The making of climate publics: Eco-homes as material devices of publicity

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Abstract

This article seeks to enrich material perspectives on environmental citizenship by considering current deployments of eco-homes as devices for public involvement in climate change. It discusses environmental awareness campaigns that center on the home in the light of a warning voiced in political theory, that attempts to locate citizenship in "the world of things" might mean that this category loses its distinctiveness. These campaigns, it proposes, define public involvement with climate change along socio-material lines, as they suggest that people participate in the public by virtue of their domestic habits. For this reason, the domestication of citizenship cannot be equated with its privatization in this case, as that would be to uphold a classic republican understanding of the public, which is precisely rendered problematic in the context of climate change and the making of low-carbon economies. However, the paper also questions materialist understandings of environmental citizenship, by pointing out that the publicity device of the eco-home equally enables the virtualization, that is, the "de-materialization," of environmental issues. Thus, awareness instruments like carbon calculators format public involvement with climate change as an operation upon domestic energy data. Finally, the paper discusses how eco-homes can also be put to use as devices of "de-citizenization," absolving domestic subjects from environmental reponsibilities. Seeking to come to terms with these various conflicting deployments of eco-homes, the paper concludes by emphasizing the importance of eco-homes as experimental sites of issue articulation.

Key-words

climate change; environmental citizenship; household appliances; materiality; publicity; sustainable housing.

1. Introduction

In the mid 1990s, the political theorist J.G.A. Pocock gave a rather gloomy assessment of the consequences of allowing the category of citizenship to pertain to practical engagements with "the world of things." If involvements in material, domestic, and reproductive relationships were recognized as potential forms of civic engagement, Pocock pointed out, particular features of the classic republican archetypical ideal of citizenship would be seriously threatened, such as the notion that citizens are concerned with public as opposed to private matters. For Pocock, to allow situations of domestic entanglement in material relationships to qualify as sites of citizenship is to accept the blurring of the public/private distinction, as the separation between the political sphere, in which citizens assemble around matters of general concern, and the non-political domain, which is concerned with the "mere" reproduction of daily life, is likely to become vague as a result. Thus, Pocock warned that those who advocate such a move "will have to decide whether the concept of the 'public' has survived at all, or whether it has merely become contingent and accidental, or has actually been denied any distinctive meaning. And if that is what has happened, the concept of citizenship may have disappeared as well" (Pocock, 1995: 33).[1] What I find remarkable about Pocock's admonition, among others, is his apparent belief that it is still possible today to equate the domestic sphere with the realm of private and non-political affairs, in a historical context in which this equation has been undermined by innumerable developments, from the invasion of the home by publicity media, to the spread of feminist and ecological insights in the political effects produced in domestic life (Berlant, 1997). Pococks warning, moreover, stands in sharp contrast with rather more hopeful suggestions made by recent studies of "material publics" (Bennett, 2005; Latour, 2005; see also Danyi, 2007; Marres, 2005). In recent years, advocates of a material perspective on publics have emphasised the conceptual and normative opportunities that would open up, if only we were able to put the classic idea of the public, as a collective body in which material associations play little to no role, in its proper place. By acknowledging that publics are also held together by material and physical

[1] Quoted in Dobson (2003): 52. Pocock points out that the classic citizen of the greek polis was of course concerned with the adminstration of things (the building of walls, distribution of lands, and trade), but that, crucially, they "did not act upon each other through the medium of things" (p. 35).

associations, these authors suggest, we could begin to document the proliferation of publics across the settings of everyday life, and thus find a way around the restrictive idea that publics only exist to the extent that they are addressed by discourses circulating in media and/or instutional circuits. However, as I would like to discuss here, recent experiments with the organisation of material publics, focused on the sustainable home, suggest that the threats identified by Pocock might have to be taken more seriously than materially inclined researchers and theorists would perhaps like to.

In this article, I would like to consider the role of the "eco-home" as a device for the configuration of material publics, in the context of hightened attention to the issue of climate change. Ecological homes, which can be loosely defined as houses that are adapted to take the environmental effects of domestic life into account, have in the last decades been put forward as an crucial site and instrument of environmental citizenship (Dobson, 2003; Hinchliffe, 1997). In the UK as well as elsewhere in Europe, a continuously expanding range of organisations, from environmental organisations to governments, energy companies and news media, have in recent years singled out domestic practices as the most appropriate site for people to help address "green" issues, and climate change in particular, and in that way fulfil their civic responsibilities (Shove, 2007; Slocum, 2004). Intriguingly, eco-homes can in this regard be understood as both confirming and problematizing the bleak future scenarios that Pocock suggested publics faced, if their location in material settings were to become widely accepted. On the one hand, current publicity surrounding eco-homes can be seen to give rise to precisely the kind of "weak" publics that Pocock characterized in such ominous terms. Thus, green home campaigns seem to actively endorse the banalization of the public, as they propose that apparently simple household issues, such as whether or not the TV should be on standby, constitute a worthy object of public attention. Indeed, green home initiatives could be said to enact a public that is both "accidental" and "contingent," insofar as the evocation of the public here depends on particular material conditions and mediatizations, as I will discuss in what follows. As such, these campaigns seem to accept, if not help realize, the scenario spelled out by Pocock, that the public would lose its distinctiveness as the figure that is concerned with general as opposed to petty affairs. But, on the other hand, it could equally be argued that

eco-homes are currently deployed for the organisation of publics of which contingency and fragility are precisely important *enabling* features. In this article, I will then turn to a less than innocent site for the formation of material publics, the politically charged and intensely mediated location of the eco-home, to see how a material sensitive approach to the public might take into account, or indeed, "survive," the risks and dangers associated with this formation, to which Pocock has drawn attention in such forceful terms.

1. Green home campaigns and the material perspective on publicity

Media campaigns promoting energy efficiency in the home date back to at least the 1970s, when the energy crisis provided a strong rationale for the reduction of energy consumption. Only in the early nineties, when energy scarcity seemed the least of people's concerns, did public awareness campaigns start providing an environmental rationale for reductions in domestic energy use, in the United Kingdom and other Western countries (Guy and Shove, 2000). In recent years, however, the message that the home presents an especially appropriate site for people to "do their share for the environment" has been circulating with special intensity in publicity media. The promotion of sustainable housing has become an important element in the public communication strategies of European governments (Rydin et al, 2007), and energy companies and other industries are making the greening of domestic energy use increasingly central to their marketing and advertising campaigns (Walker and Cass, 2007). Indeed, eco-homes are said to be widely regarded today as the most media-friendly "vehicle" for bringing across the message of climate change, and the related need for the restructuring of energy economies (Lovell, 2004). It thus seems no exaggeration to say that, in the UK and elsewhere,[2] the home has emerged as one of the central

[2] A brief note on location. In this paper, I will consider eco-homes that have recently figured in publicity campaigns in the UK and, to a lesser extent, the Netherlands. But the various locations that eco-homes may occupy and disclose in this capacity, could be the subject of a whole paper in itself. There are a wide variety of locations and spaces that they may open up: domestic settings, obviously, but also a national space of goverance (when eco-homes are used to showcase government policies on "sustainable housing"); a national-domestic energy space (on occasions like "E-day," when the nation is mobilized to demonstrate its commitment to the low carbon economy, by appealing to publics to switch off their domestic appliances on a given time), a space of international competition (as eco-homes are enrolled in demonstrations of national leadership in the making of low carbon economies), an issue assemblage (when domestic settings are connected with the global issue area of climate change, involving "the planet," or in a more sophisticated version that I will discuss below, a "transnational community of the affected."), and so on. In each of these cases, the notion that homes in Western societies serve to disembed private life from its

locations for the dramatization of connections between the environment, economic change and everyday life.

This rise to prominence of the home as a site of socio-economic-environmental change can of course be accounted for in a variety of ways, not the least of which is to consider various wider developments, such as the continuing shift towards market mechanisms in climate change policy-making. This could, for instance, partly account for the increased importance of the figure of the energy consumer in this wider field, as the actor who would have to be willing to bear at least some of the costs of the greening of the energy economy (Bäckstrand & Lövbrand, 2007). Relatedly, one could point to the ways in which this tendency intersects with recent shifts in energy policy, such as the privatisation of gas and electricity companies in Europe, in the 1990s, and the resulting need for these companies to bind consumers to them. In this light, green issues can be regarded as a fortunate occasion, as it allows energy use to be redefined as an exciting consumer experience (Spaargaren and Van Vliet, 2000).[3] However this may be, it is clear that a wide range of concerns may currently be packed into "the green home." References to wider developments, however, do not tell us very much about the role that eco-homes themselves are made to play in the crafting of environmental messages, practices, and subjects. Thus, besides wider political and economic developments, it seems equally important to consider how houses and domestic arrangements are made to do a certain type of work in climate change campaigns. We would then recognize that for eco-homes to assist in the production of political and economic effects, they must be equipped in particular ways.

My question is then whether and how domestic arrangements, as part of green home projects, acquire the capacity to mediate environmental issues, and/or to address people as environmentally responsible subjects. In approaching eco-homes in this way, I draw inspiration from materially sensitive studies of politics, and public involvement in it, that I refered to in the introduction. Such studies, which often focus on the politics of the environment,

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surroundings is opened up in potentially interesting ways. However, because this paper is concerned with the role of eco-homes as devices of publicity, I here address their spatial dimensions implicitly.

[3] Equally relevant is the special emphasis on private home ownership in liberal societies like the UK, and the need for the reformulation and adaptation of ideals of domesticity in a context of scarcity of both houses and land (Massey, 2007).

and consumption (Bary, 2001; Stassart and Whatmore, 2003; Bennett, 2005; Hawkins, 2006; Law and Mol, 2008; Marres, forthecoming), propose that material or physical entities like beef, sewers, and landscapes are not just passive objects of public or political concerns, but may acquire capacities to actively channel these concerns. As I also suggested above, contemporary eco-homes may pose an interesting challenge for this perspective. Many studies of material politics are concerned with "subpolitical" effects, that is, with the ways in which material and physical entities help to sustain or shift the balance of force among social actors, even if these entities are not commonly understood in political terms. Contemporary eco-homes resist analysis along these lines, as these arrangements are heavily publicized, and are today explicitly presented as a scene and object for politics, in government publicity campaigns and reports.[4] As such, they seem to be a suitable location for further exploring the proposal by Andrew Barry (2001), to consider "public demonstrations" as sites where matter is actively mobilized in the performance of politics. Barry elaborated this claim in a case study of a series of road blocks, in situ protests against road construction, in the UK in the 1990s. But his account of these events also makes a broader suggestion: that an adequate account of how material entities become politically charged requires consideration of the events in which they are explicitly articulated as political objects. However, Barry's study can seem to confirm an idea that is common among studies of material politics by virtue of his choice of object, in situ environmental protests: his study, too, suggests that materially consitituted publics tend to form in the margins of political forcefields. There may be very good reasons for this, as we shall see. However, in this regard, contemporary eco-homes have the merit of directing attention at a different type of material practice of publicity. As an object that is currently being "overhyped" and/or "mainstreamed," the eco-home may disclose under-explored, and indeed, ensobering, features of materially constituted publics.

Besides material perspectives on politics, another related strand of work also requires consideration here: recent social studies of (un-)sustainable energy use in the home. Especially relevant is that several of these studies find their starting point in a critique of green home publicity campaigns. Thus, authors like

[4] In June 2007 the UK Ministry of Communities and Local Government published the results of its stakeholder consultation "Building a Greener Future, Towards Zero-Carbon Development."

Elizabeth Shove (1998; 2003) and Kersty Hobson (2006) have pointed out that a predominant format for energy awareness campaigns, that of providing environmental information so that people will change their behaviour, is based on a rationalistic and individualistic model of environmental change. Such models, they emphasise, do not do justice to the practical constraints people face in going about their everyday life (Shove, 2003; Hobson, 2006; see also Hinchliffe, 1996). In their view, green home publicity campaigns wrongly assume that energy consumption patterns can be changed by informing individuals about its environmentally damaging effects. Such an approach namely leaves out of consideration the "praxio-logics" of energy use in the home, the social, infrastructural, material conditions that people have to negotiate in organising domestic life. Thus, Elizabeth Shove has shown that when domestic energy use is understood in terms of socio-material practices, such as doing the laundry and feeding people, it quickly becomes clear that there are many "good" reasons for why household practices are becoming ever more energy-intensive. Shove, then, proposes that we should consider how "practically inevitable" ways of doing things in the domestic sphere come about, as a consequence of wider social-technical developments, such as the introduction of freezers and the appearance on the market of frozen foods, and the popularity of cotton clothes, which seem made for frequent washing (Shove, 2003). The endurance of environmentally damaging domestic habits in the West should not be explained, she claims, in terms of a lack of informational awareness regarding their environmental effects, but in terms of the endurance of social-material practices.

The argument is important, and convincing to me, but at the same time one can wonder about the account it provides of publicity campaigns that promote the greening of domestic life. Thus, it seems far from self-evident to me that social researchers should accept the formal justifications provided for these campaigns, which tell the story that information provision will induce "behavioral change" by "raising awareness." As I'd like to propose here, green home publicity can also be understood as mobilizing houses and domestic settings in their capacity of "socio-material" arrangements, albeit of a special kind.

3. Enrolling the home in the performance of environmental citizenship

One of the remarkable features of recent green home campaigns in the United Kingdom, such as the DIY Planet Repairs initiative by the Mayor of London, and "Making it Greener Where You Are" by British Gas, is that they make explicit use of the affordances of homes as material settings. In some respects, these campaigns fit the standard pattern of advertising across multiple media, from newspapers to billboards to Web, featuring customary images of either planet Earth or a local street with a community feel to it. But what seems less straightforward is the way in which these campaigns endlessly repeat a limited number of basic things one can do with domestic appliances: unplugging mobile phone chargers, taking the TV and the stereo off their standby function, not overfilling the kettle, and so on. Especially striking here is the hyperbolic suggestion that such interventions provide a way "to help combat global warming." But it is perhaps equally significant that these media campaigns foreground ordinary domestic appliances, using them to define energy-related routines in the home as moments of environmental (ir)responsibility. In this respect, these campaigns could be said to enrol devices in the home as "awareness technologies." Focusing public attention on appliances like kettles and thermostats then makes it possible to turn so many banal domestic routines into notable moments of "energy use," in which we demonstrate our success or failure to relate to the issue of climate change.

Attempts to put the home, and domestic arrangements, to use as some kind of material awareness-raising device can also be recognized in socalled "carbon blogs."[5] Innumerable people are currently documenting their attempts at "green home improvement" on the Web, reporting in diary-like notes on the adventure of installing renewable energy technologies, like a ground heat pump or a biomass boiler, or of unplugging their fridge and failing to learn to live without it.[6] Personal projects to increase domestic energy efficiency and reduce reliance on fossil fuel-based sources, one could say, here provide an occasion to turn the home into a micro-exhibition space. Importantly, these blogs, like the governmental and

[5] See for an overview: http://wordpress.com/tag/carbon.
[6] See Green as a Thistle, "Hopelessly fridgeless (Day 78)," posted May 17, 2007, http://greenasathistle.com/2007/05/17/hopelessly-fridgeless-day-78/ and The Greening of Hedgerley Wood, "Heat Pump Latest Running Costs," posted August 22, 2006, http://www.hedgerley.net/greening/?p=70

corporate green home awareness campaigns mentioned above, often make explicit the connection with the "distant" and global phenomenon of climate change, and the exhibition of practical domestic achievements could arguably be understood as a demonstration of environmental belonging. A third and last example of the mobilization of green homes as a publicity device concerns architectural prototype eco-houses and -estates. In recent years, architecture firms and building companies have realized a great many sustainable housing projects (though perhaps less than you would expect considering the publicity storm surrounding them). These houses, to be discussed in more detail below, tend to function as show homes, and indeed, one of their principal functions often seems to be the promotion of particular formulas for the sustainable home of the future. To attract attention from interested parties, and thus, of the media, and thus, of the public, is often an important component of these projects, and several pilot homes are actively equipped for this purpose (Yaneva, 2005). For example, the architectural firm Bioregional plans to integrate a public route in the eco-neighbourhood it has planned for the Thames Gateway in South East England, so as to provide the neighbourhood with a public communication function.

In trying to appreciate the ways in which homes are equipped as publicity devices, in these cases, it should first of all be recognized that green home projects draw on various more or less conventional media genres and demonstration techniques. Thus, techno-material formations like the "show home" and the "prototype house" are well-established exhibition formats, and objects of media attention, going back to, for instance, the ideal homes featured in World Exhibitions at the previous turn of the century. As has been pointed out by Bill Brown (2003), late 19th and early 20th century show homes explicitly made use of designed objects to publicize new modern forms of domesticity, and, as such, they helped to evoke what Brown calls a new type of "object-oriented" citizen. Furthermore, "Houses of Tomorrow" have since then have been replicated from Chicago to Brussels, and these have included features of energy efficiency for many decades now. Finally, in several cases affordances for the "ecological belonging" of their (often imaginary) inhabitants are designed into these future homes, as most famously in the case of Buckminster Fuller's dwelling machines. However, the current deployment of sustainable houses as publicity devices may present a particular radicalization of these projects of enrolling homes for the making of publics. Or at least, they direct

attention to a particular radical version of it. Here, domestic arrangements are not just mobilized to engage audiences in new and supposedly exciting domestic environments. They are also deployed to implicate them in the broader environmental issues that these homes arguably help to address. In this respect, the use of eco-homes as devices of publicity can be understood as an attempt at the organisation of a particular kind of material public. Homes and domestic appliances here do not only figure as devices with special abilities for "bringing in" or "reaching out to" a wide and inclusive "mass" audience. Their affordances for attracting the public do not only stem from the possibility of "curating" domestic settings, turning them into exhibitable spaces, where the "familiarity" or "intimacy" of the domestic helps to dramatize certain "spectacular" features. In the above three examples, publicity surrounding green homes is also used as an occasion to perform a particular (re-)definition of what a public is, and what it means to participate in one, *along material lines*. Eco-homes are deployed, in the publicity initiatives mentioned above, to articulate the household as a site of energy consumption that is more or less environmentally damaging. As such, they redefine the home as a place where its inhabitants are materially implicated in collective environmental problems, most famously climate change, by virtue of their energy habits (Dobson, 2003). In this respect, the eco-home may be understood as a device that enables the transformation of living spaces into some kind of *infra-technology* of public-making: they help to articulate domestic energy use as the site where people are always already involved, and indeed complicit, in the environmental issues that today qualify as matters of public concern. As a consequence, domestic subjects can now be seen to be included in environmental publics by default, that is, by virtue of their and their homes' energy habits.

4. Interlude: complicating two social scientific critiques

Before exploring how attempts at the organisation of "material publics," with the aid of eco-homes, play out in practice, I would like to survey, just briefly, the possible implications of such a perspective for two criticisms of green home publicity campaigns that have been voiced by social researchers in recent years.

To begin with, it can already be made clearer how a material perspective on environmental publics could affect our understanding of the "information-driven"

model of awaressness raising that still seems predominant.[7] Devices like carbon calculators, for example, may seem a perfect exemplar of the information-based model of environmental change, in which knowledge of the facts is supposed to induce the public to change its behaviour. However, it seems to me that these devices can equally be understood as technologies for the materialization of citizenship. Over the last years, carbon calculators have been made freely available on the Web by organisations like the UK Department of the Environment and the search engine company Google. In some ways, they are pure information technologies, performing algorithmic operations upon data entered by users, providing them with calculations of the annual CO2 emissions of their household, and perhaps most importantly, with an emissions score that places them below or above the national average. Thus, Google's calculator presents a geo-map of the UK, with red flags indicating the location of users with a higher than average carbon footprint, and green for those who are doing better than most.[8] Such informational practices can be seen as preparing the entry of domestic subjects into the calculative universe of carbon accounting and carbon accountability (Asdal, in press; Mackenzie, 2007; Scolum, 2004). Moreover, carbon calculators could also be said to assist in the virtualization (Miller, 1998) of climate change, insofar as abstract measures of CO2 emissions here take centre stage, possibly subsuming references to rather more concrete instantations of the issue, in the form of droughts, storms, floods and their effects on human and non-human habitats. Significantly, however, these technologies equally assist in the articulation of domestic arrangements as material-physical "media" of issue involvement. As carbon calculators define domestic energy use as a site of engagement with climate change, they enable the transformation of the home into a site that materially and physically implicates its occupants in matters of collective concern. In this sense, the critique of information-based approaches to environmental awareness seems to me only a partial one. Insofar as such awareness devices help to enact a public that is physically implicated in collective issues, the forces of conviction, realization, and engagement are unlikely to be exerted by information alone. The socio-material sites that people dwell in equally may play a part in this.

[7] The DIY Planet Repairs campaign of the Mayor of London is part of what this office refers to as a wider "behavioural change programme."
[8] http://www.google.co.uk/ig

Besides the information-based view of social change, social scientists have emphasised a second major defect of green home campaigns: the fusing of citizenship and consumption. Thus, these publicity initiatives have also been criticized along post-Foucauldian lines, as yet another implementation of the advanced liberal project to transform subjects into responsible consumer-citizens (Hinchliffe, 1996; Slocum, 2004). By anchoring environmental citizenship in domestic energy practices, it is then argued, citizenship is conflated with the private and individualistic consumption of energy-related products. On this view, green home campaigns are likely to make genuine environmental citizenship less and not more doable, as they preclude the civic practice of collective assembly in public places, in order to define collective concerns and formulate demands. That is to say, these critiques tend to equate the domestication of citizenship, performed in green home campaigns, with its privatization. On this point, the concept of "material publics" is likely to complicate matters as well, as this notion precisely suggests that the household *can* be defined as a site of involvement of public affairs. Indeed, this may be one of the principal effects of environmental awareness campaigns that focus on the home. They undermine the traditional idea that whatever happens in the domestic setting is largely irrelevant to our contribution as "citizens" to public affairs.

To be clear, I do not want to suggest that the criticism that green home campaigns encourage the reduction of citizenship to consumption is implausible. This criticism highlights what seems to me a real possbility: that publicity campaigns that are apparently concerned with civic awareness help to prepare the position of the "green consumer," to whom the costs of the transition to a "sustainable" economy can then be delegated. However, an understanding of the green home as a device of the privatisation of citizenship relies on an ideal of the public that is precisely problematized, it seems to me, by environmental articulations of "public involvement." To say that the domestication of citizenship involves its reduction to merely "private," merely "invidualistic" acts is then to fail to consider the ways in which the domestic sphere has been redefined, after environmentalism, as a crucial site of our socio-material implication in public issues. However, it remains to be seen whether material articulations of the public, as they are facilitated by eco-homes, are really robust enough to sustain the ecological critique of the classic, "immaterial" citizen.

5. The media-dependency of material publics

Of course, we have known for a long time that materialism and informationalism go well together. Histories of the scientific revolution of the 17th Century have long highlighted that the mechanistic worldview, with its assumption of the reducability of all phenomena to interactions between basic particles, was invented simultaneously with procedures for the meticulous recording of experimental data (Burtt, 2003 (1925)). Indeed, one story that can be told about environmentalism is that it involves the reassertion of the materialist other half of the informational view of the human world. The reassertion of matter has also been explicitly thematized by green political theorists, like Andrew Dobson, who has developed a materalist theory of environmental citizenship. He argues that environmental problematics, not least climate change, compel us to acknowledge that the type of obligations that are characteristic of citizenship are also produced in the material and physical activities that make up everyday life. Thus, Dobson has proposed that citizen relations come about when the material reproduction of everyday life affects the physical and embodied well-being of distant others (Dobson, 2003). Importantly, he highlights as one of the main benefits of his materialist approach that it enables an understanding of sites classically defined as private, such as the home, as locations of civic involvement. Thus, Dobson suggests that we understand "the houses in which we live" as generators of civic responsibilities, as domestic energy use is the source of environmental effects that harm distant others. However, consideration of the deployment of green domestic technologies and arrangements as publicity devices, I want to propose here, suggest that a materialist understanding of environmental involvement may be overstating its case. More precisely, it seems to overstate the solidity of material publics. That is, in considering the workings of eco-homes as devices of publicity in more detail, the material publics that are organised with its aid appear to be much more malleable, partial, and fragile that a materialist theory of citizenship can acknowledge.

An understanding of the public as held together by material and physical connections, such as those that sustain domestic energy use, attributes a certain "facticity" to the public, as it suggests that people are implicated in public affairs by material and physical means, by virtue of their habits and habitats. Insofar as it suggests this, a material perspective on the public can seem tainted by a kind of

"naturalistic fallacy," as it seems to imply that no political, social or moral articulation work is required to bring this kind of public about. An element of "un-voluntarism" certainly seems characteristic of environmental issues, of which there is a strong sense that they "land on people's doorstep" without them having asked for it. In this respect, deployments of green homes in media campaigns help to make it clear that it would be a mistake to understand the forms of citizenship articulated in these projects in naturalist or factual terms. To begin with a straightforward point, they highlight that material publics are dependent on publicity media for their formation. Of course, in this respect these publics are no different from other types of publics, but "material publics" also appear to depend on a particular, dynamic use of publicity media. Thus, green home campaigns make use of a form of "event-based" publicity. That is, these campaigns seem to be after *momentary* redefinitions of socio-technical habits, like leaving phone chargers in sockets, and filling water cookers to the top, as situations in which people (fail to) make the environmental connection. Media campaigns are then not only indispensable to the establishment of a link between the home and global warming for straightforward "constructivist" reasons. That is, media articulations do not only matter because this link is a decidedly contingent one, in the sense that the ability of domestic appliances to mediate environmental issues is not given but acquired. Just as importantly, there seems to be a particular dynamic *temporality* to these publicity campaigns, insofar as they *only briefly* define domestic appliances as civic technologies. As part of the larger flow of media consumption and domestic life, they only momentarily and unthreateningly interrupt everyday routines, to produce a brief "identity switch" for domestic appliances and their users.[9] In this regard, the material publics that are brought into existence in green home media campaigns seem to fit with what Celia Lury and Scott Lash (2007) have called eventive publics: publics that exist only as moving, dynamic, asynchronous entities, and that could not possibly exist in a static form.

[9] The idea that material or physical publics are dependent on communications media for their sustenance is also underlined in events like Lights Out London. In these events, people are requested to demonstrate their commitment to environmental issues (in this case climate change, but in a recent Dutch version of this experiment, light pollution was the target) by switching off domestic electrical appliances at a given hour. This kind of demonstration of issue affectedness is characteristically a media-orchestrated event.

6. Eco-homes as devices of (dis-)affectedness

The dependency of material publics on their articulation in publicity media is more than a general point. It also seems the case that different kinds of mediatizations of different kinds of eco-homes occasion quite different types of material publics. Thus, some of the prototype eco-homes recently realized by architecture firms and construction companies project quite a different version of material citizenship than do green home awareness campaigns. The difference here is certainly not that the former are houses of brick and mortar while the latter mobilize media images of ideal homes. Prototype homes are deployed as climate awareness devices in the media too. Thus, projects like the BedZED eco-estate, built by the architectural bureau of Bill Munster, in Bedford, near London, and the "ecohuis" in the Dutch town of Steenwijk, were frequently featured in news media reports on climate change, as examples of how climate change will affect everyday life. (For example, during the floods in England in the summer of 2007, BedZED was featured in a BBC news report on how we might learn to live with climate change in the future, highlighting its water absorbing vegetated roofs.[10])

Importantly, however, the ability of eco-homes to make the issue of climate change more "concrete," for publics, turned out to play a much less important role, upon visiting these prototype projects. Thus, my tour guides tended to play down the function of the eco-home as a mediator of climate change awareness. This was certainly not due to a lack of equipment in these places to render the "distant" and "abstract" environmental issue of climate change present in the domestic realm.[11] Not only was each of them built to showcase forms of sustainable or ecological living, that is, they could all be defined as "exhibition spaces," that displayed forms of building and dwelling in which the link with the environment is ever present and, indeed, ubiquitous. Each of them also made use of visual techniques to highlight connections

[10] BBC, July 26, 2007. It was also featured as a visual accompaniment to "The Brown governments capacity to meet EU targets on climate change" (Guardian, August 14, 2007) as well as in the Financial Times, and the Sunday Times, and so on. An image of the "Ecohuis in Steenwijk" appeared in the Dutch newspaper NRC above an article discussing the cost and difficulty of reducing CO2 emissions for ordinary people, and shows its architect, builder and prospective inhabitant, Jan Husslage, at work on his home. "Klimaatbeleid jaagt burger op kosten," NRC Handelsblad, 28 April 2007. Husslage's eco-home also featured in NOVA, the Dutch equivalent of the BBC's Newsnight. Shockingly, a Dutch court recently ordered the demolition of this house, as it didn't comply with building regulations.

[11] That is, the problem seems not to be, at least not in first instance, some kind of technical or phenomenological impossibility to render the global issue of global warming present on the domestic level (see MacNaghten, 2003).

between the domestic realm and environmental problems. In the case of the BedZED eco-estate, it features a show home where panels on the inside walls visualise connections between a particular feature of the interior, like the absence of heaters, and environmental effects (emissions). In the Sigma House, a prototype eco-house exhibited on the grounds of Off Site 2006, a fair for the construction industry organised by the British Building Research Association, BRE, a small attic room had a hole in the floor, revealing the buildings insulation, and on the surrounding walls there were panels about the Stern report on the economics of climate change.[12] The point is, each of these prototype houses exhibited a form of sustainable living that seemed *not* to require awareness of the issue of climate change, or other environmental issues, on the part of their inhabitants.

The sharpest deviation from the role of the eco-home as "climate change awareness machine" I found in the case of the Kingspan prototype home, which was also exhibited at the Off Site fair. In the week of the fair, this house had become the first to be awarded the still somewhat mysterious "carbon-neutral" rating by the UK government, according to its "Code for Sustainable Homes." Both the company's publicity material as well as news media coverage of the Kingspan house made frequent reference to climate change (with the Kingspan brochure featuring the obligatory polar bears drifting on a lone ice floe, in some great unknown elsewhere). However, on visiting the prototype home, it was clear that the connection between this model home and the (equally?) insular habitat of the polar bears, threatened by global melt down, was *not* expected to pass via the house's projected occupants. One of the main advantages of the Kingspan house, a company representative told me, is that it requires "no lifestyle changes from its inhabitants." Somehow indicative of this I found the fact that, in the months following the fair, the energy performance of the Kingspan house would be tested by using a standard model of domestic energy use. Showers, stoves and televisions would be switched on and off, at set times and for set durations, for several months, without the

[12] Other show homes had more informal ways of modifying the domestic setting to function as a space of publicity, and to highlight connections with environmental issues. Thus most prototype homes at the Off site exhibition (where a total of six homes were on show) featured "living rooms" with comfortable couches and big flat screen tv's showing corporate videos about the central importance of the choice of construction materials for energy efficiency, and the way in which climate change and the UK governments support for the construction of low-carbon houses presented "the most significant change to affect the building sector in decades." Perhaps the subtlest version was the kitchen of the eco-huis in Steenwijk, where Jan Husslage had pinned newspaper articles about his home on the wall between the counter and his kitchen table.

intervention of any actual occupants, nor of the question of whether they might be willing to consider environmental "adaptations" of their energy habits.

This approach to testing the "energy performance" of a house must be seen in the context of the history of energy efficiency research, where a quantitative, model-driven approach to research has prevailed for many decades. The predominance of this style of research has been explained in terms of prevailing concerns with the generalization of findings, and the production of building standards, which together effectively blocked the possibility of taking variation in actual practices of energy use into account (Ganzevles, 2007; Guy and Shove, 2000). However, marketing considerations seem equally relevant here. Thus, at BedZED, the tour guide that took us around the estate emphasized that "one needn't be a green type" in order to live in one of the BedZED houses, and mentioned that an owner of a 4x4 car has or could have lived in one of these houses. A BedZED architect, who briefly joined us, explained that it wouldn't be a viable strategy to explicitly target the niche of the environmentally aware, "not in the UK market." Thus one might get the impression that at least some of these prototype eco-homes are supposed to perform a "sustainable lifestyle" *for* their inhabitants, that these houses promise to do "environmentalism" for their prospective occupants, adopting their civic responsibilities. And one can wonder whether this particular materialization of environmental responsibilities does not effectively dissolve the question of the capacities of the home to mediate between the issue of climate change and its publics.[13] Or do we here begin to see how eco-homes might produce asymmetries between those domestic subjects who have succesfully delegated their civic duties to their newly acquired or retrofitted houses, and those who are burdened by unfulfilable responsibilities vis-à-vis the environment?

The eco-home, it could be said, turns out to be a technology that also has the capacity to disentangle domestic subjects from the relations that implicate them in the issue of climate change. By performing energy efficiency, or more radically, by enacting a

[13] Importantly, moreover, in those prototype homes where environmental responsibilities were seen to require occupants to play an active part, the issue of climate change often remained in the background. Thus, BedZED uses the concept of "one-planet living," a comprehensive approach to sustainability that focuses on the ecological footprint, which includes all resources from water to soil and not just CO2 emissions. Such a comprehensive or "integral" approach to sustainability was also foregrounded by others, such as Jan Husslage, for whom it is the ecological ideal of living harmoniously with nature that matters, and certainly not the recent hype that "makes everybody obsess about CO2." Thus, from this vantage point too, the link with climate change seemed more of an opportunistic one, and the material settings of eco-houses appeared as sites for doing "environmentalism" differently, sheltered from the media storm.

"zero-carbon" lifestyle for their inhabitants, the above houses seem able to absolve their inhabitants from the duty to fulfill environmental obligations by changing their domestic habits. For this reason, an eco-home like that developed by Kingspan might be said to assist in the dissolution of people's position as members in material publics, and thus as environmental citizens. In a variation on Andrew Dobson's definition, environmental citizenship can be understood in terms of the necessity and/or ability to integrate into everyday life the consideration that our socio-material practices affect the well-being of distant others. From the standpoint of such a definition, eco-homes may function as devices of "de-citizen-ization," insofar as they are explicitly designed to absolve domestic subjects from such considerations, taking the environment into account for them. Of course, one can seriously wonder whether any actually inhabited eco-home would be able to fullfill this promise of absolution. If the myriads of studies of mundane technologies breaking down, by Science and Technology Studies scholars, are anything to go by, that seems unlikely. However, it therefore is no less significant that public presentations of eco-homes seem committed to this promise. The deployment of green homes as publicity devices may serve not just to make, but also to unmake environmental publics.

7. Conclusion

It seems clear, then, that a range of different deployments of eco-homes, as devices of publicity, generate a variety a "material publics." On the one hand, eco-homes serve as instruments for articulating the involvement of domestic subjects in environmental problems. But they are equally deployed as technologies for absolving these subjects of the ensuing responsibilities. Whereas climate change awareness campaigns use domestic arrangements to highlight the need for shifts in domestic habits, some architectural prototype houses seem designed to re-institute a liberal subject who can be freed from civic obligations. While some eco-homes assist in the redefinition of public involvement along material lines, as something that is enacted in domestic practices of energy use, others seem mostly dedicated to disentangling subjects from material relations of environmental obligation. Because of such differences between the performances of citizenship enabled by eco-homes, it seems important to recognize that a *distribution* of different versions of the environmental citizen and/or public are currently performed with their aid (Mol, 2002). This distrtribution of citizenships and publics can of course be interpreted in different ways. It can be viewed in strategic

terms, as a situation in which the suggestion of complicity with the issue of climate change creates the need for being liberated from it. But different deployments of eco-homes may also be approached as *contestations* among significantly different versions of the environmental public and/or citizen. But, however this may be, the publics that are brought into existence with the aid of eco-homes do appear to be of a particularly fragile, underdetermined, and ephemeral kind.

The warning by Pocock with which I began this article thus seems partly confirmed by the cases considered here. The material publics brought into existence with eco-homes seem particularly precarious formations, in at least two ways. First, these material publics appear to lead at best an intermittent existence. That is, contrary to the suggestion in materialist political theories, that in the age of environmentalism citizenship (re-)acquires its objective basis, material publics seem to exist primarily as temporary occurrences. Articulations of socio-material practices in the home as sites of public involvement with the environment first and foremost take the form of media events. In such events, publicity campaigns prove able to switch on a material public, but only for some moments. Secondly, material publics here seem very vulnerable to attempts to undo them. That is, if publics are partly made up of physical and material connections, it becomes possible for physical and material arrangements to perform the role of the public for people. This also means that critiques of the reduction of citizenship to consumerism continue to be relevant, even if the idea must be rejected that the domestication of citizenship entails its privatization. They continue to be relevant, because a material understanding of citizenship opens up the possibility that civic virtue can be acquired together with a house, or that is what must be considered in more detail.

At the same time, however, one can wonder whether the fragility of material publics in these cases cannot be appreciated constructively as well. Thus, eco-homes may also be understood as devices of publicity in a different sense than the one I foregrounded here. Rather than asking how eco-homes mediate involvement in the environmental issue of climate change, as I did here, one can also consider whether eco-homes allow for inventive articulations of political issues that are not as familiar, or as overly mediatized. Thus, eco-homes and eco-estates can also be approached as locations where embryonic versions of public controversies over sustainable energy are currently emerging. One example is a recent controversy that occurred in a Dutch eco-

neighbourhood called Lanxmeer in Culemborg.[14] This neighbourhood, which is built in a water collection area, makes use of a non-standard form of energy generation, drawing heat from the groundwater by way of a heat pump that feeds into the electricity net. The water company Vitens, which took over from the public company, wants to end this, as this is not a technology that will scale up. The inhabitants of the neighbourhood, among them some former employees of energy firms, are now considering setting up their own energy company. As energy-related events occuring on eco-estates raise questions about the relations between energy providers and their users and/or suppliers, these sites may perhaps be understood as semi-laboratory like settings for issue formation. Here matters of public concern relating to energy and the environment emerge that may be difficult to formulate elsewhere.[15] The underdeterminacy of material publics might then also have to be understood in terms of their experimental character, as formations that articulate issues of which the shape is in some respects still unfamiliar. This could be one of the more convincing reasons to approach eco-homes as devices for the organisation of publics, and not as static sites of complicity.

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[14] Marleen Kaptein, personal communication.

[15] It also makes it clear that it would be wrong to assume that the material and physical connections that may mediate environmental publics are transparent, as some materialist conceptions of citizenship in terms of relations of "environmental affectedness" do.

References

Asdal, Kristin, "Enacting Things through numbers: Taking nature into account/ing," *Geoforum*, in press.

Bäckstrand, Karin and Eva Lövbrand (2007) "Climate Governance Beyond 2012: Competing Discourses of Green Governmentality, Ecological Modernization and Civic Environmentalism," in: *The Social Construction of Climate Change*, Pettenger M. (ed.) (London: Ashgate Publishers): 123-148

Barry, Andrew (2001) "Demonstrations: sites and sights," in: *Political Machines: Governing a Technological Society* (London: The Athlone Press): 175-198.

Bennett, Jane (2005) "In Parliament with Things," in: *Radical Democracy: Politics Between Abundance and Lack*, Lars Tonder & Lasse Thomassen (eds.) (Manchester: Manchester University Press): 133-148

Berlant, Lauren (1997) *The Queen of America Goes to Washington City: Essays on Sex and Citizenship* (Durham: Duke University Press).

Brown, Bill (2003) *A Sense of Things: The Object Matter of American Litterature* (Chicago: Chicago University Press)

Burtt, Edwin (2003 (1925)), *The Metaphysical Foundations of Modern Science* (New York: Dover Publications)

Danyi, Endre (2007) "Creating publics in object-centred environments," paper presented at the postgraduate conference "Extended Boundaries," Department of Sociology, City University, London.

Dobson, Andrew (2003) *Citizenship and the Environment* (Oxford: Oxford University Press).

Ganzevles, Jurgen (2007) "Technologie voor mens en milieu : een actor-netwerk analyse van de ontwikkeling van energietechnologie voor woningen," Phd dissertation, University of Twente.

Guy, Simon and Elizabeth Shove (2000) *Sociology of Energy, Buildings and the Environment: Constructing Knowledge, Designing Practice* (London: Routledge).

Hawkins, Gay (2006) *The Ethics of Waste: How we Relate to Rubbish* (Lanham: Rowman & Littlefield Publishers)

Hinchliffe, Steve (1997) "Locating Risk: energy use, the 'ideal' home and the non-ideal world," *Transactions of the Institute of British Geographers* 2 (22): 197-209.

Hinchliffe, Steve (1996) "Helping the earth begins at home," *Global Environmental Change* 1 (6): 53-62.

Hobson, Kersty (2006) "Bins, Bulbs, and Shower Timers: On the 'Techno-Ethics' of Sustainable Living," *Ethics, Place & Environment* 3 (9): 317 – 336.

Law, John and Annemarie Mol (2008) "Globalisation in Practice: On the Politics of Boiling Pigswill" *Geoforum* 1 (39): 133-143

Lash, Scott and Celia Lury (2007) *Global Culture Industry: The Mediation of Things* (London: Polity Press).

Latour, Bruno (2005) "From Realpolitik to Dingpolitik or How to Make Things Public," in: *Making Things Public*, Bruno Latour and Peter Weibel (eds.) (Cambridge: MIT Press): 14-43.

Lovell, Heather (2004) "Framing sustainable housing as a solution to climate change," *Journal of Environmental Policy and Planning* (6): 35-55.

MacKenzie, Donald (2007) "The Political Economy of Carbon Trading," *London Review of Books* 7 (29): 29-31

Macnaghten, Phil (2003) "Embodying the environment in everyday life practices," *Sociological Review* 51 (1): 62-84.

Marres, Noortje, "Front-staging non-humans: publicity as a constraint on the politics of things," in *The Stuff of Politics*, Bruce Braun and Sarah Whatmore (eds.) (Minneapolis: University of Minnesota Press), forthcoming.

Marres, Noortje (2005) "No Issue, No Public: Democratic Deficits After the Displacement of Politics," Phd dissertation, University of Amsterdam.

Massey, Doreen (2007) *World City* (London: Polity Press)

Miller, Daniel (1998) "A Theory of Virtualism," in: *Virtualism: A New Political Economy*, J Carrier and D Miller (eds.) (Oxford: Berg): 187-213

Mol, Annemarie (2002) *The Body Multiple: Ontology In Medical Practice* (Durham: Duke University Press).

Pocock, J.G.A. (1995) "The Ideal of Citizenship since Classical Times," in: *Theorizing Citizenship*, Ronald Beiner (ed.) (New York: State University of New York Press): 29 -52.

Rydin, Yvonne and Urooj Amjad and Martine Whitaker (2007) "Environmentally Sustainable Construction: knowledge and learning in London planning departments,"
Planning Theory & Practice 3 (8): 363 – 380.

Shove, Elizabeth (2007) "Caution: Transitions ahead: politics, practice and sustainable transition management," *Environment and Planning A* (39): 763-770.

Shove, Elizabeth (2003) *Comfort, Cleanliness and Convenience: The Social Organization of Normality* (London: Berg Publishers).

Shove, Elizabeth (1998) "Gaps, barriers and conceptual chasms: theories of technology transfer and energy in buildings" *Energy Policy* 15 (26): 1105-1112

Slocum, Rachel (2004) "Consumer citizens and the Cities for Climate Protection campaign," *Environment and Planning A* (36): 763-782.

Spaargaren, Gert and Bas van Vliet (2000) "Lifestyles, Consumption and the Environment: The Ecological Modernisation of Domestic Consumption," *Environmental Politics* 9(1): 50-77.

Strassart, Pierre and Sarah Whatmore (2003) "Metabolising risk: food scares and the un/re-making of Belgian beef," *Environment and Planning A* (35): 449-462.

Yaneva, Albena (2005) "Scaling Up and Down: Extraction Trials in Architectural Design," *Social Studies of Science* 6 (35): 867-894

Walker, Gordon and Noel Cass (2007) "Carbon reduction, 'the public' and renewable energy: engaging with socio-technical configurations , *Area* 4 (39): 458–469

Whatmore, Sarah (2002) *Hybrid Geographies: Natures, Cultures, Spaces* (London: Sage Publications).

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