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Public Perceptions of Equity in Environmental Policy: Traffic Emissions Policy in an English Urban Area

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ABSTRACT A promising new pathway for research on environmental justice is understanding public perceptions of justice or equity around a range of issues. Here we focus on policies intended to reduce air pollution from road traffic. We ask different urban communities, distinguished by the quality of local air and by socio-economic status, to judge the equitability of policies intended to reduce traffic emissions, both in terms of the environmental benefits of the policies and allocating the financial burden of paying for improvements. In the latter case, we are interested not only in the popular principles of equity that emerge, but also in whether a trade-off might exist between such principles of equity and the overall effectiveness and cost of the policy.

Introduction

Recently, academics and practitioners have begun to embrace the full thematic potential of environmental justice (see Agyeman *et al.*, 2001; ESRC Global Environmental Change Programme, 2001). A promising new pathway for scholarship is understanding public perceptions of environmental justice or equity in a range of contexts. In other words, what does the public judge to be a just, equitable or 'fair' distribution of environmental goods, bads and the financial burdens of policy? In this research, we focus on

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policies intended to reduce traffic emissions in an English urban area and ask a sample of urban communities to judge the equitability of these policies.

Air pollution from road traffic is an equity problem in several respects. Firstly, air quality is unevenly distributed and a significant body of empirical research has tested whether air is systematically more polluted in deprived communities (Cutter, 1995; Bowen, 2002; and Pearce, 2003, review the many studies). Although the evidence is equivocal, the balance generally points to higher levels of pollution in lower income areas and/or in areas with a larger than average ethnic minority population (see Bae, 1997; Stevenson *et al.*, 1998; McLeod *et al.*, 2000; Kahn, 2001; Brainard *et al.*, 2002). Even if this is not always the case, the fact that some enjoy cleaner air than others is significant. Secondly, vulnerability to the adverse health effects of air pollution is also unevenly distributed, with the very young, very old and those with existing respiratory problems particularly at risk. Thirdly, responsibility for traffic emissions is unevenly distributed and may in some cases compound the above inequities. For example, Mitchell and Dorling (2003) found an inverse relationship between car ownership and ambient air pollution levels, such that non-drivers experienced higher levels of pollution. Again, even if this is not an empirical regularity, the fact that both cause (i.e., motorists) and effect (i.e., exposure to traffic-related air pollution) exist contemporaneously is important.

In this paper, we investigate whether traffic emissions policies are perceived to be equitable by the communities affected. We restrict this to a two-part problem. On the one hand, there is the distribution of environmental benefits arising from such a policy—i.e., who enjoys cleaner air? This is an environmental equity issue. On the other hand, there is the allocation of the financial costs of the policy, which necessarily have to fall on specific agents in the economy, such as private motorists, businesses and households. This is an economic equity issue. It is likely that public perceptions are, at least in part, a function of the distribution of benefits and costs resulting from a policy intervention and are hence a mixture of environmental and economic equity preoccupations.[1] Theoretical expectations are developed in the second section. The third section introduces the case study area for the research and discusses methodology, whilst the fourth section presents our results, followed by a discussion.

Towards a Theory of Public Perceptions of Equity

The distribution of benefits and costs that results from a policy intervention is likely to shape public perceptions of that policy. We suggest *a priori* that personal judgements of equity are based, in part, on whether those believed to be entitled to justice 'win' or 'lose' from an intervention. Winning may be defined as receiving a positive balance of environmental benefits over economic costs and losing implies the inverse. We imagine that people draw up 'communities of justice' (Dobson, 1998), whereby they must decide who is entitled to receive justice as part of a policy change. A community of justice is drawn around those in society entitled to receive net benefits,

while those who are not entitled to justice are either consciously or unconsciously excluded. Consider the example of a charge on vehicle journeys within an area suffering severe air pollution. Local residents living in the polluted area may well construct a community of justice around themselves and their neighbours. On the other hand, if the same residents are frequent car users and must pay the charge, then they may construct a community of justice around motorists instead or as well. Clearly, the cognitive computation of net benefits depends to a large extent on how environmental benefits are perceived relative to economic costs that are often more tangible.

Assessments of personal gains and losses should be important here, in which case perceptions of equity are, to a greater or lesser extent, a reflection of self-interest. The balance of personal benefits and costs may also be projected to wider stakeholder groups, whereby the implication is that people draw a community of justice around those with similar vested interests. Whether such communities of justice are drawn on the basis of genuine concern or simply as an argumentative device is moot, but the basic connection between self-interest and perceptions of equity would still hold. It should also be the case that people consider whether others win or lose, independently of their own situation. These communities of justice may be based on a variety of principles, but it is reasonable to assume that the relationships one forges with those closest are most important (Wenz, 1988). Obvious examples would be friends, family and neighbours. That said, people may also hold broader ethical preferences, based on a particular social/cultural worldview, that transcend personal ties and associations.

However, we anticipate that factors other than the distribution of benefits and costs matter in shaping perceptions of equity. One may be the perceived pattern of ownership—i.e., of property rights. Consider again the case of a vehicle charge. Property rights could play a role insofar as some believe motorists have a prior 'right' to drive their cars and that any form of policy intervention imposing costs on motorists is unjustified. For example, some objections to the Central London Congestion Charging Scheme (see below) tendered during the consultation phase were based on the *principle* of charging motorists for using central London roads (Transport for London, 2002). In this case, property rights are awarded to the motorist and the policy is characterised as an infringement of civil liberties. In contrast, according to the polluter-pays principle (PPP) that occupies a central role in contemporary environmental policy, property rights are assigned to the victims of pollution (see Tobey & Smets, 1996).

Communities of justice, as well as the implicit allocation of property rights, may also 'translate' into how people would assign the burden of paying for improved air quality. That is, does taking a particular (stated) point of view translate straightforwardly into practical rules of thumb for assessing whether policy proposals are equitable? It seems reasonable to claim that, amongst competing burden-sharing rules, the PPP has been pre-eminent. However, few would agree that the PPP should be pursued at all costs (Bromley, 1997; Atkinson *et al.*, 2000). What if the polluter is particularly poor? This might be the case in the current context if, for instance, the

poor drive older cars that produce higher emissions. Hence, burdens might also be allocated according to ability to pay. Other principles that could guide the allocation of policy burdens include the beneficiary-pays principle or BPP, which requires that those benefiting from a policy contribute something towards its costs. In turn, there is the question of how any burden-sharing criterion is reconciled with other policy objectives, including maximising the overall environmental effectiveness of the policy and minimising its costs (together maximising efficiency). For example, we might expect those most concerned about air pollution (e.g., perhaps those with existing respiratory problems) to prefer effective policies, somewhat regardless of who pays and what it costs.

Case Study Area and Methodology

The research was undertaken between March and July 2004 in an English urban area: the London Borough of Southwark. Southwark, an inner London borough, has a diverse environmental and socio-economic geography. Historically, one could roughly divide the borough into an industrial, working class north and a residential, middle class south. This remains true up to a point today, as the northern two thirds of the borough are significantly deprived, while the southern third is not. Traffic is highest in the north of the borough, which is functionally part of central London. Air quality follows the pattern of traffic volumes, being poorest in the north of the borough and best in the south (Southwark Council, 2002). Thus, without investigating the issue with any scientific rigour, there is an apparent link between air pollution and deprivation in Southwark. However, the socio-economic landscape is more complicated than first meets the eye. North Southwark has been undergoing a process of (re)development for some years now and affluent, professional Londoners have been arriving in the area since around the early 1980s. From the point of view of environmental equity, the result is often a relatively affluent community living with poor ambient air quality. Equally, local/regional government built some very large social housing estates in the south of the borough after World War Two on land purchased compulsorily from local landowners. Thus certain deprived communities in south Southwark enjoy relatively clean air.

For the purposes of this paper, we present the results of eight focus groups undertaken in four distinctive neighbourhoods that reflect the interaction of ambient environmental quality with socio-economic status (SES).[2] The discussion thus far has suggested that this interaction is important and we will test whether it has an effect on perceptions of equity. The neighbourhoods, selected using a combination of 2001 UK Census data at a fine level of spatial detail and local authority air quality monitoring data (in respect of NO_2), were:

- Metro Central Heights: high SES, high air pollution.
- Dulwich Village: high SES, low air pollution.
- Bricklayers Arms: low SES, high air pollution.
- Kingswood: low SES, low air pollution.

In each community, two focus groups were held comprising ideally between six and eight participants and lasting 90 minutes (in practice, the size of groups varied from four to eight). Table 1 summarises the characteristics of each group. As far as possible, the same participants were encouraged to attend both groups, so that perceptions could be discussed in-depth (Burgess *et al.*, 1988a, b; Macnaghten *et al.*, 1995; Walker *et al.*, 1998; Burningham & Thrush, 2003). Participants were recruited through a 'snowballing' process beginning with local tenants and residents associations. A range of semi-structured questions were posed that sought to trace participant views through from concern about air pollution to policy preferences.

Table 1. Focus group characteristics

	Metro Central Heights		Dulwich Village		Bricklayers Arms		Kingswood	
Characteristic	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Gender								
Male	2	4	3	3	3	2	1	1
Female	2	4	5	3	3	6	4	4
Age								
<20							1	2
21–30	3	4						
31–40		2				2		
41–50		1				1	1	1
51–60			3	1	1	4	1	1
61+	1	1	5	5	5	1	2	1
Employment								
Employed full time	2	6	1		3	3	1	
Employed part time			3	2				
Retired	1	1	4	4		1	3	2
Full time student	1	1				1	1	1
Unemployed					3	3		2
Tenure								
Owner-occupied	1	4	8	6	3	4	2	
Private rented	3	4						
Social rented					3	4	3	5
Household car ownership								
0	4	6			5	7	3	3
1		1	5	5	1	1	2	2
≥2		1	5	1				
Membership of an environmental organisation								
Yes			2	2			1	1
No	4	8	6	4	6	8	4	4

To stimulate the discussion on policy preferences, we used two case studies with real-world relevance. The first was the Central London Congestion Charging Scheme. The second was the proposed London Low Emissions Zone. Both of these policies are introduced in the fourth section. In order to derive 'rules of thumb' based on the discussions, participants also took part in a choice experiment. The choice experiment is a survey technique used in marketing, as well as transport and environmental economics (see Bateman *et al.*, 2002). Participants are required to choose from a set of alternatives their most preferred, with each alternative described in terms of a series of attributes. Whereas most choice experiments are administered through a questionnaire survey to large probability samples, we administered ours in a small-group, qualitative research setting.[3] This allowed us to link views expressed in a purely qualitative context with choices made, and to give participants the freedom to explain how they made their policy choices (also see Beattie *et al.*, 1998).

Results

The Central London Congestion Charging Scheme (CCS) was a particularly good starting point for the discussions, because it has proven to be such a controversial issue in London and has received a great deal of attention politically, in the media and in civil society. Thus participants had already enjoyed an opportunity to rehearse arguments for and against. Under the CCS, most vehicles entering a central London zone must pay GBP5 per day. The charging zone cuts across north Southwark, with the result that residents living inside the zone are entitled to a 90% discount from the charge, whereas those living outside the zone and wishing to drive inwards are not. The policy is primarily aimed at reducing congestion in central London, but, not only has it been successful in this respect, it has also reduced air pollution (Transport for London, 2004).

As section two anticipated, the pattern of personal benefits and costs did indeed play a major role in determining support for the CCS. For example, Metro Central Heights lies just within the CCS charging zone, so residents have benefited from reduced traffic and improved public transport. At the same time, none of the participants here drove, so they were never subject to the charge (which would in any case have been discounted by 90%). Thus it was no surprise that they supported the policy. With explicit respect to equity, participants did reason that the charge must impose costs on some, including small traders within the charging zone who may have lost customers. However, these concerns were insufficient to outweigh personal benefits in determining the policy 'fair', because participants identified most closely with the stakeholder groups to which they themselves belonged:

Facilitator:	So what about winners then? Who wins from the congestion charge?
L:	Hopefully we do, eventually. We get a better bus service, better tubes.

Facilitator: You mean we as in?
L: We as pedestrians, as non-car owners. There's less traffic in central London and better public transport. (Metro Central Heights)

Using the community of justice framework outlined above, this represents the most personal community: the extension of self-interest by association with wider stakeholder groups in arguing for or against policy fairness. Whether it constitutes an argumentative device rather than a genuine sense of identification is, as mentioned, a moot point, but, overall, the relationship between personal benefits and costs and judgements of equity holds. Similarly, the few participants who had seen their motoring habits either charged or curtailed by the CCS were strongly against it:

> Why put it on our doorstep, when we can't go to Guy's Hospital unless we have to pay five pounds, or even go down to; to be honest, you can't even go down to have pie and mash on Tower Bridge Road if you want to drive down there. (P, Bricklayers Arms)

Where personal benefits and costs were smaller, participants reverted where possible to close ties with family members, friends and neighbours in forming judgements. For example, a number of participants at Bricklayers Arms firmly regarded the CCS as inequitable, because they held close associations with local residents who had to pay the charge:

> My son has to pay a fiver every day, right. That's a hundred pounds a month. He's just; he's got a baby, and he just can't do it. (S, Bricklayers Arms)

In turn, where participants neither personally won nor lost, nor had close ties with those who did, views were predicated on social and cultural outlooks. Kingswood presents an important example of this. Although participants did not personally have to pay the charge, and although few knew of anyone who did, they nevertheless branded the CCS 'unfair', because of the disproportionate effect it was perceived to have on low-income motorists:

> I think [the CCS] was started up also to get all the [old] cars off the road. The people; the poor people that are trying to run a car on a shoestring basis, it [affects them]. It is the poor that are being affected, not the businesses. (V, Kingswood)

This is a community of justice based on concern for people on low-incomes similar to the Kingswood residents themselves.

Thus far, perceptions of equity have been explained in terms communities of justice. Yet there existed a small but significant minority of participants for whom this explanation was unsuccessful. These participants argued that the

CCS was 'unfair' on property rights grounds: they argued that the motorist has a prior and encompassing right to drive without being subject to additional charges. On the other hand, the majority of participants across all four areas rejected the allocation of property rights to the motorist. Instead, they effectively allocated them to the state as the executor of society's will. There were two apparent justifications for this alternative view: either that the state builds and maintains the roads and therefore owns them, or that motoring produces external costs such as noise and fumes suffered by others in society:

> I think that it should be far *more* expensive to use the roads [her emphasis]. I don't think that what the motorist pays; the road tax is not adequate, it doesn't cover the roads, because it doesn't cover all the pollution and everything else that goes with it. (S, Dulwich Village)

The second policy case study was the proposed London Low Emissions Zone or LEZ (AEA Technology Environment, 2003). This case study is useful, because it is specific to air pollution from road traffic. The LEZ will ban commercial vehicles older than a certain threshold age (currently planned to be around six-years-old) from entering Greater London. In the first instance, the scheme will only target lorries, buses and coaches, though it is recommended that it later include vans and taxis. Private cars are not to be included, yet in the focus groups the possibility was mooted. This was intended to overcome the problem that some participants may not have realised the potential for costs incurred by businesses to be passed on to consumers. The LEZ feasibility study predicts that the policy will significantly reduce the levels of key air pollutants in London (AEA Technology Environment, 2003). Given that national objective limits for key air pollutants are regularly exceeded in most of inner London, it is an important part of the citywide air pollution policy portfolio.

As with the CCS, expectations of how the LEZ would affect participants and the stakeholder groups with which they identified was an important determinant of perceptions of equity. However, in this case, the balance of benefits and costs shifted, such that it was those participants across all four areas most concerned about air pollution that were most likely to give the LEZ their support and label it 'fair'. For example, residents at Metro Central Heights were much less convinced of the merits of the LEZ compared to the CCS, because they did not see any benefits in terms of improved air quality relative to the costs of the policy:

> I think most of us can't see that air quality is particularly poor, so it would have to be around proving that the air quality is *that* poor, and so it means that what seems to be quite a huge step to put that right [is worthwhile]. (M, Metro Central Heights)

Interestingly, the group was even more strongly opposed to the inclusion of private cars in the policy, although none of the participants drove. This stood in contrast to the group's perceptions of equity in relation to the

CCS, whereby it was considered perfectly 'fair' for motorists to pay the costs of the policy. Although the LEZ would also put the polluter-pays principle into operation, the group opposed it, because it was not seen to serve a valid purpose. The important conclusion that follows is that the question of allocating the financial burden of a policy in the public mind is not independent of how it perceives the same policy's outcomes: perceptions of environmental equity are not independent of economic equity.

It is worth commenting at this juncture on concern about air pollution in the focus groups, since it is particularly important in determining perceptions of the LEZ. In particular, it might seem strange that Metro Central Heights residents (high air pollution) are unconcerned. Across all four areas, we found that concern about air pollution was generally low, with only 10% of focus group participants naming it as the most serious external cost of traffic, compared to pedestrian safety (50%) and delayed journeys (25%). Phillimore *et al.* (2004) and Wakefield *et al.* (2001) also found that concern about the chronic health effects of 'routine' air pollution ranked lower than many other social, economic and environmental worries. Furthermore, we did not find any simple, systematic relationship between levels of concern and ambient air quality—i.e., concern was not, as one might expect, systematically higher in more polluted areas. At Metro Central Heights, for instance, although most participants recognised that air quality must be low in their neighbourhood, they were willing to trade this off against the convenience of living on the edge of central London:

> I don't mind that . . . I think it's a consequence of living in London, and you know when you come to live here that that's what it's like, and I think if you hated it you probably wouldn't live here. (L, Metro Central Heights)

In contrast, a larger number of participants at Bricklayers Arms were concerned about air pollution. An important difference between the two communities is that most of the Bricklayers Arms residents are on low incomes and, living in social rented accommodation, are not free to choose where to live:

> Where else are you going to live? In many cases, in my case, I didn't have the funding; I don't have the funds to go anywhere else. I don't want to look out on to a sea of concrete. I've got; there's nowhere for me to go. (G, Bricklayers Arms)

The same point is raised by Bickerstaff and Walker (2001), who also found concern was more intense in areas of low SES, even after controlling for ambient air quality. They put forward two other possible explanations. Firstly, residents in areas of low SES may make the connection between other negative aspects of the local environment, such as a shabby streetscape, and air quality. This can be seen as a rational cognitive process. Secondly, residents may be 'denying' the existence of an air pollution problem in neighbourhoods in which they are otherwise satisfied. There is evidence of such

'cognitive dissonance'[4] (Festinger, 1962) in the Metro Central Heights groups, as some participants explicitly dismissed the problem (e.g., 'I think most of us can't see that air quality is particularly poor'). Reminiscent of findings from DeGroot *et al.* (1966), a combination of these explanations suggests that a negative socio-economic and physical environment generates a propensity to dislike a neighbourhood and attach a range of negative values to it, such as low air quality (Bickerstaff & Walker, 2001, p. 140).

Returning to the main discussion, there were two similarities between the CCS and LEZ discussions. Firstly, the low-SES groups again reported significant concern about the potential effect of the LEZ on low-income Londoners. Secondly, consistent with their views on the CCS, the minority of participants allocating property rights to the motorist were also firmly opposed to the LEZ, branding it an 'unfair' imposition on the motorist.

As a final task, participants completed two choice experiments. In the first of these choices, participants were asked to weigh-up (against one another) distinct equity considerations that could be used to allocate the financial costs of traffic-related air pollution mitigation. This included the PPP, ability to pay and the BPP (following Atkinson *et al.*, 2000). Participants were asked to choose from three (hypothetical) Londoners which one they thought should pay the cost of a new policy on traffic emissions. The Londoners—Mrs A, Mrs B and Mrs C—were differentiated on the basis of the frequency with which they used their cars and thus polluted (reflecting the PPP), the extent that they stood to benefit from improved air quality (reflecting the BPP) and how well off they were (reflecting ability to pay). Table 2 shows the choice card participants actually faced and provides the results by location of the focus group.

Taken together, a majority of participants thought Mrs C should pay the charge, because she caused the most pollution. Although she also stood to benefit most from improved air quality, participants explained that this was not an important factor. Therefore there was popular support for the PPP. This is unsurprising, because few participants motored long distances and most non-motorists tended to believe that motorists should be subject to greater burdens. However, not all participants chose Mrs C: a significant number in the deprived communities at Bricklayers Arms and Kingswood chose Mrs B because she was wealthy. This echoes the communities of justice they invoked earlier and suggests that there is a trade-off between the PPP, which everyone agreed is a fair principle in itself, and ability to pay, which was of especial concern to less wealthy participants.

Continuing with the choice framework, we tested the importance of burden-sharing against overall policy effectiveness and policy efficiency, the latter defined as the improvement in air quality achieved at a given cost. This time, participants were faced with a choice of four hypothetical traffic emissions policies, programmes A to D, which were differentiated based on: (i) the overall improvement in air quality achieved (policy effectiveness); (ii) the average cost of the policy to a London household (which together with (i) constitutes efficiency); and (iii) the way in which the costs of the policy were shared. Table 3 shows the choice participants faced and results.

Table 2. Competing principles of equity in sharing the burden of traffic emissions policy

	Mrs A	Mrs B	Mrs C	None of them
How much does she use her car and so how much pollution does she cause?	Very little—she causes very little pollution	Sometimes—she causes a moderate amount of pollution	Very often—she causes lots of air pollution	
How much of an improvement in air quality will she enjoy?	No improvement	A moderate improvement	A big improvement	
How well off is she at the moment?	Average	Wealthy	Poor	
Responses				
Metro Central Heights		1	7	
Dulwich Village			6	
Bricklayers Arms		4	4	
Kingswood		4	1	

Programme D was most popular overall, but for different reasons that were broadly reflective of participants' earlier judgements. At Metro Central Heights and in Dulwich Village, participants explained that they chose D because it represented an efficient option: a moderate improvement at low cost. Recall that most participants in these two groups were not especially concerned about air pollution. Although positive transfers to those on especially low incomes were regarded as desirable per se, they were not as important a consideration as efficiency. In contrast, participants at Bricklayers Arms and Kingswood explained that they chose D, because it promised not to be too costly and because the burden-sharing feature was important. This reflects the communities of justice they created. There was also some support for option B, which, while less efficient, operationalised the polluter pays principle. Those who chose B tended to be those most opposed to motorists throughout the discussion, showing that notions of justice and equitability could outweigh efficiency criteria in some, though not all, circumstances. The two participants who chose programmes A and 'do nothing' respectively were generally opposed to new policy measures on property rights grounds, while the two participants who chose programme C reported significant concern for air pollution overall. In this last case, policy effectiveness was imperative.

Discussion

Our aim in this paper has been to investigate public perceptions of equity in relation to policies targeting local traffic emissions. In particular, we have

Table 3. Equity versus effectiveness and efficiency as traffic emissions policy criteria

	Programme A	Programme B	Programme C	Programme D	Do nothing
Improvement in air quality	Small	Moderate	Big	Moderate	
Average cost per London household	Low	Medium	High	Low	
Who pays?	Every London household pays the same	Motorists pay most of the costs	Households that see the biggest improvements pay most of the costs	The poor and the vulnerable get discounts, everyone else pays the same	
Responses					
Metro Central Heights		3		5	
Dulwich Village	1	2	1	1	1
Bricklayers Arms		2	1	5	
Kingswood				5	

addressed two related issues. Firstly, we have offered a qualitative theory of how participants construct notions of fairness/equitability in relation to traffic emissions policies. In this respect, we have illustrated how environmental equity issues interact with economic equity issues. Secondly, we have offered some initial evidence on the extent to which these constructs carry through to the practical measurement of competing principles of equity, as well as equity versus other policy criteria. It is intended that (especially) these practical 'rules of thumb' help policy makers understand and predict the compatibility of their ideas with public opinion, both from the perspective of participatory democracy and from the more instrumental perspective of garnering political support and popular compliance.

Throughout, a prominent and important result has been the role of individual benefits and costs in driving perceptions. Where questions are phrased in terms of how 'fair' a policy is, these self-interested motives are extended to wider stakeholder groups, around which a community of justice is drawn. The community of justice framework also encapsulates the benefits and costs that fall upon others. Intuitively, the strength of the resulting communities decrease with affective distance from the individual, so that the fortunes of those closest will be more influential, *ceteris paribus*, than the fortunes of more distant social groups. However, this is not to altogether exclude the possibility that concern can span social groups. We also find a lesser but significant role is played by the implicit allocation of property rights. Although only a small minority of participants considered traffic emissions policies to be an infringement of civil liberties, this strong view proved immovable in the discussions.

In the choice experiment, we tested whether these modes of thinking are translated into practical rules of thumb for assessing policy equitability, and found some basic evidence that this is indeed the case. Perhaps most significantly, there was a general acceptance of the polluter-pays principle, which lends support to the importance attached to it in many environmental policy documents (see European Communities, 2002). At the same time, low-income participants tended only to rate policies equitable if they took account of ability to pay. This finding needs to be seen in the context of a long-standing literature: it has often been proposed that as SES increases, so do demand for environmental quality and pro-environmental attitudes. Welfare economists, who conceive of environmental quality as a consumer good, have shown that people 'purchase' more (or would like to) as their disposable income increases (Tiebout, 1956). Equally, many commentators have argued that western environmental concern is located in better-off sections of society (based on Ingelhart's 1977 theory of post-material values).

However, it has not proven easy to demonstrate an empirical relationship between public environmental concern and wealth/class (see Van Liere & Dunlap, 1980; Cotgrove, 1982; Dalton, 1994; Samdahl & Roberston, 1989) and such thinking may be rather outdated in any case. Non-committal environmental concern is very widely shared nowadays according to most opinion poll-style surveys (see EORG, 2002). This still leaves room for the core environmental movement to be drawn from the middle classes (Cotgrove, 1982) and for disadvantaged communities to harbour genuine environmental concerns. The difference, as Burningham and Thrush (2003) demonstrated, is that the latter's concern is specific to the local context: 'rainforests are a long way from here'. Our research emphasises that disadvantaged communities are concerned about the environment and to achieve environmental equity, but that economic concerns come rapidly to the fore.

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Notes

[1] There is also the possibility that perceptions of equity are associated with the policy process itself—e.g., whether the institution delivering the policy is trusted to arrive at a 'fair' outcome. Although we do not explicitly investigate this issue, the extent to which overall policy judgements deviate from those that would be predicted based on environmental and economic equity alone will be indicative of the importance of such factors.

[2] Day (2004) has also used this research design.

[3] Although the use of one-to-one interviews and focus groups in some capacity is nothing new in choice experiments (Bateman *et al.*, 2002). Typically, they fulfil a diagnostic function: either they are used at the pre-testing stage to obtain feedback about the design of the survey, or they are used during the

survey to ask respondents why they responded in a particular way. Hence proceedings/results are not normally reported in any detail.

[4] According to the theory of 'cognitive dissonance', people resolve an inconsistency between actions (being exposed to air pollution) and beliefs (awareness of pollution and its risks) by distorting beliefs (viz. there is no air pollution).

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