com.au. Australian consumers can purchase Greenpower which is charged at a premium to allow the energy retailer to purchase power from renewable sources.

Voluntary actions that fall within the egalitarian typology involve engagement with civil society. Again these range in extent from participating in collective online advocacy (e.g. Get Up)[6] to taking part in voluntary activities through membership of an environmental organisation or a climate action group.[7]

Critical to this discussion is the role of individualistic responses to climate change abatement which fall within the purview of consumer-based action. According to my argument thus far, governments and other institutions emphasise voluntary individualistic forms of responsibility for climate change mitigation. Individuals, however, in perceiving the complexity and extent of the climate threat and sensing their lack of power to enact global level change, instead apply their agency through personal private sphere behaviours.

This leads to two potential pathways for individualistic action. The first pathway, critiqued by authors such as Scerri (2009) and Maniates (2002) positions consumer-based action as responsive to the prevailing forces of economic rationalism. In their critique the only pathway currently open to actors for pro-environmental behaviour is through their consumer acts. However this action, whilst appearing to empower actors within their personal spheres of authority (their homes and lifestyles), diverts individual attention away from challenging the "knotty issues of consumption, consumerism, power and responsibility" (Maniates 2002: 45). Individualisation for Maniates is symbolic of the wholesale decline in public engagement in democratic processes in the West which can only be "remade through collective citizen action as opposed to individual consumer behaviour" (p. 65). In the same way Scerri (2009) argues that personal actions deflect individuals from considering how these practices shared in common with other members of society have the potential to challenge or support societal values. So that "personal acts of consumption stand-in for citizen's ethico-political commitments. In the place of engaging in a regulating body-politic, individual citizens are called upon to take initiatives and shoulder responsibilities themselves" (p. 477).

Contrasting the view that the "individualization of responsibility", endemic in "Western culture and ideology" (Scerri 2009: 469), is a disempowering force that funnels human behaviour down an economic development path, Spaargaren & Mol (2008) argue instead that individualisation leads to three forms of "citizen-consumer" power typified by ecological citizenship, political consumerism (for e.g. choosing fair trade products) and "lifestyle politics". They define "lifestyle politics" as "primarily about civil-society actors and dynamics beyond state and market" and "about private, personal and individual morals,

[6] See www.getup.org.au. Get Up is an online campaigning and advocacy organisation based in Australia with approximately 336,000 online members which campaigns on a range of environmental and social justice issues.
[7] There are about 150 local grassroots climate actions groups (CAGs) active throughout Australia.

commitments and responsibilities" (p. 357). They argue that the demise of the State allows the "citizen-consumer" to have an emerging role in environmental politics as connections are forged with global level institutions and processes through consumer practice. This conception of an empowered consumer base incorporates much from the egalitarian typology and opens the possibility for incorporating forms of consumer practice within egalitarian citizen action (one could think of consumer boycotts, for example). Consumerism for Spaargaren and Moll becomes an entry point for greater democratic involvement at both local and global scales (as State power is "hollowed-out" through the modernizing progression of globalisation), however, in saying this; they also delineate the form of individualism displayed in lifestyle politics as being distinct from the neoliberalist interpretation provided by Scerri and Maniates.

> "….. lifestyle politics do not favour automatically or exclusively 'individualist' notions of politics and consumer-empowerment. They are 'individualist' policies in a very, specific, circumscribed way. The concept of lifestyle as it is used by Giddens (1991) refers to the cluster of habits and storylines that result from an individuals' participation in a set of everyday life routines they share with others. Every citizen-consumer can be characterized by his or her unique combination of shared practices, the level of integration of these practices, and the storylines he or she connects to these practices. *Lifestyle politics then refer to the ways in which individuals at some points in time (especially when confronted with sudden changes, challenges or fatal moments) reflect on their everyday life*" (p. 357, my emphasis).

What constrains individual agency?

The above section outlines some of the ways that individuals can act in order to reduce their greenhouse impact. But in what ways are the conditions for individual agency within modern society being constrained? Here I propose that the inhibition of individual agency for voluntary action on climate change abatement can be demonstrated in three distinct ways and will consider each in turn.

1. *Actors lack authority*; i.e. they are not empowered to take action.

Individual agency derives from a sense of personal empowerment which becomes the basis from which people are able to take action within their spheres of authority. Norgaard's (2009) meta-analysis of psycho-social research on individual action in relation to climate change draws on several lines of empirical evidence to support the supposition that individuals in fact feel disempowered and ineffective. She notes Krosnic *et al*'s (2006) observation that, as there is no easy solution to climate change that people no longer take it seriously (p. 14). Immerwahr (1999) identifies the lack of a sense of efficacy as a barrier to action (p. 21). Kellstedt (2008) states that "increased levels of information about global warming have a negative effect on concern and sense of personal responsibility" (ibid), supporting Räthzel and Uzzell's (2009) contention that people perceive less responsibility for those matters that are

least under their personal control. Actors, in effect, are "choosing not to choose" (Macnaghten 2003) to engage with issues such as climate change. The global scale of the problem and the enormous power inequities evident at a personal level (compared to governments and corporations) deluge their ability to see themselves as "authoritative actors" (Biermann *et al* 2009: 32)

2. *Actors lack trust* in the very institutions (namely, governments) that they turn to for action on issues of global complexity and risk, such as climate change.

Whereas governments place confidence in their citizens to respond to the climate crisis through their individual behaviours, the public displace their personal sense of disempowerment through the desire for institutional accountability. In response what emerges is a type of "organised irresponsibility" (Beck 1992) where climate change becomes another 'risk' "for which people and organizations are certainly 'responsible' in a sense that they are its authors but where no one is held specifically accountable" (Giddens 1999: 9).

Calls for individual responsibility by governments and other institutions raise issues for the public of institutional trust, capability and duty of care (Pidgeon *et al*. 2008: 75; Bickerstaff *et al*. 2008; Macnaghten 2003; Bickerstaff & Walker 2002). Not only do people perceive an unacceptable level of action from governments on climate change mitigation but they also cynical that governments are willing to take action on climate change where it is contrary to governments' or other powerful actors' economic interests (Darnton 2006: 24). People are also alert to the uneven power relationships that operate between the individual and the state and other institutions (Bickerstaff *et al*. 2008; Maniates 2002).

3. *Actors lack reflexivity*.

The essential nature of reflexivity can be portrayed as breaking structural bonds in order to unleash individual agency (Gregory 2000; Beck 1992). If, on the other hand, individuals act "*without* questioning the norms of the wider society, the possibilities of change will be constrained by certain norms which are taken for granted" (Gregory 2000: 485). Setting up a "vicious circle" where actors in conducting their daily lives reinforce the social norms that in turn "circumscribe individual choice" (ibid). Scerri (2009) argues that actors in Western society display their individualism as "elemental particles of society" (Supiot 2007 :14 cited in Scerri 2009) whose actions are merely "an instrument of economic development" (p. 473). As consumers (rather than citizens) they fail to connect on an ethical level in order to create the "links between (private) morality and (collective) reasons for acting" (Scerri 2009: 470). Scerri argues that the "individualization of responsibility" (Maniates 2002) has shifted the emphasis of voluntary pro-environmental behaviour to the domain of the consumer. Any ethical considerations are thereby subverted into expressions of green consumerism, what Scerri describes as a type of "ethics-lite".

The linkages between morality and reasons for acting (p. 470) are severed in this atomistic interpretation as actors no longer reflect on their private sphere behaviours in relation to broader societal values (p. 478). So in the same way as Räthzel and Uzzell (2009) propose a "psycho-social dislocation", Scerri argues that individualization creates a politico-ethical one.

> *"In the contemporary West, possibilities for achieving sustainability fall foul of a way of life that, while free to exercise sovereign choices over a plethora of opportunities, is increasingly cut-off from political – that is, value- and so power-laden – commitments to inhabiting the ecosphere on ethical terms"* (Scerri 2009: 479).

Activating Agency

Three key constraints have been argued here to the uptake of effective voluntary action at the individual scale. Firstly, actors in perceiving individual responsibility for climate change abatement, feel disempowered in the face of the complexity and enormity of climate change risk. Secondly, that in acknowledging their essential powerlessness, citizens turn to their governments to take responsibility for climate change mitigation. However governments are seen by their citizens to be equally incapable, ineffective or uncommitted to rise to the climate change challenge. Moreover governments increasingly expect that individuals will take voluntary action within their personal lifestyles but outside of a social contract that sets up the provisions for sharing responsibility - thus creating a sense of distrust. Thirdly, the structural conditions of modernity inhibit the ability for self-reflexive individuals to generate social change as much of their individual action operates to reinforce social norms, or worse, in the absence of reflexivity, the moral bases for voluntary action are subverted through consumerism.

These three constraints are embedded within two "dislocations": a psycho-social dislocation that creates an artificial dichotomy between the individual and society, and the local and the global resulting in a type of hiatus in action through people "choosing not to choose". The second politico-ethical dislocation separates individuals' moral reasoning for taking voluntary action from broader social values. Both dislocations imply the need for deep reflection on the climate change *problematique* at both the personal and societal scale (Gregory 2000), and suggest the necessity for a re-balancing from individual responsibility to a shared one (Scerri 2009) along with a shift in power from governments and global institutions to civil society (Gregory 2000: 499).

Moreover these constraints also reveal the need to refocus social science research - to shift to "transforming behaviours" rather than trying to form solutions from existing patterns of individual behaviours (Rathzel and Uzzell 2009). This has important implications for the way that climate change solutions are constructed between agents and institutions – implying a much greater involvement in democratic deliberations between nations and their publics, as well as ways of communicating the threat

of climate change that creates transformative responses. Rather than investigating how individuals' actions influence their lifestyles and behaviours, research needs to address how individuals aim to solve environmental problems collectively (Rathzel & Uzzell 2009).

Conclusion

To address the moral challenge of climate change it is widely accepted that responsibility needs to be shared between states and their citizens. Significant cuts in carbon emissions are required to prevent catastrophic changes to the Earth's climate systems. These cuts will need to come, in particular, from the developed world from changes in individuals' carbon-intensive lifestyles and behaviours. In the absence of prescriptive forms of enforcing personal and household carbon budgets, global treaties will need to be enacted through States and the voluntary actions of their publics.

However when considering both the psycho-social and politico-ethical bases for climate change, the interests of individuals and states diverge, requiring a restructuring of the social contract (between nations and their citizens) before effective climate change solutions can emerge. There remains one way for this contract to be re-negotiated and that is by individuals "*joining forces with others"* (Gregory 2000: 490) through social movements in order to create social change.

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Carbon offsetting of the travel of all conference participants: Certificate for saved greenhouse gas emissions and climate protection → view certificate (pdf)

Chair Chat: Video interviews with conference participants reflecting on Earth System Governance and the 2009 Amsterdam Conference.→ 'Chair Chat'

The conference blog 'Navigating the Anthropocene', hosted by 'The Broker' reports on the 2009 Amsterdam Conference. → 'Navigating the Anthropocene'

'Earth System Governance: People, Places, and the Planet'

2009 AMSTERDAM CONFERENCE ON THE HUMAN DIMENSIONS OF GLOBAL ENVIRONMENTAL CHANGE

Amsterdam, 2-4 December 2009

We invite you to the 2009 Amsterdam Conference on the Human Dimensions of Global Environmental Change, to be held 2-4 December 2009. This conference will be the ninth event in the series of annual European Conferences on the Human Dimensions of Global Environmental Change, begun in Berlin in 2001.

This year's conference will also be the global launch event of the Earth System Governance Project, a new ten-year research programme under the auspices of the International Human Dimensions Programme on Global Environmental Change (IHDP).

The conference is hosted jointly by the Institute for Environmental Studies at the Vrije Universiteit Amsterdam and the Netherlands Research School for Socio-economic and Natural Sciences of the Environment (SENSE), in co-operation with their partner institutions: the European Cooperation in Science and Technology (COST) Action on Transformation of Global Environmental Governance; GLOGOV.ORG—The Global Governance Project; the Institute for Global Environmental Strategies; Living with Water; LUCSUS—Lund University Centre for Sustainability Studies; the Netherlands Environmental Assessment Agency; the Royal Netherlands Academy of Arts and Sciences; the Stockholm Resilience Centre; and the Tokyo Institute of Technology.

Key Dates

- Deadline for paper abstracts: **15 May 2009**
- Notification of acceptance: **15 July 2009**
- Full papers due: **15 November 2009**

The Earth System Governance Project seeks to analyse the interrelated and increasingly integrated system of formal and informal rules, rule-making systems, and actor-networks at all levels of human society (from local to global) that are set up to steer societies towards preventing, mitigating, and adapting to global and local environmental change and earth system transformation. The notion of earth system governance describes an emerging social phenomenon - expressed in hundreds of international regimes, bureaucracies, national agencies, activists groups and expert networks - that engages numerous actors, institutions and networks at local and global levels. At the same time, earth system governance is a demanding and vital subject of research in the social sciences, which we hope will be reflected in lively discussions at the 2009 Amsterdam Conference.

The Earth System Governance Project also reflects recent developments within the Earth System Science Partnership, which unites the World Climate Research Programme, the International Biosphere-Geosphere Programme, the DIVERSITAS programme, and the IHDP. The mission statement of the Earth System Science Partnership calls upon social scientists to develop 'strategies for earth system management'. Yet what such strategies might be, and how such strategies are to be developed, remains poorly understood in the social sciences.

The challenge of earth system governance raises numerous theoretical, methodological and empirical questions, many of which are elaborated upon in detail in the new Science and Implementation Plan of the IHDP Earth System Governance Project (earthsystemgovernance.org).

The 2009 Amsterdam Conference is organised around the five core analytical problems identified in this science plan:

1. **Architectures of Earth System Governance**. We invite papers on the emergence, design and effectiveness of governance systems and the overall integration of global, regional, national and local governance. Core questions include: How is performance of environmental institutions

affected by their embedding in larger architectures? What are the environmental consequences of non-environmental governance systems? What is the relative performance of different types of multilevel governance architectures? How can we explain instances of 'non-governance'? What are overarching and crosscutting norms of earth system governance?

2. **Agency in Earth System Governance**. We invite papers that advance understanding of the actors and agents that drive earth system governance and the ways in which authority is granted to them and how it is exercised. We welcome papers on the influence, roles and responsibilities of both state actors and non-state actors, such as business and non-profit organisations. Core questions are: What is agency in earth system governance, and who are the agents? How do different agents exercise agency in earth system governance, and how can we evaluate their relevance?

3. **Adaptiveness of Earth System Governance**. We invite papers on the adaptiveness of earth system governance, a theme that includes here related concepts such as adaptation, adaptive management, resilience, or vulnerability. What are the politics of adaptiveness? Which governance processes foster it? What attributes of governance systems enhance capacities to adapt? How, when and why does adaptiveness influence earth system governance?

4. **Accountability and Legitimacy in Earth System Governance**. We invite papers on the accountability and legitimacy of earth system governance. What are the sources of accountability and legitimacy in earth system governance? What are the effects of different forms and degrees of accountability and legitimacy for the performance of governance systems? How can mechanisms of transparency ensure accountable and legitimate earth system governance? What institutional designs can produce the accountability and legitimacy of earth system governance in a way that guarantees balances of interests and perspectives?

5. **Allocation and Access in Earth System Governance**. Earth system governance is, as is any political activity, about the distribution of material and immaterial resources and values. It is, in essence, a conflict about the access to goods and about their allocation - it is about justice, fairness, and equity. But how can we reach interdisciplinary conceptualisations and definitions of allocation and access? What (overarching) principles underlie allocation and access? How can allocation be reconciled with governance effectiveness?

6. **Theoretical and Methodological Foundations of Earth System Governance**. Finally, we invite papers that cut across these five analytical themes by focussing on the theoretical and methodological foundations of earth system governance. Central crosscutting themes identified in the science plan of the Earth System Governance Project are the roles of power, knowledge, norms, and scale. We also invite papers that analyse the theoretical foundations and implications of new ways of thinking about governance and earth system transformation, including concepts such as global environmental politics, sustainable development, earth system management, or earth system governance, and the extent to which they are related and to which they differ. Moreover, we invite papers that seek to identify and further develop the appropriate methods to study earth system governance, including papers that study options for integrating social science-based work with study programmes grounded in the natural sciences, including computer-based modelling and scenario work.

Abstracts must be submitted electronically by 15 May 2009 and not exceed 450 words. All abstracts will be evaluated in double-blind peer-review by at least four experts from the conference review panel. Details on abstract submission and more information can be found here.

More information on the IHDP Earth System Governance Project, including its new Science and Implementation Plan for download, can be found at www.earthsystemgovernance.org.

We look forward to welcoming you to the Netherlands in December 2009!

On behalf of all co-hosts and sponsors:

Frank Biermann
Chair, Earth System Governance Project
E-mail: ac2009@ivm.vu.nl

HOSTS

- IHDP Earth System Governance Project
- Institute for Environmental Studies, Vrije Universiteit Amsterdam
- Netherlands Research School for Socio-Economic and Natural Sciences of the Environment (SENSE)

CO-HOSTS AND SPONSORS

- European Cooperation in Science and Technology (COST) Action on Transformation of Global Environmental Governance (IS 0802)
- GLOGOV.ORG—The Global Governance Project
- Institute for Global Environmental Strategies
- LUCSUS—Lund University Centre for Sustainability Studies
- Living with Water
- Netherlands Environmental Assessment Agency (PBL)
- Royal Netherlands Academy of Arts and Sciences (KNAW)
- Stockholm Resilience Centre
- Tokyo Institute of Technology

ENDORSEMENTS

- International Human Dimensions Programme on Global Environmental Change (IHDP)
- World Academy of Art and Science

2009 AMSTERDAM CONFERENCE STEERING COMMITTEE

- Frank Biermann, chair, and Vrije Universiteit Amsterdam, The Netherlands
- Michele Betsill, Colorado State University, United States of America

- Joyeeta Gupta, Global Water System Project, and UNESCO-IHE Institute for Water Education, Netherlands
- Klaus Jacob, Berlin Conference Steering Committee, and Freie Universität Berlin, Germany
- Norichika Kanie, Tokyo Institute of Technology, Japan
- Louis Lebel, Chiang Mai University, Thailand
- Rik Leemans, Netherlands Research School for Socio-Economic and Natural Sciences of the Environment (SENSE); and Wageningen University
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- Heike Schroeder, Oxford University, United Kingdom
- Bernd Siebenhüner, University of Oldenburg, Germany
- Susana Camargo Vieira, Universidade de Itaúna, Brazil
- Pius Z. Yanda, University of Dar Es Salaam, Tanzania

ASSOCIATE FACULTY, EARTH SYSTEM GOVERNANCE PROJECT

- Arun Agrawal, University of Michigan, United States of America
- Steinar Andresen, Fridtjof Nansen Institute, Norway
- Ken Conca, University of Maryland, United States of America
- Leila da Costa Ferreira, University of Campinas, Brazil
- Bharat Desai, Jawaharlal Nehru University, India
- John S. Dryzek, Australian National University, Australia
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- Peter M. Haas, University of Massachusetts Amherst, United States of America
- Hironori Hamanaka, Institute for Global Environmental Strategies, Japan
- Andrew Jordan, University of East Anglia, United Kingdom
- Tatiana Kluvánková-Oravská, Slovak Academy of Sciences, Slovakia
- Elizabeth L. Malone, Joint Global Change Research Institute, United States of America
- James Meadowcroft, Carleton University, Canada
- Ronald B. Mitchell, University of Oregon, United States of America
- Peter Newell, University of East Anglia, United Kingdom
- Sebastian Oberthür, Vrije Universiteit Brussel, Belgium
- Hiroshi Ohta, Waseda University, Japan
- Lennart Olsson, Lund University, Sweden
- R.B. Singh, University of Delhi, India
- Will Steffen, The Australian National University, Australia
- Simon Tay, National University of Singapore, Singapore
- Laurence Tubiana, Institut du Développement Durable et des Relations Internationales (IDDRI), France
- Kazuhiro Ueta, Kyoto University, Japan
- Arild Underdal, University of Oslo, Norway
- Oran R. Young, University of California at Santa Barbara, United States of America

COORDINATORS OF THE NETWORK OF SENIOR FELLOWS AND RESEARCH FELLOWS

- Rafael Martins, University of Campinas, Brazil
- Kyla Tienhaara, The Australian National University, Australia

CONFERENCE MANAGEMENT

- → Conference Management

SENSE PRE-CONFERENCE ´SUSTAINABLE CITIES´

On 1 December, the Netherlands Research School for Socio-Economic and Natural Sciences of the Environment (SENSE) organises a pre-conference on ´Sustainable Cities´ that will present cutting-edge research from leading Dutch research groups, as well as from abroad. For more information see **here**.

WINTER SCHOOL ON EARTH SYSTEM GOVERNANCE: THE CHALLENGE OF ADAPTIVE GOVERNANCE

Back-to-back with the 2009 Amsterdam Conference, the Vrije Universiteit Amsterdam will offer an International Winter School on Earth System Governance for PhD students and other researchers in their early career stages. The leading topic of this year´s programme is ´adaptive governance´. The Winter School will last from 23 November through 1 December 2009, with the possibility that participants will also attend the 2009 Amsterdam Conference afterwards. The International Winter School is supported by the EU FP6 Marie Curie Actions in co-operation with the Netherlands Research School for Socio-Economic and Natural Sciences of the Environment (SENSE) and the Dutch national research programme BSIK-Climate for Space, Space for Climate. Participation in the International Winter School requires a separate application. Contact: Dr Philipp Pattberg [philipp.pattberg@ivm.vu.nl]

Conference Secretariat: ac2009@ivm.vu.nl
Conference website: www.ac2009.earthsystemgovernance.org

REVIEW PANEL

This site informs about the review process for the 2009 Amsterdam Conference on the Human Dimensions of Global Environmental Change.

The call for papers has been closed on 15 May 2009. We have received 515 abstracts submitted by colleagues from more than 64 countries. All abstracts have been under review by our International Review Panel.

The review system for the 2009 Amsterdam Conference has been as follows:

— All abstracts are evaluated independently and anonymously by at least four members of the International Review Panel, allotted on a random basis.

— Abstracts are ranked on a scale from 5 points (excellent/highly appropriate for the conference) to 1 point (not appropriate/rejection).

— Based on the grades that we receive for each abstract from our review panel, we calculate an average grade for every abstract, and then rank all abstracts accordingly. To the extent possible, we also took written comments from reviewers into account, and we specifically looked at abstracts where evaluators have differed by more than 2 points.

— In order to keep the conference at a reasonable size to allow for meaningful discussions, we decided to accept the best 250 abstracts, thus ensuring an acceptance rate of slightly less than 50%.

— In addition we accepted only one paper presentation per participant for participants from Europe, and at most two paper presentations for participants from outside Europe.

The 2009 Amsterdam Conference International Review Panel

Paulina **Aldunce Ide**, Universidad de Chile
Steinar **Andresen**, Fridtjof Nansen Institute
Marlen **Arnold**, Technische Universität München
Jörg **Balsiger**, Swiss Federal Institute of Technology
Steffen **Bauer**, German Development Institute
Michele M. **Betsill**, Colorado State University
Frank **Biermann**, Vrije Universiteit Amsterdam
Hans **Bressers**, University of Twente
Harriet **Bulkeley**, Durham University
Susana **Camargo Vieira**, University of Itauna
Jennifer **Clapp**, University of Waterloo
Daniel **Compagnon**, Sciences Po Bordeaux
Peña **del Valle**, Center of Atmospheric Sciences, UNAM
Shobhakar **Dhakal**, Global Carbon Project
Lorraine **Elliott**, Australian National University
Maria **Falaleeva**, University College Cork UCC
Peter **Feindt**, University of Hamburg/ Cardiff University
Petro **Fidelman**, James Cook University
Itay **Fischhendler**, Hebrew University
Victor **Galaz**, Stockholm University
Andrew **Gouldson**, University of Leeds
Roberto **Guimarães** , Fundação Getulio Vargas
Julia S. **Guivant**, Universidade Federal de Santa Catarina
Joyeeta **Gupta**, UNESCO-IHE
Aarti **Gupta**, Wageningen University and Research Centre
Dave **Huitema**, Vrije Universiteit Amsterdam
Christina **Inoue**, University of Brasília
Eduard **Interwies**, InterSus - Sustainability Services
Klaus **Jacob**, Freie Universität Berlin
Helge **Jörgens**, Universität Konstanz
Tatiana **Kluvánková-Oravská**, Slovak Academy of Sciences
Louis **Lebel**, Chiang Mai University
Diana **Liverman**, University of Arizona
Elizabeth L. **Malone**, Joint Global Change Research Institute
Alberto **Martinelli**, University of Milano
Ronald B. **Mitchell**, University of Oregon
Arthur **Mol**, Wageningen University
Peter **Newell**, University of East Anglia
Annika **Nilsson**, Stockholm Environment Institute
Sebastian **Oberthür**, Vrije Universiteit Brussel
Per **Olsson**, Stockholm Resilience Centre

Henk **Overbeek**, Vrije Universiteit Amsterdam
Philipp **Pattberg**, Vrije Universiteit Amsterdam
Arthur **Petersen**, Netherlands Environmental Assessment Agency
Heike **Schroeder**, Oxford University
Irina **Shmeleva**, Saint Petersburg State University
Bernd **Siebenhüner**, Carl von Ossietzky Universität Oldenburg
R.B. **Singh**, University of Delhi
Jon B. **Skjærseth**, Fridtjof Nansen Institute
Detlef **Sprinz**, Potsdam Institute for Climate Impact Research
Will **Steffen**, Australian National University
David **Tabara**, Universitat Autònoma de Barcelona
Kyla **Tienhaara**, Australian National University
Nicolien **van der Grijp**, Vrije Universiteit, IVM
Paul **van Seters**, University of Tilburg
Stacy **Vandeveer**, University of New Hampshire
Eduardo **Viola**, University of Brasilia
Wouter **Werner**, Vrije Universiteit Amsterdam
Jorgen **Wettestad**, Fridtjof Nansen Institute
Pius Z. **Yanda**, University of Dar es Salaam
Linda J. **Yarr**, George Washington University
Oran **Young**, University of California at Santa Barbara
Fariborz **Zelli**, German Development Institute

2009 Amsterdam Conference

on the Human Dimensions of

Global Environmental Change

Earth System Governance

People, Places and the Planet

Volendam near Amsterdam, 2-4 December 2009

Conference Programme

Contents

Hosts and Co-hosts	**3**
Welcome Address	**6**
Conference Team	**8**
International Review Panel	**10**
Contact Details	**11**
Conference Venue	**12**
Facilities at the Conference Venue	**13**
Hotels	**14**
Public Transport and Conference Transport	**15**
Programme Overview	**19**
Conference Streams	**23**
Programme Tuesday, 1 December	**25**
Programme Wednesday, 2 December	**26**
Programme Thursday, 3 December	**71**
Programme Friday, 4 December	**115**

Welcome

Dear colleagues,

On behalf of the entire conference team, I welcome you to the 2009 Amsterdam Conference on the Human Dimensions of Global Environmental Change 'Earth System Governance: People, Places and the Planet'.

As you have noticed by now (perhaps to your surprise!), the 2009 Amsterdam Conference is being held in a convention centre in the heart of rural Holland. This is a break from the general practice of hosting conferences in centrally located, large (and thereby more anonymous) hotels or university campuses.

We see our conference venue, however, as eminently suited to the subject of our deliberations—earth system transformation and governance. The environs around the conference venue perfectly illustrate the long history of human-nature co-evolution in this region.

Just a few metres from the conference hotel you find the Beemster, a unique, pioneering land-reclamation project of the early 17th century that is now a UNESCO World Heritage site. The specific manner in which roads and canals were laid out in this re-claimed, fertile land has been exported to several parts of the globe, and can still be found, for instance, in the street patterns of lower Manhattan. The continuous battle against the sea is evidenced in multiple place names around the conference hotel that indicate past dike-breaks and human suffering (such as *wiel* and *waal*). The last time the dikes nearby gave way and the surrounding area was flooded, was in the winter of 1916, with several casualties. As a consequence, the sea in this area was closed off from the North Sea in the 1930s, turning the former 'Southern Sea' into the 'Lake IJssel', now the largest lake in Western Europe.

Many historic cities that you will see around the conference venue bear witness also to the long seafaring tradition of this region. Yet today, all former harbour towns are closed off from the ocean, and the once prosperous fishing industries have given way to the overarching interest of protecting the country from floods. If you want to experience more of these unique lands below the sea level, you may want to join our social programme on 5 December that will take you along some of the most impressive and interesting sights in the region. You could also visit the Delta Works in the South of the Netherlands, erected after the great floods in 1953 that claimed 1800 lives, or the Zuiderzee museum close-by, which allows you to experience first-hand the rhythms and practices of daily life in the past. Or ask your Dutch colleagues about the Delta Commission, which only last year proposed innovative new ways of protecting the land in times of earth system transformation and sea-level rise.

When we planned this conference, we expected a relatively mid-sized event, given the financial crisis and 'competition' from a number of outstanding academic and diplomatic conferences this year. Yet the response to our call for papers was exceptional, and this 2009 Amsterdam Conference will be the largest gathering in the series of European Conferences on the Human Dimensions of Global Environmental Change to date. We are indeed gratified by this show of interest and commitment from what is a growing, vibrant and ever more cohesive global environmental change and earth system governance research community.

The conference also promises to be exceptional in the quality of the papers to be presented. Following double-blind review of each abstract by at least four reviewers, we have accepted 250 papers for presentation. The overall acceptance rate was less than 50 percent, despite the fact that the overall quality of paper submissions was judged to be extremely high compared to other conferences. The

quality of the conference is further enhanced by the more than twenty prominent colleagues who have agreed to share their views on earth system governance in our eight semi-plenary sessions.

This conference is also unique in that it is not only a singular event but also serves as the launch of a ten-year international research programme on global environmental change, the Earth System Governance Project. This project, planned over about two years with the involvement of many conference participants, was formally accepted in October 2008 by the International Human Dimensions Programme on Global Environmental Change (IHDP) as one of its 'core projects', scheduled to last through 2018. The 2009 Amsterdam Conference signals the launch of this new world-wide research network. Additional conferences organized or supported by the Earth System Governance Project will be announced in the closing plenary on 4 December.

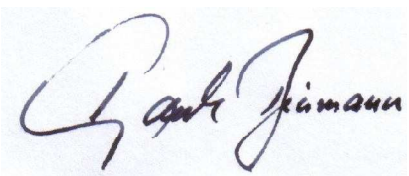
This conference is also exceptional in the generosity and wide support it has received from the international community, in particular from our co-hosts, all of whom have contributed to its planning and success not only by shaping parts of the programme, but also by helping to cover some part of the conference costs. This generous support allowed us to run a three-day conference with relatively moderate registration fees (which include, unlike many other conferences, four meals, refreshments, complete carbon offsetting, and local transportation). I wish to thank here especially the Institute for Environmental Studies (IVM) of the VU University Amsterdam and the Netherlands Research School for Socio-economic and Natural Sciences of the Environment (SENSE), the two main hosts of this event. In addition, we are very grateful to the co-hosting institutions for their generous support: the European Cooperation in Science and Technology (COST)—Action on Transformation of Global Environmental Governance (IS 0802); the Dutch research programme 'Living with Water'; The Global Governance Project Glogov.org; the Institute for Global Environmental Strategies (IGES), Japan; the Lund University Centre for Sustainability Studies (LUCSUS), Sweden; the Netherlands Environmental Assessment Agency (PBL); the Royal Netherlands Academy of Arts and Sciences (KNAW); the Stockholm Resilience Centre (SRC), Sweden; and the Tokyo Institute of Technology, Japan.

Many thanks also to the colleagues who helped in shaping the programme by organizing all papers in six conference streams and more than sixty panels: Peter Haas and Norichika Kanie (Architecture stream); Michele Betsill and Philipp Pattberg (Agency stream); Carl Folke, Louis Lebel, Victor Galaz and Dave Huitema (Adaptiveness stream); John Dryzek and Aarti Gupta (Accountability and Legitimacy stream); Lennart Olsson (Allocation and Access stream), and James Meadowcroft and Arthur Petersen (Theoretical and Methodological Foundations stream).

Last but not least, a very special thanks to the core conference team that made this event with almost 400 participants possible: to Ingrid Boas, the overall conference manager, as well as to Hilko Blok (website); Eleni Dellas (student volunteers); Tineke Reus (logistics), Frans van der Woerd (financial controlling), and Ruben Zondervan, the Executive Officer of the Earth System Governance Project. They have all gone far beyond the call of duty in ensuring the smooth functioning of this event.

I wish you all an enjoyable and fruitful 2009 Amsterdam Conference!

On behalf of all hosts, co-hosts and organizers,



Frank Biermann
Chair, 2009 Amsterdam Conference

Programme Overview

Tuesday, 1 December

10.00 – 22.00	Main Entrance, Conference Venue **Registration, 2009 Amsterdam Conference**
18.00 – 19.30	Restaurant, Conference Venue **Welcome Reception, 2009 Amsterdam Conference**
20.15 – …	Restaurant, Conference Venue **Informal Conference Dinner**

Wednesday, 2 December

9.00 – 10.30	Room: 1, Zuiderzeezaal **Opening Plenary** Chair: **Roberto Pereira Guimarães**, IHDP, and the Getulio Vargas Foundation, Brazil **Frank Biermann**, Earth System Governance Project, SENSE Research School, and VU University Amsterdam, The Netherlands **Rik Leemans**, Earth System Science Partnership, SENSE Research School, and Wageningen University, The Netherlands			
10.30 – 10.45	**Coffee/Tea Break**			
10.45 – 12.15	Room: 1, Zuiderzeezaal **Semi-Plenary I: Architecture of Earth System Governance** Co-hosts: Tokyo Institute of Technology and Institute for Global Environmental Strategies		Room: 2, Purmerzaal **Semi-Plenary II: Adaptiveness and Innovation in Earth System Governance** Co-host: Stockholm Resilience Centre and the EU Marie Curie Programme	
12.15 – 13.30	**Lunch Break**			
13.45 – 15.15	Room: 2, Purmerzaal Architecture—1: **Architecture and Agency beyond the State**	Room: 7, Volendammerzaal Agency—1: **Agency in the Energy Sector**	Room: 1, Zuiderzeezaal Adaptiveness—1: **Urban Governance and Vulnerability**	Room: 5, Rooszaal Accountability and Legitimacy—1: **Democracy, Law and Earth System Governance**
		Room: 4, Edammerzaal Allocation and Access—1: **Allocation and Accountability in Water Governance**	Room: 3, Beemsterzaal Architecture—2: **Intersection between Architecture and Accountability**	
15.30 – 17.00	Room: 3, Beemsterzaal Architecture—3: **Forest Governance (1)**	Room: 2, Purmerzaal Agency—2: **Agency in Water Governance (1)**	Room: 8 Adaptiveness—2: **Social Learning and Collaboration**	Room: 5, Rooszaal Accountability and Legitimacy—2: **Legitimacy and Earth System Governance (1): Innovative Mechanisms**
		Room: 7, Volendammerzaal Allocation and Access—2: **Resource Allocation**	Room: 4, Edammerzaal Theoretical and Methodological Foundations—1: **Reframing Environmental Governance**	Room: 1, Zuiderzeezaal Architecture—4: **Institutional Linkages across Scales**
17.00 – 17.30	**Coffee/Tea Break**			
17.30 – 19.00	Room: 5, Rooszaal Architecture—5: **New Concepts in Environmental Governance**	Room: 7, Volendammerzaal Agency—3: **Agency in Water Governance (2)**	Room: 2, Purmerzaal Adaptiveness—3: **Managing Climate Risks and Disasters**	Room: 3, Beemsterzaal Theoretical and Methodological Foundations—2: **Governance, Instruments and Learning**
		Room: 1, Zuiderzeezaal Architecture—6: **Policy Integration and Fragmentation (1)**	Room: 4, Edammerzaal Agency—4: **Agency in the Private Sector**	
19.45 – …	Restaurant, Conference Venue **Informal Conference Dinner**			

Thursday, 3 December

09:00 – 10.30	Room: 2, Purmerzaal Architecture—7: **Understanding Multilateral Environmental Agreements as Governance Mechanisms**	Room: 1, Zuiderzeezaal Agency—5: **NGO Influence in Earth System Governance**	Room: 7, Volendammerzaal Adaptiveness—4: **Water Governance**	Room: 4, Edammerzaal Accountability and Legitimacy—3: **Integrated Climate Governance: Accountability and Effectiveness**
		Room: 3, Beemsterzaal Architecture—8: **Forest Governance (2)**	Room: 5, Rooszaal Agency—6: **Managing Earth System Governance**	
10.30 – 11.00	**Coffee/Tea Break**			
11.00 – 12.30	Room: 1, Zuiderzeezaal **Semi-Plenary III: Agency in Earth System Governance** Co-host: EU COST Action 'Transformation of Global Environmental Governance'		Room: 2, Purmerzaal **Semi-Plenary IV: Perspectives from the Global Change Programmes—Governance: What, Where, Whom & Where Next?** Co-host: International Human Dimensions Programme on Global Environmental Change (IHDP)	
12.30 – 13.45	**Lunch Break**			
13.45 – 15.15	Room: 1, Zuiderzeezaal **Semi-Plenary V: Accountability in Earth System Governance—Turning the Lens on Transparency, Legitimacy and Democracy** Co-host: EU COST Action 'Transformation of Global Environmental Governance'		Room: 2, Purmerzaal **Semi-Plenary VI: Adaptive Governance—the Role of Policy Entrepreneurs** Co-host: Living with Water	
15.30 – 17.00	Room: 1, Zuiderzeezaal Architecture—9: **Climate Change in the European Union: Confronting the Dilemmas of Mitigation and Adaptation**	Room: 4, Edammerzaal Agency—7: **Local Agency in Earth System Governance**	Room: 7, Volendammerzaal Adaptiveness—5: **International Institutions and Politics**	Room: 3, Beemsterzaal Theoretical and Methodological Foundations—3: **Adaptation and Resilience**
		Room: 2, Purmerzaal Agency—8: **The Political Economy of Earth System Governance**	Room: 5, Rooszaal Adaptiveness—6: **Vulnerability, Coping and Displacement**	
17.00 – 17.30	**Coffee/Tea Break**			
17.30 – 19.00	Room: 1, Zuiderzeezaal Architecture—10: **Political Knowledge in Earth System Governance**	Room: 2, Purmerzaal Agency—9: **Private Agents of Earth System Governance**	Room: 7, Volendammerzaal Adaptiveness—7: **Regional Adaptation to Climate Change**	Room: 4, Edammerzaal Accountability and Legitimacy—4: **Legitimacy and Earth System Governance (2): Multi-Stakeholder Processes**
		Room: 5, Rooszaal Allocation and Access—3: **Environmental Justice**	Room: 3, Beemsterzaal Architecture—11: **Bilateral and Multilateral Financial Governance and Climate Change**	Room: 8 **Market Place**
19.45 – …	**Informal Conference Dinner**			Restaurant, Conference Venue

Friday, 4 December

09.00 – 10.30	Room: 7, Volendammerzaal Architecture—12: **Governing Biotechnology**	Room: 2, Purmerzaal Agency—10: **Agency in Global Climate Governance**	Room: 5, Rooszaal Adaptiveness—8: **Local Institutions and Resource Management**	Room: 3, Beemsterzaal Accountability and Legitimacy—5: **Transparency and Earth System Governance: Promise and Perils**
	Room: 4, Edammerzaal Theoretical and Methodological Foundations—4: **Earth System Governance: Critical Reflections**	Room: 1, Zuiderzeezaal Architecture—13: **Policy Integration and Fragmentation (2)**	Room: 8 Agency—11: **Urban Planners as Agents of Earth System Governance**	
10.30 – 10.45	**Coffee/Tea Break**			
10.45 – 12.15	Room: 1, Zuiderzeezaal **Semi-Plenary VII: New Theories for Earth System Governance** Co-host: Netherlands Environmental Assessment Agency		Room: 2, Purmerzaal **Semi-Plenary VIII: Allocation and Access in Earth System Governance** Co-host: LUCSUS—Lund University Centre for Sustainability Studies	
12.15 – 13.30	**Lunch Break**			
13.45 – 15.15	Room: 1, Zuiderzeezaal Architecture—14: **Architecture for Vertical Interplay**	Room: 7, Volendammerzaal Agency—12: **Actors in Earth System Governance**	Room: 2, Purmerzaal Adaptiveness—9: **Vulnerability and Adaptation in Agriculture and Food Systems**	
		Room: 3, Beemsterzaal Allocation and Access—4: **Global Climate Governance beyond 2012**	Room: 4, Edammerzaal Adaptiveness—10: **Water Quantity Management**	
15.30 – 17.00	Room: 7, Volendammerzaal Architecture—15: **Market-Based Approaches to Governing Climate Change**	Room: 1, Zuiderzeezaal Agency—13: **Networks in Earth System Governance**	Room: 2, Purmerzaal Adaptiveness—11: **Managing Ecosystems for Biodiversity Use**	Room: 3, Beemsterzaal Accountability and Legitimacy—6: **Legitimacy and Earth System Governance (3): The Local and the Global**
		Room: 4, Edammerzaal Allocation and Access—5: **Distributive Effects of Global Policies**	Room: 5, Rooszaal Theoretical and Methodological Foundations—5: **Modelling and Measurement**	
17.00 – 17.30	**Coffee/Tea Break**			
17.30 – 19.00	Room: 1, Zuiderzeezaal **Closing Plenary: The Earth System Governance Vision Factory 'I Have a Dream'** Co-host: Royal Netherlands Academy of Arts and Sciences (KNAW) Co-Chairs: **Roberto Pereira Guimarães**, International Human Dimensions Programme on Global Environmental Change, Brazil **Frank Biermann**, Earth System Governance Project, SENSE Research School, and VU University Amsterdam, The Netherlands **Speakers:** Keynote Speakers and Members of the Steering Committee and Associate Faculty of the Earth System Governance Project			
20.00 – … Bus transfer: 19.05 and 19.30	Hotel Spaander **Conference Dinner**			

media, and how they shape ongoing climate science and policy endeavours. I pursue this along two interwoven threads: the temporal and spatial. On the former, I trace the historical development of representations of climate change in the mass media. On the latter, I examine how much attention has been paid to various aspects of climate change, and how they have been portrayed differently in various cultural, political and economic settings. Media coverage of climate change first emerged approximately eight decades ago, mainly in North American and European contexts. Portrayals remained sporadic and those 'authorized' to speak on behalf of the climate were dominated by 'actors' from science, business, NGOs and policy. However, moving into the new millennium, the amount of coverage has risen dramatically, while reports have begun to appear throughout the globe. In Europe, North America and Oceania the amount of coverage has peaked in early 2007. However, in Asia, the Middle East, Africa and South America, the amount of coverage has continued to increase up to the present. Furthermore, those making claims about associated climate change issues has continued to expand, and the contestations involved in who are 'authorized speakers' has intensified. Mass media representations of climate actors and actions—from news to entertainment—have shaped discourses and bounded considerations of 'who speaks for the climate' in ongoing questions of Earth System Governance. It is important to examine 'how' media representations have been negotiated over time and space, through relations of power, and inequalities of access and resources, thereby influencing a spectrum of possibilities for environmental governance. Together, these interacting dynamics feed into a vibrant and continually unfolding 'cultural politics of climate change'. Such an international and historical exploration is critical to further strengthen a foundation of understanding architectures and actions in Earth System Governance, particularly as we collectively move into the post-Kyoto climate era.

Individual Responsibility and Voluntary Action on Climate Change

JENNIFER KENT

University of Technology Sydney, Australia

In addressing climate change mitigation, matters of responsibility are core. It is widely acknowledged that individuals and households need to contribute to efforts to significantly reduce greenhouse gas emissions in order to meet international reduction targets (Pachauri 2007; Stern 2007). However, the role of individual responsibility for climate change mitigation in policy, discourse and practice, concomitant with the State and international regimes, remains largely undertheorized. Thereby the mechanisms that determine in what ways individuals should reduce their emissions and how actions taken at the local level link to the global level are not fully understood. Recent debate concerning the lack of provisions for voluntary measures by individuals and householders in the Australian Government's proposed Carbon Pollution Reduction Scheme (which includes an emissions trading scheme) illustrates that voluntary mitigation efforts may be poorly integrated at the national and hence the international level. This has important implications for achieving the deep global cuts in greenhouse gas emissions required to avoid dangerous climate change. Moreover individual responsibility for climate change implies that actors have authority not only over their 'personal, private sphere' (Stern 2005) behaviour and lifestyles but that this authority extends to influence broader structural change. This paper will present preliminary research from case studies investigating what motivates people active in non-governmental organizations (NGOs) within Australia to take voluntary action on climate change; their perceptions of their authority in contributing to broader level change; and how linkages between local level climate change action and the global level is conceived and practiced.

Challenging the 'Public versus Private' Dichotomy of Environmental Governance: Lessons Learned from the Chinese Handling of the Clean Development Mechanism

MIRIAM SCHROEDER

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The literature on environmental governance has taken a continuous turn towards more market and less state. This guiding principle has been also successfully exported to developing countries and governance mechanisms which rely on the market are set up within international regimes. One prototype example is the CDM which uses emission reduction certificated generated in developing countries to compensate greenhouse gas emissions occurring in industrialized countries. The CDM has been implemented as a cost-efficient means to reduce GHG emission relying on market actors and not on the state. Thus, we should expect countries with efficient markets to be the fittest to benefit from the CDM. Instead, China, a country in the midst of transition from a planned to a market economy has established itself as the leading CDM host country in the world. If we take a closer look we can see a strong state interference in the market by the Chinese government. One could even speak of 'state capture of a market' because the Chinese