

See discussions, stats, and author profiles for this publication at:  
<https://www.researchgate.net/publication/227599692>

# The Geopolitics of Climate Change

Article in *Geography Compass* · November 2007

DOI: 10.1111/j.1749-8198.2007.00066.x

---

CITATIONS

30

---

READS

1,974

1 author:



[Jon Barnett](#)

University of Melbourne

105 PUBLICATIONS 3,572 CITATIONS

SEE PROFILE

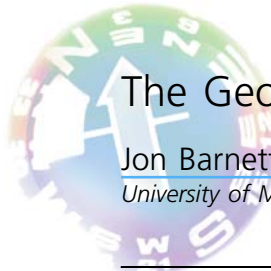
Some of the authors of this publication are also working on these related projects:



Climate Change & Security [View project](#)



The Technopolitics of China's South - North Water Transfer Project [View project](#)



# The Geopolitics of Climate Change

Jon Barnett\*

*University of Melbourne*

---

## Abstract

This article explains the ways in which climate change is a geopolitical problem. It discusses the potential ramifications of the impacts of climate change on security, and argues that predictions of international conflicts arising from climate change are premature. It explains the spatial politics of reducing greenhouse gas emissions through an overview of the positions of the main actors in negotiations on the United Nations Framework Convention on Climate Change, and argues that these positions cannot be understood merely as the product of rational choices made by disembodied states. It concludes by advocating for a subaltern and class-based view of climate geopolitics that stresses the way it is a local and social problem as much as it is a global environmental problem.

---

Climate change is not just an environmental issue . . . It is an all-encompassing threat. It is a threat to health. It could imperil the world's food supply. It could endanger the very ground on which nearly half the world's population live. Climate change is also a threat to peace and security.

United Nations Secretary General, Kofi Annan, address to the 12th Conference of Parties to the United Nations Framework Convention on Climate Change, Nairobi, 15 November 2006.

## 1 Introduction

Climate change is a geopolitical problem. It arises from past and present emissions of greenhouse gases increasing pre-existing concentrations of these gases in the atmosphere. These human-induced emissions are principally due to industrialisation and land use changes, and the volume of these emissions is not equally distributed among countries. Nor is there any spatial uniformity in the likely impacts of climate change, which will differ in kind and magnitude from place to place, and over time. While neither responsibility for climate change nor its likely impacts are equally distributed among countries, climate change is nevertheless a 'global' problem in that every country produces greenhouse gas emissions, these emissions are evenly dispersed throughout the atmosphere, and the consequences of these emissions will impact on all countries to some degree. The process to

combat climate change is also 'global' in that it centres around the United Nations Framework Convention on Climate Change (UNFCCC), to which almost all countries are Parties, within which countries coalesce into voting blocs, and where non-governmental organisations (NGOs) and business groups have considerable influence. Climate change is also an issue for subnational regions, businesses and communities, who also to varying degrees emit greenhouse gas emissions and must contend with the consequences of these emissions.

Thus, there is a complex spatial politics to climate change, which this article explains. It begins by briefly describing the causes and likely impacts of climate change, and some of the geopolitical ramifications of climate change if actions to address the problem prove insufficient to stop the kinds of wide ranging and dramatic consequences referred to in the epigraph to this article. The article then explains the global politics of reducing greenhouse gas emissions, particularly as revealed through the positions of actors in the UNFCCC. The article concludes by discussing the way the spatial assumptions underpinning climate change policy impede effective climate governance.

## *2 The Causes and Effects of Climate Change*

Climate change is caused by the emission of a number of gases that exacerbate the natural process whereby infrared radiation is trapped in the atmosphere, which causes increased heating of the atmosphere, land and seas. Climate change is projected to cause global mean surface temperature to increase by between 1.1 and 6.4 °C by the year 2100, and global mean sea levels to rise by between 18 and 59 cm (although this excludes the possibility of melting from ice sheets, the consequences of which could be sea-level rise in excess of 1 m by the end of the century) (Intergovernmental Panel on Climate Change [IPCC] 2007a). The range of these projected changes in mean temperature and sea-level reflects uncertainty in the models that are used to project climate change, which arises due to the complex and imperfectly understood relationships between feedbacks in the carbon and climate systems. Yet, there is widespread consensus that global average temperatures and sea levels will rise due to human emissions of greenhouse gases (IPCC 2007b). The global hydrological cycle is likely to be more vigorous, with the prospect of more intense climatic extremes such as heatwaves, droughts, floods and storms.

The projected changes in temperature, rainfall, sea level and extreme events pose myriad risks to ecosystems and the people that depend on them. The risks differ according to the characteristics of social and ecological systems. Some ecosystems such as in the Arctic are very sensitive to changes in temperature, some such as northern China are very sensitive to changes in rainfall, and some such as low-lying coasts comprised of soft materials are very sensitive to sea-level rise. The degree to which social systems are vulnerable to ecosystem changes depends on the extent to which the

ecosystems they depend on are sensitive to climate change, and their capacity to adapt to these changes. Capacity to adapt is a function of access to economic resources, technologies, information and skills, the degree of equity in a society and the quality of governance. Resource-dependent and low-income societies are therefore typically more vulnerable to climate change than are wealthy people and societies.

Human activities such as the burning of fossil fuels and land clearing have increased the concentration of most greenhouse gases in the atmosphere. Carbon dioxide (CO<sub>2</sub>) is the main greenhouse gas, accounting for approximately two-thirds of the increased trapping of heat in the atmosphere. Fossil fuel combustion and deforestation are major sources of CO<sub>2</sub> emissions, and 290 billion tons of carbon have been released into the atmosphere from these sources since 1751, half of which has occurred since the mid-1970s (Marland et al. 2003). As a result, atmospheric concentrations of CO<sub>2</sub> have increased by 30% since 1750 (United Nations Environment Program [UNEP] 2002). The wealthy industrialised countries are most responsible for the greenhouse gases currently in the atmosphere. For example, the USA is responsible for 30.3% of the CO<sub>2</sub> emitted between 1900 and 1999, and the European Union (EU) countries are responsible for 22.1% (Baumert and Kete 2001). In 2003, the five largest polluters of CO<sub>2</sub> were the USA (22% of global emissions), China (16%), Russia (6%), India (5%) and Japan (5%) (World Bank 2007).

Most analyses of climate change are underpinned by the same spatial imaginary that underpins most standard geopolitical texts in that they categorise emissions as coming from states (as in the above paragraph), and most often frame the analysis of impacts in terms of states and world regions. However, a more complex and arguably more accurate framing would analyse emissions in terms of corporate and individual actions, making the problem more one of class and capital than of states and sovereignty. The differences in responsibility for emissions are wider when considered in terms of wealth than in terms of states, for example, Baer (2006) shows that the wealthiest 10% of people in developed countries (who are often the most politically influential as well) emit 7.5 times more CO<sub>2</sub> than the poorest 10% of people in developed countries, and 155 times more CO<sub>2</sub> than the poorest 10% of people in developing countries. Similarly, the degree of differences in vulnerability are arguably as large within developed states such as the USA as they are between aggregated 'developed' and 'developing' country populations (Leichenko and O'Brien 2008). Furthermore, because large emissions of greenhouse gases are a consequence of wealth generation that tends to reduce vulnerability to the effects of climate change, and low-income people generally emit few greenhouse gases yet are highly vulnerable to the effects of these emissions, climate change is a global justice problem that will exacerbate existing inequalities (Adger et al. 2006). There is therefore a far more complex spatial politics to climate change than the simple analysis of the problem in terms of states suggests.

### 3 *The Geopolitical Consequences of Inadequate Action*

There have been a few attempts to describe some of the geopolitical ramifications of the impacts of climate change. These studies suggest that climate change may heighten the risk of violent conflict between countries, and stimulate large scale movements of 'climate refugees', and these effects are seen to be more pronounced in developing countries (Brauch 2002; Dupont and Pearman 2006; Homer-Dixon 1999; McNeill 2003; [Myers 1997](#); [Schwartz and Randall 2003](#); van Ireland et al. 1996).

The most dramatic of these assessments is a report commissioned by the US Department of Defense that argues that climate change could 'potentially destabilize the geopolitical environment, leading to skirmishes, battles, and even war due to resource constraints' (Schwartz and Randall 2003, 2). It identifies shortages of food, water and disrupted access to energy as being key impacts that might trigger war, and talks in terms of 'carrying capacity', 'ancient enmities' and 'struggles for access'. This and other geopolitical scenarios are to varying degrees informed by the same neo-Malthusian assumptions about the response of social systems to resource scarcity that inform the larger literature on environmental security. These assumptions are for the most part the product of ideology more than they are of evidence about conflict ([Barnett 2001](#); [Dalby 2002](#); [Gleditsch 1998](#); Hartmann 2001). They are even more difficult to sustain when applied to the case of climate change given that the outcomes of climate change on biophysical systems are still somewhat uncertain, and the response of social systems to these changes is highly uncertain.

Predictions of international conflicts arising from climate change are premature. More careful analyses suggest that conflict between countries is unlikely, but that the effects of climate change on migration may (but will not inevitably) increase the risk of civil conflicts between groups under certain circumstances (Barnett 2003; Nordås and Gleditsch 2007; Salehyan 2005). Based on a review of expected climate impacts, of research on the causes and consequences of social vulnerability to climate change, and of the links between livelihoods and civil conflict, Barnett and Adger (2007) suggest that climate change may increase the risk of violent civil conflicts by undermining the livelihoods of people and groups that are dependent on natural resources, and undermining the capacity of states to provide the opportunities and services that help people to sustain their livelihoods and that help to maintain and build peace. They suggest that in combination these two processes may increase the risk of civil conflict, but that risk does not mean predetermined outcomes.

As is the case with the study of environmental security more generally, the focus on the risk of violent conflict reflects the security interests of those Western countries that are both militarily powerful and least vulnerable to environmental change ([Barnett 2001](#); [Dalby 2002](#)). However, the most pressing security risks posed by climate change do not concern

violent outcomes but the human insecurity associated with the risk of lost livelihoods, homes, health and life itself. The 2007 report from the IPCC describes a wide range of likely climate impacts that will undermine human security, including an increase in drought-affected areas, affecting, for example, up to 250 million people in Africa; decreasing flows in rivers that supply water to millions in Latin America and a billion people in Asia; declining crop productivity in low latitudes, including a 50% decline in yields in some parts of Africa and 30% decline in yields in some parts of Central and South Asia; millions of people exposed to flooding in the densely populated and economically productive mega deltas of Asia; increases in malnutrition in low-income societies; increased deaths, diseases and injuries associated with extreme events such as droughts, floods, heatwaves, fires and storms; decreasing yields of fish from most of the world's freshwater and coastal fisheries; loss of lands and homes and possibly islands in many of the small island states in the South Pacific, Caribbean, Indian and Atlantic oceans (IPCC 2007c).

The solutions to these problems rest in two broad strategies. The first is to reduce emissions of greenhouse gases to stabilise concentrations of gases in the atmosphere such that dangerous outcomes are avoided. This is called 'mitigation' in climate policy. The second is actions to enable people, places and systems to avoid or adjust to the adverse effects of climate change. This is called adaptation in climate policy. Because of existing concentrations of greenhouse gases in the atmosphere some degree of climate change is now inevitable, and so some degree of adaptation needs to take place to avoid damaging outcomes on the people, places and sectors most at risk. The two strategies are both called for in the UNFCCC and the Kyoto Protocol.

#### *4 The Climate Regime*

In 1988, the first major international meeting of scientists and national policymakers on climate change was held in Toronto. Between 1988 and 1991, there was much activity on the issue, including the establishment of the IPCC. By early 1991, formal negotiations for an international treaty on climate change were underway, and these negotiations culminated in the UNFCCC, which was signed by 154 countries and the European Community at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro (Elliott 1998; Paterson 1996).

The ultimate objective of the UNFCCC is 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system' (Article 2). The UNFCCC did not itself set legally binding emissions targets on countries, although at the time of signing 23 developed countries had committed to emissions reductions targets ranging from stabilisation to 25% below 1990 levels by between 2000 and 2005 (Paterson 1996, 40–42). The UNFCCC came into force in 1994, and it has now been ratified by 184 countries.

At the third Conference of Parties (COP-3) to the UNFCCC in 1997 the Kyoto Protocol was adopted. The Kyoto Protocol sets legally binding targets for greenhouse gas emissions reductions or limitations on 39 developed and 'economies-in-transition' countries listed in its Annex B (called 'Annex B' countries), to be achieved in the first commitment period 2008–2012. The consensus of parties to UNFCCC was that the Annex B countries should be the first to take on emissions reductions targets on the basis that they are responsible for most of the historical and current emissions of gases, are more able to reduce emissions, and because non-Annex B countries still have low per capita emissions. The Kyoto Protocol entered into force 90 days after the 55th Party to the Convention, including Parties accounting for 55% of all emissions from Annex B countries in 1990, ratified it. The USA and Australia are the only two Annex B countries that have rejected the treaty. Given that the USA accounted for 36% of Annex B emissions and refused to ratify it, the Protocol could only come into force after Russia (17% of Annex B emissions) ratified it in November 2004.

Thus, far 156 countries have signed and ratified the Kyoto Protocol, including all but 4 of the 36 industrialised and economies in transition countries listed in Annex I of the UNFCCC (Annex I to the UNFCCC and Annex B to the Kyoto Protocol include nearly but not all the same countries). It is a significant first step towards the reduction of greenhouse gas emissions to slow the rate of climate change in that it has formalised a process aimed to reduce emissions. However, the reductions it will achieve by 2012 will do almost nothing to slow the rate of climate change given that a 75% reduction below current levels of emissions is arguably necessary to avoid 'dangerous' climate change ([Stern 2007](#)).

The politics involved in the UNFCCC and the Kyoto Protocol has largely concerned the issue of reducing emissions of greenhouse gases. However, since COP-8 in 2002 negotiations on the ways and means of implementing adaptation have become more intense. There is now a Least Developed Country (LDC) Fund that is beginning to assist the LDCs to plan adaptation activities, a Special Climate Change Fund that can also potentially assist countries in adaptation, and there exists in principle if not yet in practice an Adaptation Fund that is intended to finance adaptation projects in the most vulnerable countries.

There are no clear rules about how decisions are to be made under the UNFCCC. Decisions are theoretically not possible without the consent of all Parties. This means that objections to a decision are frequently vetoes. This potentially gives a lot of power to dissenting Parties. However, there are examples where the objections of small groups have been overridden in final agreements ([Oberthür and Ott 1999](#)). Yet, it remains unclear how many objections make for a veto, and much seems to depend on which Party is making the objection. Parties such as the EU and the USA, which are influential because of the scale of their emissions, the size and

capacities of their delegations, and their influence in other arenas of global politics, tend to have considerably more power in negotiations than other countries.

One implication of the near-veto power of any Party, and the de facto power of powerful Parties, is that coalition building is essential for reaching decisions in climate negotiations. The community of climate negotiators is relatively small, and negotiators have become well known to each other through long and intense meetings over the years. Relations among these negotiators are cordial outside of negotiation sessions, and this familiarity is an important reason why climate change negotiations progress. Villagrasa (2002) argues with a good reason that women have played a key role in coalition building in the climate negotiations in ways that defy the rule of 'might'. This gendered perspective on the micro-politics of the climate regime stands in stark contrast to the majority of economic analysis of outcomes, which assumes instead that all outcomes are the product of rational calculations in the national interest. Indeed, much of the analysis of global environmental governance remains trapped in such rational actor theories of environmental regimes. These theories struggle to explain the determinants of the outcomes of the environmental agreements they study, and they do not provide a way to understand the more complex and pluralistic institutions that comprise the larger milieu of global environmental governance ([Conca 2006](#)).

### *5 The Geopolitics of Climate Governance*

The positions of various countries in the climate regime are nevertheless largely the product of a 'two-level game' in which national leaders seek to maximise the domestic political benefits of action or inaction on the basis of their reading of domestic interests, and seek to minimise the negative effects of international factors on this domestic game ([Paterson 1996](#); [Putnam 1988](#)). This interlocking internal-external dynamic is important to understand in the case of a given country's position on climate change. For example, most Europeans are supportive of action to address climate change and there is a reinforcing cycle of information through the public, government, media and many industry groups that makes a proactive international position on climate change domestically acceptable. In the USA and Australia, in contrast, media scepticism on climate change's causes, consequences and solutions has been high, and the opposition of fossil fuel and heavy industry groups to the Kyoto Protocol has been strong and influential ([Newell 2000](#)).

The geopolitics of the UNFCCC cannot be explained merely as a matter of the differences between the 'North' and the 'South'. There are vast differences in the positions of countries within both groups. For example, the collective position of the Alliance of Small Island States (AOSIS) group, which is comprised of 44 of the world's small island states, has



more in common with that of the collective position of the EU (27 member countries) than it does with the collective position of the 11 Organisation of Petroleum Exporting Countries (OPEC), and within the North there are large differences between the EU and the USA – so much so that the EU has been described as a ‘protagonist’ to the USA on the issue ([Vogler and Bretherton 2006](#)).

The main actors in the climate regime discussed in the remainder of this article are the EU, the USA, the G77 and China (actually comprised of 130 countries), its subgroups of OPEC, the AOSIS, business groups and NGOs. Other kinds of actors have also been influential in the climate regime, and these notably include the LDC group (50 countries within the G77), United Nations agencies, research institutions and the IPCC. Much has been written about the reasons for the positions of these various countries and groups, the strategies they use, and their influence in the regime (e.g. [Bang et al. 2005](#); [Grubb et al. 1999](#); [Gupta 1997](#); [Newell 2000](#); [Oberthür and Ott 1999](#); [Paterson 1996](#)).

The EU is most often characterised as a leader in climate politics because of its early and consistent advocacy for reducing greenhouse gas emissions. Four reasons are offered for this: European electorates, businesses, scientists and the media are for the most part supportive of emissions control; the costs of reducing emissions in Europe are lower than in most other developed countries, in part because under the Kyoto Protocol EU countries are allowed to pool their emissions and then reallocate them; the EU has recognised the value of the new markets for clean energy technologies; and the costs of inaction on climate change may be high in some sectors (such as alpine tourism), places (such as the Netherlands) and ecological processes (such as the North Atlantic current that helps keep Europe temperate) ([Grubb et al. 1999](#); [Hovi et al. 2003](#); [IPCC 2007c](#); [Newell 2000](#)). Europe’s leadership on climate change has become stronger because the USA stated its intention to not ratify the Kyoto Protocol in 2001. This created an opportunity for Europe to pursue its ambitions towards global leadership, and such leadership was necessary given that the USA had near-veto power over the Protocol ([Bang et al. 2005](#); [Vogler and Bretherton 2006](#)). Most analysts argue that the future of the climate change regime rests with Europe, and that countries are unlikely to make further or new commitments to reduce emissions if the EU countries cannot meet their existing Kyoto targets.

The position of the USA on climate change has varied over time; however, two constants have been its opposition to limits on emissions from the USA without imposing similar limits on major developing countries, and a strong preference for flexible and market approaches to emissions reductions. This position stems from a belief that the costs of implementing the Kyoto targets would be relatively greater in the USA than in Europe and other Annex B countries, the strong lobbying by oil- and energy-intensive companies on policymakers, and their funding and heavy public

promotion of studies that question the need to act to reduce emissions. The financial and political power of these companies has limited the influence of researchers and environmental NGOs on public opinion and policy in the USA.

Since the late 1990s, alternative voices have begun to lobby in Washington and to influence public opinion on climate change. Many companies, some states and numerous cities have announced emissions reductions targets, and faith-based groups and a larger number of NGOs have become increasingly active in lobbying and raising awareness of climate change. There is also a confluence of interest in renewable energy technologies between those seeking solutions to climate change and those seeking solutions to problems arising from dependence on imports of fossil fuels for reasons of energy and national security (Busby 2006). For these reasons, climate change and energy are increasingly significant issues in the USA, and their significance in the Democratic victory in the 2006 Congressional Elections suggests that presidential and congressional opposition to binding emissions reductions targets may be politically untenable in the future.

In the lead-up to the Kyoto Protocol, the G77-China group adopted the position that the developed countries should be the only countries to commit to emissions targets in the first instance. Although developing countries were not asked to accept binding emissions targets under the Kyoto Protocol, in other respects they remain dissatisfied with the agreement, feeling that the equity-based principles that should have informed the allocation of emissions targets were abandoned in favour of what was effectively 'global horse trading' on targets (Najam et al. 2003, 224). Their demands for commitments from developed countries for the development of clean energy and for assistance for adaptation have since been marginalised by the focus of efforts to bring the Kyoto Protocol into force. They also maintain deep concerns about the three adaptation funds, believing that they are underfunded, and lacking confidence in the Global Environmental Facility's management of the Special Climate Change Fund and the LDC Fund. The strong desire to maintain unity within the G77-China group means that the interests of many countries get watered down, ignored or overridden. For example, the OPEC group opposes emissions reductions, while the AOSIS group depends on them for their survival, yet OPEC has far more influence in the position of G77 in climate negotiations.

Developing countries are still very coy about accepting emissions targets, although there is increasing pressure for the large emitters – in particular China and India – to commit to targets under a successor agreement to the Kyoto Protocol. Both countries continue to accede to the common position of G77, and neither countries are particularly willing to talk about future commitments. However, both may gain from international assistance to help them reduce emissions as this can have significant co-benefits in terms of reducing energy costs through improved efficiency, and decreasing the costs of air pollution, which the World Bank (1997) estimates costs

China 7% of gross domestic product ([Boudria et al. 2002](#)). Both countries are concerned about the impacts of climate change, particularly on their rapidly developing coastal regions, both have adopted targets for the share of electricity to be generated by renewable sources (10% in India, 20% in China), and both have imposed stringent emissions standards on imported vehicles. Indian NGOs have been prominent in the climate negotiations, and research from India and China on climate change has been influential in understanding the impacts of climate change in those countries. There have been in recent years some signs that China is slightly more willing to talk about emissions targets, probably because of the co-benefits of clean energy technologies, and possibly as a means to distinguish itself from the USA in world affairs. Should China accept an emissions target under a post-Kyoto agreement this would significantly enhance the environmental effectiveness of the agreement, increase the pressure on the USA to join, and demonstrate to other developing countries that constraining emissions need not constrain growth.

China and India, along with the USA, Japan, Australia and South Korea, have formed a new multilateral initiative that seeks reductions in greenhouse gas emissions. Officially announced in July 2005, the Asia-Pacific Partnership on Clean Development and Climate (AP6) seeks 'to develop, deploy and transfer cleaner, more efficient technologies and to meet national pollution reduction, energy security and climate change concerns, consistent with the principles of the UNFCCC.' The group accounts for over 40% of global greenhouse gas emissions, close to half of world production, and 45% of the world's population. The AP6 does not set binding emission reduction targets as the Kyoto Protocol does, it includes some technologies that are much opposed in the United Nations climate regime such as carbon capture and storage, and civilian nuclear power, and it is poorly funded. It seems to most observers of climate geopolitics to be an attempt by Australia and the USA to create an alternative climate regime that competes with the UNFCCC for legitimacy, and as such it has not been well received by countries outside of the partnership.

The OPEC group are the most vociferously opposed to efforts to reduce greenhouse gas emissions. Its members are to varying degrees dependent on the sale of oil for revenue, and because oil consumption is responsible for a quarter of greenhouse gas emissions efforts to reduce emissions may reduce oil export revenues. OPEC have used the power of objection in the UNFCCC process frequently and largely effectively, including to delay progress on the implementation of funding for adaptation, which they have opposed until there is a parallel process to compensate them for potential losses in oil revenue ([Barnett et al. 2004](#)). Their frequent objections and obstruction in the UNFCCC process have alienated them from most other countries on the issue of climate change, although they still receive tacit support from the larger G77-China group because they are very influential within that group (since 1988, five of the ten presidents of the G77 came

from OPEC member countries). On the basis of available evidence OPEC has nothing to fear from the Kyoto Protocol – as even their own modelling shows ([Barnett et al. 2004](#)). The group is heavily influenced by Saudi Arabia, and Saudi Arabia appears to be heavily influenced by the same oil companies that effectively lobby the US government.

The interests of the AOSIS group are diametrically opposed to those of OPEC. The AOSIS countries are all highly vulnerable to the impacts of climate change. As such, they seek strong emission-reduction commitments and assistance for adaptation to the adverse effects of climate change. AOSIS has been influential in climate negotiations in part because it commands roughly 20% of votes in the United Nations System, and in part because it has exercised strong moral pressure on countries ([Shibuya 1996](#)). It can claim some success in the ultimate form of the Kyoto Protocol as its call for a 20% reduction in emissions set a moral standard that helped prevent a weaker Protocol from emerging.

In the early days of climate negotiations, oil- and energy-intensive businesses opposed to reductions dominated the 'business' lobby in climate negotiations, and these companies continue to influence the policies of the USA and oil-exporting countries ([Newell 2000](#)). However, in more recent times, some large energy companies such as BP, and numerous local energy providers have embraced the potential for renewable energy sources and do not oppose, or are encouraging, measures to reduce greenhouse emissions from energy sources. The rising costs of insuring against hydro-climatic disasters has seen insurance companies from around the world engage in lobbying, awareness-raising, coalition building for environmental NGOs, and the development of standards, tools and instruments for responding to climate change ([Jagers and Strippel 2003](#)). They offer a 'business case' for strong action to reduce emissions that contrasts markedly with that of the oil companies. The insurance industry has been influential in EU climate policy, but less so in the USA and the developing world.

Environmental NGOs have and continue to play an important role in the development of the UNFCCC and the Kyoto Protocol. In the lead-up to Rio, they were actively involved in highlighting the need for a climate change convention, and they had some influence in the development of the convention itself. They have maintained a watching brief on the negotiations ever since, publicly criticising those they perceive as acting in bad faith, and identifying existing and potential problems with policies and measures proposed in the convention. Where states are favourable to influence from NGOs they have had some influence on policy. However, where states are unfavourable – as in the USA – the efficacy of NGOs is marginal ([Newell 2000](#)). The value of NGOs is in their ability to set norms that guide the regime, the way they maintain pressure for change and expose those that resist change, and their ability to connect the domestic and international politics that inform state action ([Newell 2000](#)).

While they do not have voting or veto power within the UNFCCC, they nevertheless do have power, and they offer an alternative site of climate governance that challenges the assumed hegemony of states in climate geopolitics.

## 6 Conclusions

This article has described the geopolitics of climate change as it can be inferred from the existing body of research and policy, which is heavily constrained by the 'territorial trap' of imagining the world as a series of rational and spatially and politically distinct states ([Agnew 1994](#)). Yet, states are never so disembodied: they are neither politically nor spatially distinct, nor are their actions rarely as rational as theories of international politics would like them to be. There is a danger that focussing on states reinforces their authority in climate change policy by deflecting attention away from other important loci of action.

States are allowed to be climate hegemonies because most of the world's wealthiest companies and people are waiting for them to take the lead in steps to reduce emissions because they are responsible for the policy frameworks that facilitate or constrain emissions. But it need not be states that act first, they cannot act alone, and they may not act at all without the requisite internal conditions to justify if not force them to act. For example, the corporations most responsible for emissions from the private sector – the makers of cars and metals for example – are wealthy corporations with headquarters in wealthy countries, for whom action to reduce emissions from their own operations or from the use of their products may not be costly. People can be empowered actors through conscious choices about the way they live their lives.

The widely held view that a country's position on climate change is fundamentally shaped by the 'facts' of the economic outcomes of climate policies is also simplistic ([Paterson 1996](#)). States are allowed to be climate hegemonies because their electorates do not compel them to act, and individuals, civil society groups such as faith-based groups and NGOs, subnational political communities such as local governments and cities, and private sector groups all have the power to determine the future of climate politics and policy domestically and internationally. These people and institutions also, of course, have the power to reduce emissions through their own action so that they, like the states in which they reside, have both political and carbon power.

It is the most wealthy people in the most wealthy countries that have the most power to change the political and economic systems that sustain the problem of climate change. This more subaltern and class-based view of climate geopolitics is hidden by the popular geopolitical imaginary of climate change as a 'global' and environmental problem to be addressed by the community states. The task for a more empowering and critical geopolitics

of climate change is therefore to reveal the ways in which climate change is a local and social problem that cannot be solved without the conscious exercise of political and economic choices of people in developed countries.

### Short Biography

Jon Barnett is an Australian Research Council Fellow in the Geography program at the University of Melbourne. He obtained his PhD in Resource Management and Environmental Science at the Australian National University. Jon is a human geographer whose research concerns the impacts of environmental change on social systems. This includes research on environmental security, climate change and water. His research draws on and contributes to a range of disciplines, including geography, international relations, development studies and environmental studies. In recent years, he has conducted fieldwork in the South Pacific, China and East Timor. He is the author of *The Meaning of Environmental Security* and over 45 peer-reviewed articles and chapters. Jon is a member of the Scientific Steering Committee of the Global Environmental Change and Human Security Project.

### Note

\* Correspondence address: Jon Barnett, University of Melbourne, 221 Bouverie Street, Parkville, Victoria 3010, Australia. E-mail: [jbarn@unimelb.edu.au](mailto:jbarn@unimelb.edu.au).

### References

- Adger, N., et al. (eds) (2006). *Fairness in adaptation to climate change*. Cambridge, MA: MIT Press.
- Agnew, J. (1994). The territorial trap: the geographical assumptions of international relations theory. *Review of International Political Economy* 1 (1), pp. 53–80.
- Baer, P. (2006). Adaptation: who pays whom? In: Adger, N., et al. (eds) *Fairness in adaptation to climate change*. Cambridge, MA: MIT Press, pp. 131–154.
- Bang, G., Heggelund, G., and Vevatne, J. (2005). *Shifting strategies in the climate negotiations*. FNI Report 6/2005. Lysaker, Norway: The Fridtjof Nansen Institute.
- Barnett, J. (2001). *The meaning of environmental security*. London: Zed Books.
- . (2003). Security and climate change. *Global Environmental Change* 13 (1), pp. 7–17.
- Barnett, J., and Adger, N. (2007). Climate change, human security and violent conflict. *Political Geography* 26 (6): 639–655.
- Barnett, J., Dessai, S., and Webber, M. (2004). Will OPEC lose from the Kyoto Protocol? *Energy Policy* 32 (18), pp. 2077–2088.
- Baumert, K., and Kete, N. (2001). *United States, developing countries, and climate protection: leadership or stalemate?* Washington, DC: World Resources Institute.
- Boudria, J., et al. (2002). The potential contribution of renewable energy in air pollution abatement in China and India. *Energy Policy* 30 (5), pp. 409–424.
- Brauch, H. (2002). Climate change, environmental stress and conflict. In: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (eds) *Climate change and conflict. Can climate change impacts increase conflict potentials? What is the relevance of this issue for the international process on climate change?* Berlin, Germany: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, pp. 9–112.

- Busby, J. (2006). Climate change and collective action: troubles in the transition to a post-oil economy. *St. Antony's International Review* 2 (1), pp. 35–55.
- Conca, K. (2006). *Governing water: contentious transnational politics and global institution building*. Cambridge, MA: MIT Press.
- Dalby, S. (2002). *Environmental security*. Minneapolis, MN: University of Minnesota Press.
- Dupont, A., and Pearman, G. (2006). *Heating up the planet: climate change and security*. Lowy Institute Paper 12. Double Bay, NSW: The Lowy Institute.
- Elliott, L. (1998). *The global politics of the environment*. London: Macmillan.
- Gleditsch, N. (1998). Armed conflict and the environment: a critique of the literature. *Journal of Peace Research* 35 (3), pp. 381–400.
- Grubb, M., Vrolijk, C., and Brack, D. (1999). *The Kyoto protocol: a guide and assessment*. London: Royal Institute of International Affairs and Earthscan.
- Gupta, J. (1997). *The climate change convention and developing countries: from conflict to consensus?* Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Hartmann, B. (2001). Will the circle be unbroken? A critique of the project on environment, population, and security. In: Peluso, N. and Watts, M. (eds) *Violent environments*. London: Cornell University Press, pp. 39–62.
- Homer-Dixon, T. (1999). *Environmental scarcity and violence*. Princeton, NJ: Princeton University Press.
- Hovi, J., Skodvin, T., and Andresen, S. (2003). The persistence of the Kyoto Protocol: why other annex I countries move on without the United States. *Global Environmental Politics* 3 (4), pp. 1–23.
- Intergovernmental Panel on Climate Change (IPCC). (2007a). *Climate change 2007: the physical science basis: summary for policymakers*. Geneva, Switzerland: IPCC Secretariat.
- . (2007b). *Climate change 2007: synthesis report*. Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva, Switzerland: IPCC Secretariat.
- . (2007c). *Climate change 2007: climate change impacts, adaptation and vulnerability: summary for policymakers*. Geneva, Switzerland: IPCC Secretariat.
- Jagers, S., and Strippel, J. (2003). Climate governance beyond the state. *Global Governance* 9 (3), pp. 385–399.
- Leichenko, R., and O'Brien, K. (2008). *Double exposure: global environmental change in an era of globalization*. New York: Oxford University Press.
- Marland, G., Boden, T., and Andres, J. (2003). Global, regional, and national CO<sub>2</sub> emissions. In: Carbon Dioxide Information Analysis Center (ed.) *Trends online: a compendium of data on global change*. Oak Ridge, TN: Oak Ridge National Laboratory, accessed at [http://cdiac.ornl.gov/trends/emis/em\\_cont.htm](http://cdiac.ornl.gov/trends/emis/em_cont.htm) (last accessed 11 October 2007).
- McNeil, J. (2003). Environmental change and security. In: Brown, M. (ed.) *Grave new world: security challenges in the 21st century*. Washington, DC: Georgetown University Press, pp. 178–196.
- Myers, N. (1997). Environmental refugees. *Population and Environment* 19 (2), pp. 167–182.
- Najam, A., Huq, S., and Sokona, Y. (2003). Climate negotiations beyond Kyoto: developing countries concerns and interests. *Climate Policy* 3 (3), pp. 221–231.
- Newell, P. (2000). *Climate for change: non-state actors and the global politics of the greenhouse*. Cambridge, UK: Cambridge University Press.
- Nordås, R., and Gleditsch, N. (2007). Climate conflict. *Political Geography* 26 (6): 627–638.
- Oberthür, S., and Ott, H. (1999). *The Kyoto Protocol: international climate policy for the 21st century*. Berlin, Germany: Springer.
- Paterson, M. (1996). *Global warming and global politics*. London: Routledge.
- Putnam, R. (1988). Diplomacy and domestic politics: the logic of two-level games. *International Organization* 42 (3), pp. 427–460.
- Salehyan, I. (2005). *Refugees, climate change, and instability*. Paper presented at the international workshop on Human Security and Climate Change, Oslo 21–23 June. Oslo: GECHS and CICERO. [online]. Retrieved on April 8 2007 from <http://www.cicero.uio.no/humsec/papers/Salehyan.pdf>
- Schwartz, P., and Randall, D. (2003). *An abrupt climate change scenario and its implications for United*

- States national security*. San Francisco: Global Business Network. [online]. Retrieved on April 8 2007 from <http://www.gbn.com/ArticleDisplayServlet.srv?aid=26231>
- Shibuya, E. (1996). Roaring mice against the tide: the South Pacific islands and agenda-building on global warming. *Pacific Affairs* 69 (4), pp. 541–555.
- Stern, N. (2007). *The economics of climate change: the Stern review*. Cambridge, UK: Cambridge University Press.
- United Nations Environment Program (UNEP). (2002). *Global environmental outlook 3*. London: Earthscan.
- van Ireland, E., et al. (1996). *Climate change: socio-economic impacts and violent conflict*. Report No. 410 200 006. Wageningen, The Netherlands: Dutch National Research Programme on Global Air Pollution and Climate Change.
- Villagrasa, D. (2002). Kyoto Protocol negotiations: reflections on the role of women. *Gender and Development* 10 (2), pp. 40–44.
- Vogler, J., and Bretherton, C. (2006). The European Union as a protagonist to the United States on climate change. *International Studies Perspectives* 7 (1), pp. 1–22.
- World Bank. (1997). *Clear water, blue skies: China's environment in the new century*. Washington, DC: World Bank.
- . (2007). *The little green data book 2007*. Washington, DC: World Bank.