Both Ronald Brunner’s and Paul Edwards’ arguments about the policy role of comprehensive modeling (Climatic Change, 32(2), February 1996) were very useful in spelling out, hence encouraging reflection about, the different possible routes the global environmental change science-policy trajectory might take, and the different scientific, social, political and value commitments thereby supported. Edwards is surely correct in his response to Brunner to distinguish between the instrumental and symbolic use of climate models, though this addressed only part of the argument. I also read Brunner’s critique as claiming that comprehensive models are not only irrelevant to policy, but potentially worse than irrelevant, especially through: their inability to be genuinely comprehensive from a policy perspective, whilst being interpreted by policy makers as such (whether they are defined as predictors or heuristics); their limited representations of uncertainty; the relative lack of development of new sorts of mediation between global change science and policy by an over-emphasis on comprehensive models; and the suppression of policy actions and choices in the present (including institution-building) in favor of more natural science research (cf. Boehmer-Christiansen, 1994, 1995).

The rationale for the latter is that as models become increasingly complex scientific certainty will increase, enhancing the possibility for political consensus, and the effectiveness of policy actions. This embraces three critical and contestable assumptions: that complexity is the route to greater realism, that realism will generate greater certainty, and that scientific certainty is indeed the way to secure political consensus and action. There is now good reason to believe that environmental policy will usually be underdetermined with respect to its scientific rationale (Wynne, 1992; Oreskes et al., 1994); the issue is therefore not whether, but which set of social and political rationale are desirable in developing climate-change policies. These include arguments for economic efficiency, social development and equality, improving the resilience of socio-ecological systems to social and natural change more generally, and so on; such possible reasons have not been subject to much genuine public discussion, however, but rather advocated top-down by technical and administrative specialists and environmental advocates.

Edwards’ exposition of the positive features of the current epistemic community around climate change is important, though that community’s dominant representations in the public domain as global and largely techno-scientific seem to me to raise questions about its longer-term effectiveness. Whilst that community may
indeed have succeeded in establishing anthropogenic climate change as a priority research and policy issue, they may have done so at the cost of shaping future agendas for research and policy (though not irrevocably) in a way which presupposes the legitimacy and effectiveness of a natural-science based paradigm, dominated by industrial countries, for understanding and responding to the problem. A range of questions are raised by this analysis, of which two will be mentioned here.

Firstly, the natural-science framing positions the epistemic community far from the lived social realities, concerns, preoccupations and everyday practices of most citizens. For example, research on public perceptions of sustainability using focus groups in Lancashire, in the north-west of England, has shown that global warming is not an issue which people tend to identify with, or feel much power to alter. Technical and scientific definitions and sources of information and ‘solutions’ are regarded as rather alien, and identified with dominant social institutions in which little trust is invested. Current levels of disaffection from formal politics is thus an important variable in gauging public identification and support for global warming initiatives. Hence, the UK government’s suggested actions to reduce greenhouse gas emissions – such as improving insulation, driving more slowly, not filling kettles to the brim, and so on – had very little appeal to those members of the public consulted in these focus groups. This was not because these people were ‘anti-environment’ but rather that their past experience with those same authorities led them to doubt their ability to effect positive and desirable change. In particular, the tendency to want to reflect responsibility back on to the individual citizen, coupled with the public’s felt lack of agency, raised the question in people’s minds of whether government was taking environmental issues seriously.

By contrast, ‘environmental’ issues of concern for such lay members of the public are frequently embedded in locally-lived social and ecological realities – the attitude of authorities to complaints about left refuse, dog dirt on the sidewalks, crime and the police, the incidence of asthma in children, and so on (Macnaghten et al., 1995). More important than technical or scientific accounts, at least in terms of how lay members of the public perceive and respond to environmental information, are peoples’ relations with institutions, especially as regards issues of trust and dependency, and their sense of agency to change or have influence, or at least to be listened to and taken seriously. Although it is dangerous to extrapolate these findings, there is at least some conforming evidence from elsewhere in the UK and other countries that a huge gulf exists between global modelers and their various supposed audiences – policy makers in the public and private sectors, and even more strikingly between policy authorities and the public. Of course the problem is not the existence of a gulf between scientists, policy specialists and the public – that is inevitable – but rather the lack of development of constructive interfaces or interactive bridging devices between these different social groups which would allow mutual learning to occur. Implicit framings by epistemic communities do therefore matter given that they come to inform government responses and the formulation of public policy, and also given that any effective policy on climate