Governing climate change: the politics of risk society?

Harriet Bulkeley

This paper examines how the politics of climate change have taken shape within Australia through the construction and contestation of concepts of obligation and responsibility. Beck's *risk society* thesis offers a conceptual starting point from which to address questions concerning the nature of contemporary risk politics, and the paper examines its relevance and applicability in this case. While Beck's theory provides insight into the nature of risk and directs attention to the ways in which notions of obligation and responsibility structure risk politics, it fails to engage with why, and how, particular definitions of risk and responsibility come to dominate the political arena. It is argued that in Australia the novel challenges climate change poses to the institutions of modernity have been negated through ensuing policy responses which have reinforced links between industry and government, and have defined climate responsibilities within existing relations of production and the spatio-temporal frameworks of modernity.

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St Catharine's College and Department of Geography, University of Cambridge, Downing Place, Cambridge CB2 3EN
email: hab1001@cus.cam.ac.uk

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Introduction

Contemporary environmental risks, from radioactive waste to genetic modification, air pollution to soil degradation, attract the sustained attention of geographers interested in how such issues can be managed and mitigated, how they are socially constructed and the political conflicts they provoke. Developments within social theory, in particular related to the work of Ulrich Beck, have added food for thought to these geographical concerns (Beck 1992; Bennett 1999; Blowers 1997; Eden 1996; Gandy 1997 1999; Hinchliffe 1997; Lash *et al* 1996). This paper examines the relevance of Beck's risk society thesis for understanding the nature of climate change[1] risks and politics. Beck argues that central to the politics of risk society are 'conflicts of accountability' over how the consequences of risk can be attributed, controlled and legitimated. This paper focuses on whether, and with what effects, new forms and discourses of governance have been created in the context of climate change, and the extent to which this has engendered the redefinition of environmental obligations and responsibilities within the nation-state.

The risks posed by the onset of climate change have been widely debated. Sceptics suggest that there is insufficient evidence to demonstrate that changes to the climate outside the scope of natural variability have taken, or will take, place. The influential Intergovernmental Panel on Climate Change (IPCC) argue in contrast that 'the balance of evidence suggests that there is a discernible human influence on the global climate' (Houghton *et al* 1996, 5). In 1999, the Chairman of IPCC suggested that it is no longer a 'question of whether the Earth's climate will change, but rather when, where and by how much' (Watson 1999). On

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Contemporary environmental risks
Arise as the unintended consequences of modernity
Are distanciated over space and time but inescapable
Are invisible to the senses – depend on scientific knowledge

Figure 1 The novelty of contemporary risk (after Beck 1992)

the one hand, some hold the belief that, changes will be gradual, incremental and within societal control. On the other hand, the IPCC suggest that significant changes in global average temperatures and regional climatic conditions are to be expected, and that there are possibilities for unpredictable alterations to the climate system (Grubb 1999; Houghton *et al* 1996). The issue of how to address the risks posed by climate change has been another area of contention, and has spawned international negotiations, domestic strategies and public concern throughout the 1990s. The challenges of governing climate change have been apparent as nation-states struggle to come to international agreement and take domestic action. These struggles have been particularly evident in contexts where environmental and economic interests are seen to be in conflict, such as the USA and Australia, as the recent withdrawal of support by the Bush administration for the Kyoto Protocol illustrates all too clearly.

This paper focuses on Australian climate change policy as a case-study through which to analyse how the politics of risk take shape. It draws on research conducted during 1996–98, which involved semi-structured interviews with policy-makers and interest groups, as well as the analysis of policy material (Bulkeley 1999). Although the 'the structure and style of Beck's work do not lend themselves easily to systematic or analytical examination' (Goldblatt 1996, 156), his thesis provides an entry point for examining the novelty of contemporary risk, and its social and political consequences. Whether contemporary environmental risks engender new social and political processes, as Beck argues, is debatable and demands consideration in specific risk contexts.

The first section of the paper considers the novelty of climate risks, and describes the dynamics of reflexive modernization through which Beck suggests such risks are created. It is argued that climate change is a paradigmatic example of the types of risk which are central to Beck's thesis. To examine whether or not Beck's work provides insight into the ensuing politics of risk, the second section examines how obligations and responsibilities for climate change were defined internationally, while the third focuses on how these conflicts were played out domestically. The conclusion offers some thoughts on the implications of these findings for governing climate change, and for the analysis of the politics of risk.

Climate change and risk society

Beck's thesis concerning 'risk society' ranges far and wide: from the workplace, to family, class and community, and on to scientific laboratories, social movements and the corridors of power. At the heart of his explanation concerning the dynamic of change from industrial modernity to an emergent risk society are the new, primarily environmental, risks created as the unintended consequence of enlightenment rationality (Goldblatt 1996, 155). In placing rationality at the centre of his thesis Beck draws on the heritage of critical theory and its concerns with the dialectics of the enlightenment, the role of science and technology in modernity, and the need to create a renewed civil society (Gandy 1997; Harvey 1996; Vogel 1996).

Risks

Several features of the issue of climate change epitomize Beck's definition of the experience of risk in risk society (Figure 1). First, the causes of climate change lie deep within modernity.[2] Apparently innocuous and invisible gases, such as methane and carbon dioxide, released as by-products of development (the industrialization of agriculture, increased energy consumption and economic growth) change the composition of the

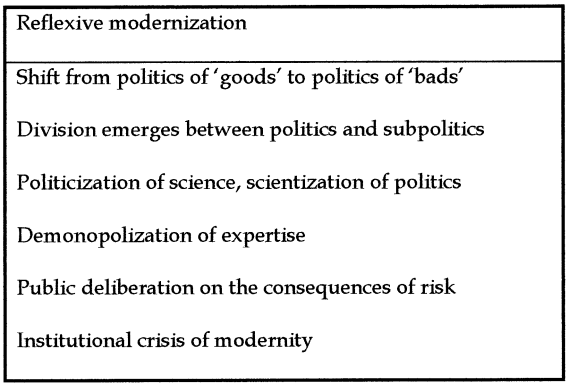

Figure 2 The progression of reflexive modernization (after Beck 1992)

atmosphere with untold consequences. This accords with Beck's supposition that in risk society, risks arise not from a lack of modernity, as hazards associated with poverty and underdevelopment might be conceived, but rather as the side-effects of modernization (1992, 21). In his later work, Beck argues that the 'world risk society' is beset by different categories of risk, those created through development, those which arise from a lack of development, and those which ensue from conflict situations (Beck 1999, 34–7). Despite this acknowledgement, it is the appearance of risks as 'unintended consequences of modernity' created by, and providing the dynamic for, reflexive modernization (Figure 2) that forms the core of his thesis. Second, the sources and experiences of climate change risk are indeterminately distanciated over space and time, stretching social and natural relations of cause, effect and responsibility, and transcending 'the spatial, social and temporal limits of industrial risks of the past' (Gandy 1999, 60–1). While developed countries are responsible for the vast amount of emissions of greenhouse gases to date, the impacts of climate change will be felt across the globe and by future generations. However, as Beck suggests, such risks are inescapable; while the impacts of climate change will be felt most in societies which are more vulnerable, the 'boomerang effect' means that developed countries will also experience risk, through changing climate patterns and their associated impacts (1992, 23).

The third dimension of climate change risks is intimately connected to the second; because of the distanciation of causes and effects risks are based on 'causal interpretations, and thus initially only exist in terms of the (scientific or anti-scientific) knowledge about them' (Beck 1992, 23). Although climate change may be sensed by individuals, our understanding of the processes through which greenhouse gases affect climate systems, the modelling of future changes, and the monitoring and recording of global climate trends is dependent on scientific understanding. This reliance on scientific mediation of risk, Eden explains, leads to the 'scientization of environmental problems: they are identified and primarily constructed through the application of scientific techniques and reasoning' (1996, 189). Simultaneously, the reciprocal process occurs so that 'science becomes politicized and drawn into policy formulation' (Eden 1996, 189). As science, in the form of the IPCC, was drawn into the policy arena concerning potential courses of action about climate change, the demonopolization of expertise occurred and debates over whether the evidence warranted action dominated policy arenas (Beck 1992, 155–6). This accords with Beck's proposition that, given the nature of contemporary risks, 'political conflicts are increasingly turning on the possession and articulation of knowledge' (Goldblatt 1996, 176). Given these characteristics, climate change can be taken as a paradigmatic example of the kinds of contemporary environmental risks Beck argues form the focus of risk society. Whether these risks have engendered new social and political processes characteristic of risk society therefore merits further investigation.

Reflexivity and reflection

The transition from 'industrial society' to 'risk society' Beck describes as reflexivity: modernity

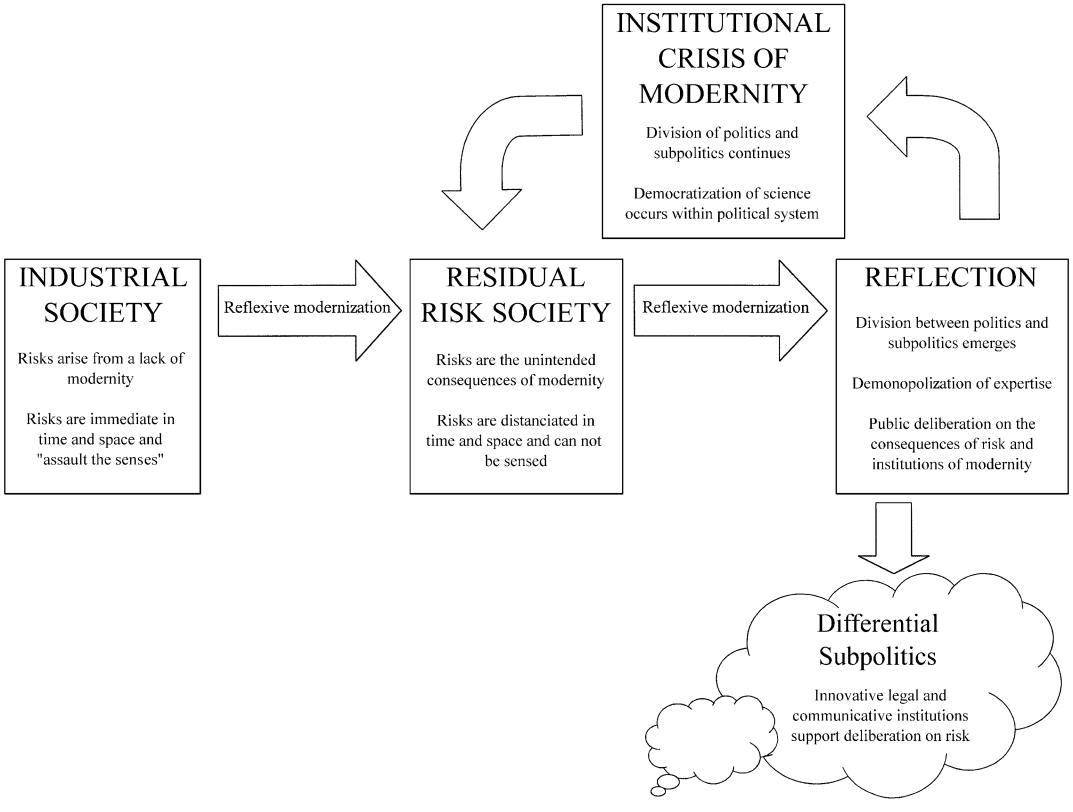

Figure 3 The dynamics of reflexive modernization

undergoing a process of (unseen) 'self-confrontation' (Figure 2). Risks are produced within modernity, but their distanciated, unpredictable and imperceptible nature means that the institutions of modernity can not 'comprehend or legitimize' them (Beck 1994, 10; 1996a, 32). The politics of risk society shifts from concern with the distribution of 'goods' to issues surrounding the distribution of 'bads'. This in turn renders class and the relations of production less salient as the basis for 'political interest formation and organization' than the 'relations of definition'[3] (Goldblatt 1996, 176) through which risk is understood and delimited. The dynamic of risk society in Beck's view is underpinned by a division between the 'political realm', the traditional (state) institutions of accountability and control, and the 'subpolitical realm', conceived as politics 'outside and beyond the representative institutions of the political systems of nation-states' (1999, 39) where previously 'private' decisions are rendered 'political'. In risk society the political institutions of modernity are irrelevant, inadequate or impotent as decision-making power, control and legitimacy increasingly locate outside the political system in economic, technological, scientific, community and consumption 'sites which were previously considered unpolitical' (Beck 1999, 93; see also 1992, 213; 1998, 15; 1999, 101–2).

Initially the institutional crisis which these processes engender goes unnoticed. However, within the process of reflexivity Beck proposes lies the possibility for greater social reflection leading to a second stage of risk society (Figure 3). While society 'still makes decisions and acts on the pattern of the old industrial society . . . debates and conflicts which originate in the dynamic of risk society are . . superimposed on interest organizations, the legal system and politics' (Beck 1996a, 27–8). The institutions of modernity are unable to remain stable in the face of new 'conflicts of accountability' as disputes erupt over how the consequences of risk can be 'distributed, averted, controlled and legitimated' (Beck 1996a, 28). Beck

offers three scenarios of how the second stage of risk society might take shape (Figure 3). First, and currently dominant, that the division between 'political' and 'subpolitical' realms is further entrenched ensuring the continuation of industrial society. Second, that technological and economic development are democratized through conventional political systems which fail to account for subpolitics (1999, 93) and therefore also lead to the continuation of industrial society. Third, and the focus of Beck's later work, that the emancipatory potential of risk society is realized through a differential subpolitics, supported by innovative legal and communicative institutions (Beck 1999). However, there is a fair degree of confusion and ambiguity in Beck's writing over the political consequences of reflexive modernization and the evolving 'subpolitics' of risk society. On the one hand, it is suggested that a 'division of labour' (1992) occurs so that 'the truly political disappears in and from the political system and reappears ... as subpolitics' (1999, 91) leaving formal political systems and institutions unable to fulfil their roles of decision-making, control and accountability. On the other hand, Beck argues that although the 'unbinding' of politics creates subpolitics, the institutions of the political system retain power and influence (1995, 73–4) and are thrown into coalitions with subpolitical institutions and actors (1999, 40). From this morass of evolving ideas, three key points concerning the political possibilities of contemporary risk emerge: first, that the politics of risk society are not conducted only, or primarily, through the formal political system; second, that in the light of risk society, the formal political system is weakened; third, that it is within subpolitics that conflicts of accountability will be resolved or ignored. Whether, and with what effect, the politics of climate change risk conform to these characteristics is considered in detail below.

Critics have taken issue with much of Beck's thesis concerning the nature of risk and society. Though it is not my intention to deal with these comprehensively,[4] several points are pertinent to this discussion. The risk society has been seen as borne out of the particular circumstances of post-war Germany, and its appropriateness for describing the politics of nature and society outside western Europe, or even Germany, questionable (Dingwall 1999, 475; Marshall 1999, 267; Rustin 1994, 3). While risk society seems to describe the nature of climate risk, whether other environmental risks are as distanciated and imperceptible is debatable. Moreover, although the risks of industrial modernity may well have 'assaulted ... the senses' (Beck 1992, 23), this did not and does not preclude their mediation through expert and public understandings (Adams 1995, 179). This has led some commentators to suggest that there is little novel in the contemporary challenges posed by risk to political and expert communities that Beck describes. Bennett argues that risks have always been socially constructed, and that the risks of industrial society 'appear certain today because the disputes over their insurability have ... been resolved' (1999, 192) rather than because of any difference in the intrinsic quality of the risks themselves (see also Dingwall 1999, 481). Gandy also supports the view that throughout the modern period 'ecological risk and public health scares have been repeatedly translated into new regulatory regimes' (1999, 66) which question the status quo, though he argues that the nature of contemporary risks do pose distinctive challenges. Any temporal distinction between an 'industrial society' and a 'risk society is therefore perhaps unwarranted. Instead, it is possible to argue that (environmental) risk has continually created institutional crises, and that some contemporary risks pose particular challenges for the institutions which structure modernity. A further problem with the concept of risk society concerns its underlying dynamic: reflexive modernization. Critics have argued that the dialectic between reflexivity and reflection is not fully explored and the emergence of risk society in particular contexts needs further explanation (Goldblatt 1996; Smith *et al* 1999, 171).

The applicability of risk society to all cases of contemporary risk politics is not universal; rather, the usefulness of Beck's insights into the dynamics of risk need to be demonstrated in each case. The challenges posed by climate change do indeed appear distinctive. The unbounded nature of climate risk has profound implications for society, rendering environmental regulation based on national borders and future predictability impotent, and leading to new conflicts which stretch social relations over space and time. In drawing attention to the importance of the processes through which risks are defined and delimited, Beck's work challenges those accounts of the politics of global environmental change which take interests as given (see also Paterson 1996a; Sewell 1996). Defining environmental risk,

and its ensuing obligations, is a means through which a range of scientific, social and moral concerns are articulated (Irwin 2001, 59), and through which social structures and institutions are challenged and reproduced (Harvey 1996). The following sections consider how climate change obligations and responsibilities were contested and constructed within the Australian policy process in order to assess how the politics of risk take shape.

Delimiting global responsibilities

To date, analysis of the obligations created by climate change has focused on the international and intergenerational distribution of, and responsibility for, risks (Grubb 1995, 1999; Page 1999; Paterson 1996b; Shue 1999; Toth 1999). These debates are briefly outlined, before considering how Australia's international obligations for climate risk were constructed and contested.[5]

International negotiations

The interpretation of intergenerational justice with respect to climate change is both interesting and complex, involving concerns for the representation of 'distant strangers' within contemporary environmental politics and raising difficult philosophical issues about the needs, deserts and identity of future generations. However, as Grubb (1995) argues, in practice the interpretation of intergenerational justice has provided a simplified rationale for action; the need to 'prevent dangerous anthropogenic interference with the climate system' (United Nations 1992, Article 2), or, in other words, to avoid future harm.

In contrast the debate over international equity, involving the consideration of climate impacts, and how they can be averted or compensated for, and sources of emissions, and how they can be mitigated, has been heated. While the impacts of climate change remain uncertain, it is clear that some places will experience more risk than others, notably the small island states and delta regions, and debate has raged over how such impacts can be compensated (Grubb 1999, 103–4). The UNFCCC (United Nations 1992, Articles 4.4, 4.8) states that developed countries should assist developing countries with the task of adaptation, a premise which has been reaffirmed in the Kyoto Protocol (Grubb 1999, 140), though there is considerable ambiguity as to what this will mean in practice. By far the most long running and divisive debate concerning equity and climate change internationally has been the respective responsibilities of nation-states for reducing emissions of greenhouse gases. In the main, this debate has been cast in north-south terms, with the argument made that the north should take action (first) because of its responsibility for the vast majority of emissions to date, its high levels of per capita emissions and its capacity to take action (Argwal and Narin 1991; Grubb 1995; Rowlands 1997; Shue 1999). The UNFCCC recognizes these principles, and also states that technical and financial transfers from the north are necessary to enable emissions reductions to take place in the 'south'. The inclusion of such principles goes some way to countering claims that the politics of climate change represents a form of 'environmental colonialism' (Argwal and Narin 1991), though it does little to finally resolve the issue of respective responsibilities. Throughout the Conference of the Parties (COP)[6] process, the USA, Australia and several industrial lobby groups argued that developing countries should be included in emissions reduction commitments because of their growing contribution to the problem, concerns about international competitiveness and environmental effectiveness, as well as attempts to shift blame from themselves for the slow progress of negotiations. While this proposal was not explicitly incorporated into the Kyoto Protocol, more effort has been directed towards thinking of the ways in which developing countries could be included in future agreements. The scope and structure of these debates suggest that the international politics of climate change risk have not been conducted only in terms of material interests, which in any case are difficult to identify (Paterson 1996a), but on the basis of the kinds of conflicts of accountability for risk and its mitigation that Beck argues dominate risk society.

Such conflicts have also been visible in debates concerning the role of individual countries in addressing climate change. The distribution of responsibilities between countries of the 'north' became the subject of sustained debate in the run up to Kyoto (Rowlands 1997). Within the UNFCCC it is repeatedly stated that obligations can fall unevenly on different parties. The text refers to 'common but differentiated responsibilities and respective capabilities' (UN 1992 Article 3.1), and the need to take into account 'differences in these Parties' [Annex 1] starting points and approaches,

economic structures and resource bases, the need to maintain strong and sustainable economic growth, available technologies and other individual circumstances' (UN 1992 Article 4.2 (a)). While such reservations were included to indicate that the 'developed country Parties should take the lead in combating climate change' (UN 1992 Article 3.1), they have been used to good effect by those arguing that the impact of addressing climate change will not be felt evenly amongst the countries of the 'north'. To this end, a key article in the Convention, referred to as the 'fossil fuel clause', urges that Parties:

> Take into consideration in the implementation of the commitments of the Convention the situation of Parties, particularly developing country Parties, with economies that are vulnerable to the adverse effects of the implementation of measures to respond to climate change. This applies notably to Parties with economies that are highly dependent on income generated from the production, processing and export, and/or consumption of fossil fuels and associated energy-intensive products and/or the use of fossil fuels for which such Parties have severe difficulties in switching to alternatives (UN 1992, Article 4.10).

This clause provided Australia, amongst others, with significant fuel for their argument that international obligations should be differentiated on the basis of the predicted impact on the economy of taking action. Rather than the transition proposed by Beck from the 'relations of production' to the 'relations of definition' as the basis for politics in risk society, the international politics of climate change risk illustrate how definitions of obligation and responsibility are shaped by discourses of economic costs and benefits alongside moral and scientific considerations.

Advance Australia fair?

> We have an obligation to defend and protect Australian interests, Australian jobs and Australian industry. We also owe it to future generations of Australians to play an effective role in the global reduction of greenhouse gas emissions (Prime Minister Howard 1997).

In the initial stages of negotiating climate change responsibilities the Australian Federal Government was keen to show its willingness to undertake global environmental obligations, and adopted a national target for emissions reductions and the *National Greenhouse Response Strategy*. As the introduction to this strategy makes clear, these obligations stem both from formal commitments under the UNFCCC and from the potential risk of climate change to 'Australia's natural, social and working environment, as well as . . . [to] the global community and global environments' (Commonwealth 1992). However, as illustrated in the statement above, from their inception climate change responsibilities have also been seen to involve the protection of Australia's economic interests, defined primarily as those concerning the energy and energy-intensive industries (Commonwealth 1992; Hamilton 2000; Diesendorf 2000). As the analysis below illustrates, these concerns have structured the identification and assessment of risks and have controlled the 'relations of definition' through which the obligations of climate change have been understood.

Having initially backed Australia's international commitments under the UNFCCC, resource and energy industries began to urge the Federal Government to take a more cautious stance as the climate negotiations entered their second phase. At COP-1 in Berlin, Australia joined with the USA in opposing the need to strengthen the commitments of the UNFCCC without further participation by developing countries (Paterson 1996a, 69–70; Grubb 1999, 50). The successful counter argument put forward by the EU, with the support of the majority of developing countries, was that legally binding targets for emissions reductions should be agreed by COP-3 at Kyoto in 1997. The acceptance of this position by the Clinton administration at COP-2 left Australia isolated internationally with an increasingly entrenched view that any international obligations should be tempered by recognition of scientific uncertainty and the potential economic costs of action:

> I went to COP-2 as a representative of an Australian NGO. . . . It was rather like being a temperance campaigner on a pub-crawl. The Australian delegation was committed to, and in most cases quite comfortable with, the government line that: a) there is not a serious problem; and b) if there is Australia shouldn't have to do anything about it because of our economic structure and the fact that our population is so spread out (Consumers Association 1996).

To counter this position, environmental groups, scientists and some sub-national governments argued that Australia should shoulder its responsibilities squarely in the international arena, stressing the potential consequences for Australian health, welfare and environments should climate

change continue unchecked (Greenpeace 1996a; Gilchrist and McCathie 1996). This plea had little impact and the Federal Government continued to argue that in defining its climate obligations with respect to domestic economic concerns it did not deny responsibilities, merely ask that they be fairly attributed according to the Convention's own provision for 'common but differentiated' obligations (UNFCCC 1992, Article 3.1). Through insistence of Australia's economic vulnerability and small overall contribution to global emissions, the Federal Government repeatedly stated that it 'would not 'sell out' the national interest' to take on undue responsibilities (Hogarth and Dayton 1997; Howard 1997; Skehan 1997a). In taking this stance the Federal Government is in effect aligning the interests of 'the nation' with the concerns of the resource and energy industries that taking action on climate change would be more economically damaging for Australia than other OECD countries:

> Australia is not seeking to be exempted from the Convention. It is seeking a fair go – that is an outcome where the onus of response measures falls no more heavily on Australia than on other countries. Without such an outcome it is not realistic to expect agreement to be achievable and sustainable (Australian Coal Association 1996, 9).

The justification for these arguments lies in economic modelling which suggest that Australia would suffer significant job losses, reduction of GDP and savings losses in the order of A$9000 per Australian in complying with a uniform target for emissions reductions (Hamilton 2000, 54). These findings have been contested, in terms of their ability to account for the potential economic savings of energy efficiency measures and the environmental costs of inaction, and their objectivity questioned due to the role of resource industries in sponsoring the modelling project (Bulkeley 2001; Commonwealth 1998a; Diesendorf 2000; Hamilton 2000). Despite this, they have been used by the Federal Government as the basis for arguing that an equitable division of climate change responsibilities would have to allow 'differentiated obligations' on the part of developed countries in light of their economic circumstances. The concept of differentiation was touted not only as creating the possibilities for 'fair and equitable' outcomes, but also outcomes that would be environmentally effective by ensuring participation in, and compliance with, the resulting Protocol:

> Australia is heeding the message of the scientists . . We accept responsibility for our share of the greenhouse task, but we believe that a desirable environmental outcome can only result from policies which are achievable, effective and equitable (Senator Hill, Minister for the Environment 1997a).

Meeting obligations for the global environment is viewed as an economic exercise. In turn, existing relations of production shape the ways in which climate change obligations are defined. The absence of any *environmental* designation of responsibilities was noted not only by environmental groups:

> Australia is campaigning to be allowed to substantially increase its emissions while the rest of the developed world reduces them. With Australia one of the highest emitters on a per capita basis, this flies in the face of the principle that those who cause a pollution problem should take responsibility for cleaning it up (Greenpeace Australia 1997).

but also by the *Australian Financial Review*, a paper not known for its green leanings:

> Suggesting that all countries should bear an 'equitable burden' in reducing global greenhouse emissions conflicts with the efficiency based 'polluter pays principle'. It is . . . stretching the issue to argue that lucky resource-rich – and hence emissions-intensive – economies should be given a special deal because their abatement costs are relatively high (Australian Financial Review 1997)

During 1996–97 the principle of differentiation received widespread comment, criticism and varying levels of support within the international arena and Australia (Business Council of Australia (BCA) 1997; Grubb 1999; Newell and Paterson 1996; Rowlands 1997). Some major players in the climate change negotiations, notably the EU and the USA, initially saw the idea of differentiation as internationally untenable. However, the EU advocacy of differentiation within the EU 'bubble'[7] made its opposition to differentiation internationally increasingly difficult to sustain. Pragmatically, differentiation was also thought too complex to use as a negotiating principle, with disputes arising over whether it should be the energy-efficient nations, such as Japan and Norway, or particularly fossil-fuel-dependent economies, like Australia, who should bear fewer emission reduction responsibilities (Grubb 1999, 85; Rowlands 1997, 21–4). In the first half of 1997 the Prime Minister, John Howard, endeavoured to 'push the principle of

differentiation on every available occasion before every world leader in every forum' that he could find (Skehan 1997b). Despite this marathon effort, there were significant fears expressed by some in the resource and energy sector that without international acceptance of differentiation, Australia would have to reconsider its continued participation in the climate negotiations (BCA 1997; Yu and Taplin 2000, 113).

In late 1997 this predicament receded. The withdrawal of US support for greater emission reductions in October re-opened the question of exactly what climate change obligations entailed. In November, the Federal Government indicated that, under a new strategy for action, emissions were expected to increase by 18 per cent over the period 1990–2010, instead of the 28 per cent predicted. Controversially, the Federal Government entered the Kyoto negotiations with the expectation that their obligations for protecting the global environment would allow them to increase emissions of greenhouse gases. In the days immediately prior to Kyoto 'the possibility of limited, carefully bounded differentiation' (Hogarth and Skelton 1997) attracted support from the USA, Japan and others looking for a way round the proposed uniform target of a reduction of 15 per cent by 2010 put on the table by the EU. The negotiated Kyoto Protocol commits developed country signatories to an overall reduction target of 5 per cent below 1990 levels in the period 2008–12, through the pursuit of differentiated targets. However, the fact that differentiation was adopted owes more to political expediency than any recognition of the 'principled position' Australia had taken. The exact numbers assigned are the result of bargaining amongst nation-states over individual targets in conjunction with other parts of the Protocol, such as the inclusion of emissions trading, the comprehensive approach taken to all greenhouse gases and the incorporation of sinks (Grubb 1999, 116). In this melee, Australia maintained its case for 'special treatment', and was one of the only three countries assigned the responsibility of containing emissions increases, at 8 per cent above 1990 levels.

In addition to differentiation, a key tenet of the Australian approach to designating international obligations throughout the COP process has been that developing countries are included in the allocation of emission reduction responsibilities. While the UNFCCC makes it clear that developed countries should 'take the lead' because of their historical responsibility for emissions and capacity to address the problem, the resource and energy sector, alongside parts of the Federal Government bureaucracy, questioned this approach. Firstly, in the light of the future contribution of developing countries:

> If you really believe that the greenhouse problem is a problem, then you have to . . . find some policy that is going to allow you to engage developing countries. Because . . . the lion's share of all of the increase in emissions is coming from developing countries . . . so to be practical about it, you've got to have some means of getting [developing] countries in (Australian Bureau of Agriculture and Resource Economics (ABARE) 1997).

and secondly on the grounds of containing 'carbon leakage', as multinationals place their operations outside the jurisdictions of any Protocol:

> If you went to a company . . . involved in resource development and you said to them, look, what would happen to your investment decisions if Australia was forced to comply with stringent targets? They . . . would tend to say . . . Australia will just be not attractive to us and so we will invest in other countries. Then you have to say what is going to happen to energy consumption and greenhouse emissions if that happens? And depending on where you go and what sort of energy source you use of course, the effect on greenhouse may well be negative . . . if you went to India or China for example where you're using again a lot of coal, perhaps with poorer technology. So, we see a role for Australia as an efficient world supplier of energy-intensive products (Australian Coal Association 1997).

Far from heralding a fragmentation of politics, the risks of climate change have provided an additional arena through which the interdependencies between government and the 'subpolitical' resource and energy sector are intertwined. Arguments about the future role of developing countries and the need to prevent carbon leakage, despite questions raised over their validity,[8] were accepted, and indeed reinforced, within the Federal Government. In turn, they continued to push for the inclusion of developing countries in the Protocol, either through the development of 'joint implementation'[9] or more formal obligations, using similar justifications:

> If we were to stabilize emissions in the energy sector by 2010 without any complementary obligations in

> developing states, up to [A]$12 billion worth of planned investments in these sectors could move offshore. The Government simply cannot ignore the human cost these losses would impose on Australian families (Senator Hill, Minister for the Environment 1997b).

In this division of responsibilities the Australian Federal Government again finds itself sharing common ground with the US Senate, which voted unanimously that the USA should not accept any Protocol that did not include commitments from the developing countries (Leggett 1998, 445).[10] The Kyoto Protocol steered a path between opposing views through a continued emphasis on technology and financial transfers and the use of the 'clean development mechanism' (UN 1997, Article 12). In the three years since the creation of the Kyoto Protocol, the respective responsibilities within and between 'north' and 'south' have continued to dominate the debate as key elements of the Protocol, such as the use of carbon sinks, the clean development mechanism and carbon trading, remain unresolved. The fragility of the balance reached at Kyoto has been all too apparent with the recent withdrawal of support by the Bush administration.

International negotiations and institutions have provided an arena in which nation-states, sub-national and supra-national organizations 'inter-subjectively come to some understandings about what norms concerning global warming mean' (Paterson 1996a, 129). Through these processes conflicts of accountability have surfaced as liability, blame, responsibility and rights have been constructed and contested and the risks that climate change poses stretch existing 'relations of definition' to their limits. The position taken in these debates and conflicts by the Australian Federal Government owes much to the dominant understanding of responsibilities – primarily to certain economic sectors and regions – held by the resource and energy industries, and some parts of the state at national and sub-national levels. In turn, these interest groups relied on the Federal Government to negotiate a favourable outcome through the international negotiations. The prevalence of economic considerations as a key discourse in the international negotiations during the late 1990s suggests that Beck's conceptualization of the dominant forms of knowledge and expertise in risk society is too narrow, and that the relations of production are central to the politics of risk. Furthermore, a distinction between the 'political' and 'subpolitical' is difficult to draw. In this case, the social and political processes which arose in response to climate change risk served to deepen interdependencies within a coalition formed between the formal political system and subpolitical/private economic interests, which engaged in the definition, control and legitimation of the concepts and practice of international responsibility. New relations of definition have been mooted within a wider policy network (Marsh and Rhodes 1992), for example by Greenpeace and the Australian Financial Review that the polluter pays principle should extend across international borders. However, these new discourses have failed to steer the definition of obligations away from the national interest, the economic survival of the resource industries and the economic prosperity of the present generation towards distant strangers, other industries, or a broader definition of well-being for the present generation. The choice of a spatio-temporal framework through which obligations and responsibilities are delimited is not neutral (Harvey 1996, 264). Rather, it represents and embodies a particular set of values about both environment and society which privileges certain places, economic sectors, and people. The next section considers whether, and with what effect, similar conflicts can be identified as the process of defining climate responsibilities within Australia took place.

Climate partnerships

> The Federal Government can not address Climate Change alone: Our national contribution to global emissions results from the behaviour of thousands of industries, all levels of government, and millions of individual Australians. This is a task for all Australians (Senator Hill, Minister for the Environment 1997a).

The international conflicts of accountability documented above did not occur within a vacuum, but were influenced by domestic debates over the extent of environmental and economic risks, and how risks and responsibilities should be shared within Australia. The evolution of domestic climate change policy within Australia saw the development of a 'partnership' approach, summarized above by Senator Hill, as it became clear that the Federal Government was unable to address climate

change obligations alone. As Beck's thesis would suggest, in the face of climate change risk, the state appears inadequate or even impotent. However, as the discussion below illustrates, this does not mean that the formal politics of the state gives way to the subpolitical governance of risk.

Despite an extensive consultation during the formation of domestic climate change policy (Downes 1996; Lowe 1994; Taplin 1994, 1996), the final stage of securing policy commitments remained closed to participation from those outside federal bureaucracies, and the resulting *National Greenhouse Response Strategy* (NGRS) (Commonwealth 1992) was primarily seen as a document produced by, and for, Federal Government. However, many of the measures contained within the NGRS, from energy-efficiency labelling of appliances, through investment in renewable energy technology, to decisions concerning land use and transport, rely more or less explicitly on other agents and institutions. It is clear that Beck's supposition that the state is dependent on the subpolitical sphere in order to address risk is applicable in this case. However, the nation-state, and other levels of formal political governance, are still central to this process. Although the Australian constitution gives the Federal Government powers to intervene on environmental matters in the context of trade or international obligations (Papadakis 1993, 114–5), the primary decision-making power rests with state governments, with local governments playing a more minor role.[11] The exacting task of implementing the NGRS was dependent on the co-operation of state governments, which was not forthcoming, and local governments, which were sidelined from the strategy (Lumb *et al*. 1995; Taplin 1994). Support for the strategy amongst industry and the community was also negligible, with many measures ignored and few suggested regulations imposed. Given this context and a lack of coordination between jurisdictions and policy areas, it is hardly surprising that progress in effecting the NGRS was seen at best as uneven (National Greenhouse Advisory Panel (NGAP) 1996, 13) and at worse as 'glacial' (Wilkenfeld *et al* 1995, 11). As the NGRS moved off the drawing board and into action, conflicts of accountability over climate change responsibilities within Australia were endemic. Nowhere was this more marked than in the brief debate over the imposition of a carbon tax which surfaced in 1994 (Taplin 1994). The resource and energy industries argued that this approach would be contradictory to the aims of the NGRS that the costs of taking action to reduce emissions of greenhouse gases would not impose an undue economic burden on particular regions or industrial sectors (Bulkeley 2001; Commonwealth 1992). In response, they sought to redefine their responsibilities by arguing that a voluntary partnership approach was the most appropriate course of action given the state of scientific knowledge and potential costs of regulation. In the wake of this debate, and the failure of the NGRS to progress climate change policy, the Federal Government launched the additional *Greenhouse 21C* strategy (Commonwealth 1995). The adoption of a discourse of shared responsibilities by the Federal Government within this strategy marked a significant change of direction, explicitly moving away from a regulatory approach and stressing the need for broad participation:

> Climate change is relevant to all parts of society. Only a concerted and co-ordinated effort by all parties will achieve an effective response (Greenhouse 21C, Commonwealth of Australia 1995).

The widening scope of climate change responsibilities included local government, communities and individuals. However, most attention was focused on the *Greenhouse Challenge*, a voluntary programme in which large industries and industry associations undertake cost-effective emissions reductions in return for 'green' publicity (Taplin and Yu 2000, 107–8). This allocation of responsibilities was seen as crucial for the Federal Government:

> The success of the Greenhouse Challenge depends on a continuing level of contribution from industry that is both real and significant . . . that means, in turn, that we in government have more flexibility in developing our national greenhouse response (Senator Parer, Minister for Energy and Resources 1996).

Despite concerns over the narrow focus of *Greenhouse Challenge*, this approach has been supported by environmental groups, state and local governments. Indeed, it was primarily these organizations who suggested that the *Greenhouse Challenge* programme be extended to small and medium sized businesses and who have initiated similar schemes at state and local levels (Greenpeace 1996b; Australian Conservation Foundation (ACF) 1997).

In 1996–97 a more substantial reworking of domestic greenhouse policy was undertaken with the review of the NGRS (NGAP 1996; Intergovernmental Committee on Ecologically Sustainable Development (ICESD) 1997a, b), and the launch of the new National *Greenhouse Strategy* (Commonwealth 1998b) which came into effect in 1998. Throughout this process, the notion of sharing responsibilities across stakeholders and within the community remained central:

> The engagement of stakeholders and the community in identifying and assessing opportunities for appropriate and effective greenhouse response actions is essential to the development of an effective, credible and broadly based Strategy. The new Strategy will reflect a strong commitment to cooperative approaches to address greenhouse issues, utilizing partnerships amongst governments, and between governments and the community (Intergovernmental Committee on Ecologically Sustainable Development 1997b, 9).

In order to give state governments a sense of ownership, the development of the new strategy involved allocating key sectors to different states, for example New South Wales were given the task of policy development for the energy sector, while Queensland took on agriculture (ICESD 1997c). The involvement of local government has been promoted through the development of the *Cities for Climate Protection* programme in which participants attempt to reduce the emissions of greenhouse gases from the local area. This programme, run by the International Council for Local Environmental Initiatives, was initially championed by Newcastle City Council and became part of domestic policy in late 1997, when the Federal Government announced its intention to fund its development within Australia (Bulkeley 2000a). The principle means of fostering the participation of industry within the new strategy remain voluntary, for example the expansion of the *Greenhouse Challenge* programme and continued development of energy efficiency standards. Community participation was effected through two consultation processes, one for suggestions of measures to be included in the draft strategy released in March 1997 and one after its release, as well as by the provision of information in order to persuade people to take action. Neither consultation was a success, with those involved resigned to the fact that such processes tend to attract those that have been paying close attention to the process (ICESD 1997a; NGAP 1996, 65), and the extent to which the public have taken voluntary action on the basis of information provided is far from clear. Despite evidence of public concern for the issue of climate change, there has been little involvement in the political processes through which risks and responsibilities are delimited. In part this reflects the views of policy makers, who see climate change as an issue which is too scientifically and politically complex to involve lay publics. It also reflects public understanding of climate change risk as something over which they have little control and which should more appropriately be addressed by governments and businesses (Bulkeley 1997, 2000b). This suggests that it will not be in the light of further scientific evidence and disputes over risk that a civic subpolitics of climate change will emerge, as Beck's thesis suggests, but on the basis of providing explicit means through which people feel they can collectively respond and when the responsibilities of other actors and institutions are acknowledged (Bulkeley 2000b).

Despite the new emphasis on partnership, many of the specific measures contained within the *National Greenhouse Strategy* bear a remarkable similarity to those included in the NGRS and *Greenhouse 21C*. Most, such as the provision of information, regulation, incentives and funding, rely heavily on both federal and state governments for their implementation. While the shift towards partnerships and participation within the climate change policy process has been profound during the 1990s, it has not removed responsibility from the nation-state for shouldering the lion's share of emission reduction responsibilities, and for ensuring that the costs of such action do not fall unduly on particular regions or sectors. The shift in emphasis towards explicit partnership approaches has taken place in the wider context of a weak ecologically modernist (Christoff 1996) reading of climate change possibilities in which the state has continued to privilege the usual businesses. The need to take responsibility for effecting significant changes in the relations between energy use, demand and the economy has been sidelined. Indeed, by appearing willing to undertake some level of responsibility for climate risks, the resource and energy sector has offset more stringent obligations that could have resulted from the implementation of regulations and fiscal measures (CA 1996; CSIRO 1996; Lowe 1994). The state has played a key role in the politics of climate risks at

regional and local levels, and in some cases this has allowed more radical discourses of climate responsibilities to take hold. For example, state legislation enacted in New South Wales in 1995 requires energy suppliers to reduce emissions of greenhouse gases by 20 per cent by 2005, which has in turn led to investment in renewable energy and the development of 'green energy' schemes for householders (Bulkeley 2001; Taplin and Yu 2000, 104). Also in New South Wales, Newcastle City Council has implemented various energy efficiency measures and invested in renewable energy in partnership with private companies. In these cases, the conflicts of accountability wrought by climate change risk have led to new discourses and material practices with respect to energy use as 'debates and conflicts which originate in the dynamic of risk society are ... superimposed on interest organizations, the legal system and politics' (Beck 1996a, 27–8). While such examples are few and far between, they illustrate that interests do not remain static and can not be considered as given as risk politics take shape. In some places, climate risks have created discourses which attempt to move beyond the spatial and temporal referents of modernity in constructing and delimiting responsibilities for climate change, and in so doing the nature of environmental and social justice (Harvey 1996).

As this discussion illustrates, while the nation-state is responsible for legitimating climate risks and for their alleviation this is a task it can not complete without addressing the source of risks, in this case primarily the use of energy, and without the involvement of the institutions and agents responsible for that use: industry and the community (Beck 1992; Gandy 1999). However, this does not create divisions between the formal political system and subpolitical arenas, rather climate change has provided a new issue in which the interdependencies between these arenas have become re-articulated through discourses of shared responsibilities for risk. These links have been reshaped, as new actors with claims to legitimacy and expertise enter the policy network, and renegotiations of the respective obligations of governments, industries and the community take place. While this process of renegotiation has led to some new discourses of obligations and responsibilities, in the main these remain tied to the temporal and spatial horizons of industrial society.

Conclusions

The issue of climate change has provoked significant conflicts over the accountability of certain places and peoples for the risks imposed on future generations and distant strangers. Issues of blame, responsibility, compensation and obligation have pervaded international negotiations and domestic debates, and have been incorporated into the ensuing agreements and institutions as new discourses and practices are constructed and contested in attempts to legitimate and mitigate climate risk. Beck's supposition that the scale, scope and nature of contemporary environmental risks poses novel challenges for the 'relations of definition' within modernity can be upheld in this case. In drawing attention to the ensuing social and political consequences, Beck's thesis highlights how the cultural and institutional matrix within which risk politics take place constructs and is constructed by contemporary environmental risks. This provides a welcome departure from approaches which view social and political processes as responses to 'given' risks, existing in and of nature in isolation from society (Irwin 2001). Beck's work also points to the significance of understanding how particular discourses and practices through which risks, interests and obligations are defined gain dominance, and the social structures and interests which such definitions of environmental values maintain and construct (Harvey 1996). In addition, he signals the importance of considering how sub political institutions are involved in the politics of risk. In Australia, the politics of climate change risk do not take place only within the formal political system, but spill out across a wider policy network as organizations, institutions and individuals struggle to define and contest liability, obligations and responsibility. These insights, drawn from Beck's thesis, have shed considerable light on the ways in which climate change risk and politics take shape within Australia. However, the argument that risk society heralds a new political dynamic, in which a division emerges between an impotent formal political system and various subpolitical arenas, is difficult to sustain in this case. Rather, Beck's alternative vision of the relation between politics and subpolitics, where the formal political system retains power and influence but is thrown into coalitions with subpolitical institutions and actors, seems more appropriate (1995, 73–4; 1999, 40). However, there are several points raised in

this analysis which suggest that Beck's thesis does not adequately capture the political dynamics of contemporary risk issues.

The significance of the 'subpolitical' arena for the pursuit of politics is not new. Some 'subpolitical' arenas, notably the resource industries and local communities in resource-dependent regions, have had a long and involved role in Australian politics. Climate change provides a new arena in which these concerns have been articulated, contested and reconstructed. For example, international climate obligations have been seen as warranted by the Federal Government only where unacceptable costs are not imposed unfairly on some economies. This position reflects the interests of the resource and energy industries, as well as some parts of local, state and national governments, who have, since the initiation of the COP, coalesced around the argument that the differentiation of responsibilities internationally and the participation of developing countries is in the national interest. In contrast, environmental groups, scientific organizations, and other parts of local, state and national government have articulated shared discourses that climate change risks create responsibilities to prevent harm to vulnerable societies, the non-human world and future generations. These new concepts of liability and obligation have been resisted by the resource-based coalition and re-defined within the horizons of industrial society – the nation-state, the individual, and the market.

In creating obligations and sharing responsibilities in relation to climate risks, the political system is not left devoid of power vis-à-vis new subpolitical arenas and processes. Rather, the process of delimiting risks and responsibilities takes place across the policy network as existing coalitions are redefined and new coalitions take hold (Hajer 1995; O'Riordan and Jordan 1996). In Australia, the state retains a key role in managing, controlling and legitimating climate risk while also 'strengthening its interaction and dependence on both the private sector and civil society' (Gandy 1999, 63) through new discourses of partnership. Gandy argues that in the light of environmental risks, the capacity of the state for intervention is circumscribed as it becomes 'increasingly dependent on other structures and organizations dispersed through society' (1999, 63). However, these other structures and organizations can include different parts of the formal political system at local and state level. While this is partly a result of Australia's federal structure, the implementation of climate change policy elsewhere will also depend on action taken by lower tiers and different branches of government (Collier 1997; Wilbanks and Kates 1999) as well as private companies and individuals. Furthermore, the role of the state is not governed by some determinate and finite notion of capacity, but rather through negotiations in which state and subpolitical actors and institutions mutually define their respective roles. As Hajer argues, environmental politics is an argumentative struggle in which 'actors not only try to make others see problems according to their views but also seek to position other actors in a specific way' (1995, 53). In the politics of climate risk in Australia, the dominant resource-based coalition has sought to restrict the intervention of the state in determining climate responsibilities through regulatory or fiscal measures by promoting voluntary measures. Furthermore, this coalition has argued that responsibilities should be determined on a local or regional scale, taking into account the costs of taking action on climate change on particular regions and industries. Their success is witnessed both in the *National Greenhouse Response Strategy* and *National Greenhouse Strategy*, which emphasize the need to take into account the impacts of action on particular regions and sectors (Commonwealth 1992, 1998b), and in recent legislation which has sought to reign back the influence of the Federal Government on a range of environmental issues, including climate change (Commonwealth 1999). The discourse of partnerships, between the state, industry, and community, has arisen not because of a lack of power within the formal political system, but through an argumentative struggle across the policy network in which the resource-based coalition, including state and non-state actors, has sought to channel the influence and control of the state to serve their interests. These negotiations have been conducted within the boundaries of a weakly ecological modernist reading of climate obligations, where responsibilities for climate risk are confined to the economically efficient actions of governments, industries, and concerned individuals. Although some innovative responses to climate change risks have been created, these have been limited in scale and scope, touching only a fraction of the energy economy of Australia, and leaving most questions of need and demand aside. In this light, suggestions that the evolution of subpolitics will effect progressive socio-environmental change

(Beck 1992, 1996b) must be treated with caution. Any environmental critique of modernity resulting from risk society has made little headway in Australia, where the challenges that climate risks pose have served to reinforce existing relations of definition and relations of production.

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Notes

1 Throughout this paper anthropogenic climatic change is referred to as climate change. In Australia, climate change is commonly referred to as 'the greenhouse issue' or 'greenhouse'. These terms are used when citing Australian organizations, documents and institutions.

2 Beck uses the term modernity to refer both to an historical period, as distinct from the pre-modern period, and to represent a 'particular constellation of power, knowledge, and social practices' (Gregory 1993) associated with that time, linked to the Enlightenment's pursuit of rational modes of social organization and rational modes of thought (Harvey 1989, 12; for further discussion see also Giddens 1990; Harvey 1996). It is within this constellation, encompassing the pursuit and application of knowledge, particular modes of production, cultural norms and practices, as well as social and political institutions, that Beck locates the creation of environmental risks. As such, it is not capitalism which necessarily leads to environmental risk, rather it is the current form and manifestation of capitalism under late modernity which creates risk society. However, it should be noted that in Beck's analysis the multifaceted and contested nature of modernity is not explored, and its force as an explanatory concept is frequently taken as given (Irwin 2001). Which elements of the constellation of modernity are significant in creating risk and shaping risk politics will depend on particular risk contexts.

3 '[T]he relations of definition ... include the rules, institutions and capacities that structure the identification and assessment of risks; they are the legal, epistemological, and cultural matrix in which risk politics is conducted' (Beck 1998, 18; see also Goldblatt 1996, 166).

4 For further analysis and critiques see for example: Adam *et al* 1999; Beck *et al* 1994; Bennett 1999; Blowers 1997; Dingwall 1999; Eden 1996; Franklin 1998; Gandy 1997 1999; Goldblatt 1996; Hinchliffe 1997; Irwin 2001; Lash *et al* 1996; Marshall 1999; Rustin 1994; Spaargaren *et al* 2000; Wynne 1996.

5 When 'Australia' or 'Australian' is used in this paper it is to signify the position taken by the Federal Government at the international negotiations.

6 The Conference of the Parties (COP) is part of the institutional machinery of the UNFCCC (Grubb 1999, 41). It is 'charged both with sorting out all the issues which could not be resolved in the time span of the Convention negotiations, and with reviewing progress in the light of expanding knowledge and changing circumstances; it is the central body with authority to determine what happens, when and how' (Grubb 1999, 41). The COP met in the year in which the UNFCCC entered into force, and has been held annually since that date.

7 The European Union has negotiates targets for the reduction of greenhouse gas emissions as a unit, which allows some countries within the EU to increase emissions (e.g. Portugal, Spain) while others make reductions (e.g. UK, Germany), thus effectively allowing for differentiation within the EU.

8 Hamilton argues that the potential for carbon leakage is significantly lower than has been predicted, and that impacts on international competitiveness will be restricted to some specific industries which could counter negative outcomes with greater energy efficiency (2000, 58–63).

9 Joint Implementation (JI) refers to mechanisms through which party A can assist in reducing emissions in party B and have them 'credited' as reductions in emissions from party A. The pilot phase of 'activities implemented jointly' was sanctioned by the Berlin Mandate (COP-1), which involved developed countries (A) and developing countries (B). Within the Kyoto Protocol, JI is used to refer to specific projects undertaken between developed countries, while the 'clean development mechanism' represents an evolution of JI in the context of developed and developing countries (Grubb 1999).

10 I am grateful to one reviewer for pointing out the arguments used by the USA in insisting on the participation of developing countries in the Protocol; to contain carbon leakage, and to preserve international competitiveness. In so doing, the USA hoped to shift the burden for any failure within the international negotiations on to developing countries.

11 The recent Environmental Protection and Biodiversity Conservation Act (Commonwealth 1999) effectively hands power back to state governments with respect to all but a handful of environmental issues, not including climate change. Debates continue as to how climate change might be incorporated as an 'issue of national importance' within the Act. Commentators argue that this marks a return to the pre-1980s policy-making context in Australia where the federal government took a non-interventionist approach to environmental issues.

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