Journal of Sustainable Tourism

ISSN: 0966-9582 (Print) 1747-7646 (Online) Journal homepage: http://www.tandfonline.com/loi/rsus20

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To cite this article: David Weaver (2011) Can sustainable tourism survive climate change?, Journal of Sustainable Tourism, 19:1, 5-15, DOI: 10.1080/09669582.2010.536242

To link to this article: http://dx.doi.org/10.1080/09669582.2010.536242

Journal of Sustainable Tourism
Vol. 19, No. 1, January 2011, 5–15

Routledge
Taylor & Francis Group

Can sustainable tourism survive climate change?

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(*Received 21 March 2010; final version received 27 May 2010*)

This opinion piece contends that tourism's expanding engagement with climate change, as it is currently unfolding, is not necessarily conducive to the interests of tourism sustainability. Inherent unpredictability, long-term timeframes, lack of directly tangible consequences or clearly identifiable villains, issues with credibility and vested interests and cost implications in an era of chronic economic uncertainty all combine to increase the likelihood of unsuccessful climate change policies and strategies. Additional complications arise within the tourism sector from the rudimentary state of knowledge about the relationships between the tourism and climate change, an apathetic and fickle travelling public and a reciprocally uncommitted tourism industry. I argue that adaptation is a rational business response to climate change that is not directly related to environmental and sociocultural sustainability, and that mitigation measures should be supported to the extent that they yield practical and tangible short- and medium-term benefits and address local sustainability issues such as air quality and biodiversity protection.

Keywords: climate change; sustainable tourism; adaptation; mitigation; superficial environmentalism

Introduction

Since the mid-1990s, discourses about the tourism sector have become increasingly dominated, at least rhetorically, by the ideas and ideals of sustainability. There is evidence that "sustainable tourism" in turn is becoming dominated – again at least rhetorically – by the issue of climate change. This opinion piece intends to stimulate discussion by contending that the growing engagement with climate change, as it is currently unfolding, is not necessarily conducive to the interests of tourism sustainability. Seven interrelated issues are presented in support of this contention, which sequentially consider the role of the science of climate change, the tourist and the tourism sector. This appraisal concludes with some observations on implications for the industry, tourists and the academic community.

Issue 1: limited and imbalanced knowledge

Recent commentaries such as Hall (2008a), Scott (2008) and Scott and Becken (2010) all note the rapid increase in the number of academic publications investigating at least some aspect of the relationship between climate change and tourism. An analysis of the CABI Direct database undertaken by the author for this piece reveals 128 English-language peer-reviewed journal articles (excluding short editorials, research notes, rejoinders, etc.)

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ISSN 0966-9582 print / ISSN 1747-7646 online

DOI: 10.1080/09669582.2010.536242
http://www.informaworld.com

published from 1986 to 2009 where such relationships are the dominant theme. An exponential pattern was also revealed, with just six papers published from 1986 to 1996, but 44 from 1997 to 2005 and 80 from 2006 to 2009, even with not all articles from 2009 entered into the database. Further analysis, however, showed that two thirds of this output was focused either on the projected impact of climate change on tourism or the anticipated socio-economic consequences (e.g. changing visitation patterns) of the latter for tourism. Only 15% emphasised the influence of tourism on climate change, while the remainder were divided (11 papers each) respectively between a concentration on adaptation and mitigation strategies. Topically, about 40% of the empirical papers examined ski resorts in economically more developed countries and less than 10% focused on small islands or coastal areas of economically less developed countries. A similar pattern is revealed in the comprehensive tourism and climate change bibliography compiled by Scott, Jones and McBoyle (2006), which includes the refereed literature as well as reports, proceedings and other non-peer-reviewed sources.

These results corroborate major knowledge gaps identified by UNWTO-UNEP-WMO (2008), Hall (2008a), Scott and Becken (2010) and others and reveal moreover an absence of peer-reviewed literature upon which to inform the policy and operational decisions that many are describing as imperative (see below). Scott and Becken (2010) suggest that the field is just starting to emerge from an "awareness phase" and then state more tellingly that "scholars are *only now beginning to develop the capability* to deliver relevant scientific knowledge that can be used by the tourism decision-makers in both the public and private sectors [my italics]" (p. 287). The one relatively well-defined – and obvious – trajectory emerging thus far is that skiers tend to and will probably continue to avoid resorts that lack suitable snow conditions and that many resorts are, therefore, investing in snow-making technology to better ensure that desirable snow conditions can be provided in future. While Hall (2008a) characterises our knowledge about ski resorts and climate change as "adequate" or "very adequate", Scott (2008) qualifies even this knowledge as very limited in terms of understanding its market implications or for informing appropriate adaptation strategies; there is much remaining uncertainty about the attendant impacts of climate change for visitation rates and shifts in seasonality even in a "research-rich" region such as the European Alps.

The issue of research quantum aside, I contend that the current state of knowledge about the relationship between climate change and tourism, as measured in peer-reviewed published outcomes, cannot yet be used as a basis for properly informing major private and public sector investments in climate change adaptation or mitigation, especially in coastal areas which account disproportionately for much of tourism's fixed/built capital. Pending major investments in research across all themes and geographic settings, and closer collaboration with non-tourism researchers who are better apprised of the science of climate change, it is difficult to see when or if this situation will change.

Issue 2: the unpredictability of future outcomes

Even if much greater investments in research were forthcoming, a reasonable degree of scientific veracity is possible only in relation to the observable present or the record of the past. Climate change, however, is a long-term phenomenon that requires knowledge about the likelihood of future climatic scenarios and their impacts on the tourism system. The uncertainty that attends this "knowledge" increases as more variables and longer timeframes are taken into account and because there is significant variation in change, with largely unpredictable extreme situations in some years impacting disproportionally

on the tourism system. The inherent complexity of climate and tourism systems makes it also imperative that multiple variables *are* considered concurrently. The usefulness of both climate change scenarios and climate change-linked tourism scenarios, that project beyond 20 or even 10 years into the future must, therefore, be seriously questioned.

What then should be made of studies such as Hamilton and Tol (2007), who present graphically and mathematically impressive simulation models that project tourism flows for Germany, Ireland and the UK under various climate scenarios *up to 2080*? Metrics calculated to three decimal points reinforce their apparent accuracy, but are these outcomes really of any practical utility to strategic planners and policy makers? Even though the complexity of these models has increased and improved considerably (cf. e.g. an earlier model by Lise & Tol, 2002), it remains questionable whether future travel flows over more than half a century can be modelled, given persisting uncertainties regarding the role of different weather parameters and their perception by various population groups (e.g. Scott, Gössling, & de Freitas, 2008), the importance of weather parameters in comparison to other destination attributes, the complexity of behavioural change, the unknown role or genesis of extreme events and the uncertainty regarding future income and prices (Gössling & Hall, 2006). Scott (2008) asks in this regard whether "the potential behavioural response of tourists a generation or two into the future [can] be inferred from responses by contemporary visitors . . . Can behavioural transference between adjoining generational cohorts be considered reliable?" (p. 359).[1]

Scott (2008) states further that "we should not assume that climate change adaptation will be simple or even successful (p. 358)", a sentiment which perhaps helps to explain the current dearth of refereed papers focused on mitigation and adaptation strategies. His subsequent call for "the development of a more comprehensive framework" (p. 359) for understanding and acting on the implications of climate change is consequently merited but fraught with complication.

Issue 3: accusations of dogmatic and compromised engagement

The unpredictability of future outcomes is an inevitable problem with climate change research, but the resultant uncertainty is compounded by the way in which the attendant science is perceived and pursued. Predictability issues aside, to what extent can this science be trusted? The papers identified from the CABI Direct database search are effectively unanimous in their concurrence with the belief that anthropogenic climate change is occurring and will have seriously deleterious impacts on many if not all tourist destinations. The handful of reviews, reflections and commentaries that have appeared recently (Becken, 2008; Hall, 2008a; Patterson, Bastianioni, & Simpson, 2006; Scott, 2008; Scott & Becken, 2010) are thus more critical of the implications and the details of optimum responses to climate change than of the underlying assumptions about the certainty and severity of climate change. More generally, it can be assumed that most tourism researchers will not possess a profound understanding of the physics of climate change and climate modelling. Tourism researchers are consequently reliant on the knowledge yielded by the scientific community working with the physics of climate change.

Climate change science, on the other hand, has faced increasing accusations from some scientists, politicians and journalists of dogmatism and compromised engagement (Giddens, 2009). While it could be argued that these accusations mainly implicate the behaviour of a few individuals on either side of the issue, one result has been some success in undermining the credibility of the climate change science. Some who strongly support the case for serious anthropogenic influences and dire consequences from the same have

received concerted media attention for either condemning any criticism of climate science or for purportedly disseminating exaggerated or seriously inaccurate "facts" (though proof of the latter has thus far only been provided in one case, see below). Other scientists, notably usually not climatologists, have alternatively found a comfortable position in questioning climate change and revealing errors, receiving broad media support in presenting often dubious positions and capitalising paradoxically on the "good journalism" principle of balanced reporting (cf. Boykoff & Jules, 2004).

A critical opinion piece by Tierney (2009) in the normally sympathetic *New York Times* illustrates the growing credibility dilemma, merited or not, that has arisen as a result of both impulses. This focused attention on the so-called "climategate" scandal, which involved the leaking of allegedly compromising email communication that implicated prominent climate change researchers at the Climate Research Unit of the East Anglia University. Similarly high attention was accorded to the discovery of "mistakes" in the Fourth Report of the Intergovernmental Panel on Climate Change (IPCC AR4). The selection of the IPCC as a target for criticism is significant given the credibility it had achieved as the body designated by the United National Environment Programme (UNEP) and the World Meteorological Organization (WMO) to scientifically assess climate change and its consequences and as the co-winner of the 2009 Nobel Peace Prize. Prominent among these alleged mistakes were the postulated timelines for the disappearance of Himalayan glaciers, which proved to be incorrect, by the IPCC's own admission, to an exponential degree (Black, 2010) Subsequently, other alleged IPCC AR4 errors and examples of carelessness have been cited (Gray & Leach, 2010).

Global mainstream media coverage on the various purported errors in the IPCC AR4 had a major impact on public opinion. An early 2010 online poll conducted by a major nationwide newspaper in Australia is indicative of the substantial "doubt building" that has been achieved by the climate change sceptics: 67.2% of the almost 11,000 respondents replied "not at all" to the question "How much do you trust scientific projections concerning global warming?" (*The Australian*, 2010). The UK's *Guardian* newspaper reports that in the USA, recent polling indicates that only one American in three still believes that human beings are responsible for climate change, while the share of adults believing that global warming is "definitely" a reality has declined from 44% to 31% in the UK in early 2010, compared to the previous year (Preston, 2010). Charitably, this may simply indicate a relatively sophisticated popular understanding of the complexity and hence uncertainty of long-term scenarios. More likely, it reveals a high level of media-induced public scepticism about the overall credibility of current climate change science.

Whether these highly publicised errors and examples of carelessness are scurrilous, anomalous or indeed indicative of serious fault lines within the knowledge underlying the climate change consensus is perhaps less important than their deleterious effect on the willingness and ability of government and the private sector to engage seriously with the issue. The capacity of a well-organised and well-funded lobby of IPCC opponents to reveal and exploit future compromises, moreover, should not be underestimated (Giddens, 2009). The importance of public debates on the veracity of the work done by the IPCC goes however beyond implications for climate science itself. As the IPCC is an international organisation, consisting of hundreds of leading scientists whose work is reviewed by scientists, business representatives and political groups, the organisation's work should indeed live up to its claims to represent the highest science standards in terms of validity and reliability (IPCC, 2010a). If the IPCC's work is perceived as being compromised, then this will undermine (or may already have undermined) the credibility of science more generally and have repercussions for sustainability-related research beyond climate change itself. The formation in

2010 of the independent InterAcademy Council to review the IPCC, at the request of the United Nations, is both at least a tacit admission of past problems and an opportunity to restore its credibility, particularly in the public and political arenas (IPCC, 2010b).

Issue 4: fickle markets

Public attitudes, intentions and behaviour critically influence the responses of both government and the private sector to the climate change debate. There is widespread evidence, at least within the more economically developed countries, that majorities have become both *aware* of and at times *concerned* about climate change. However, majorities concurrently reveal an unwillingness to substantively change their travel and other behaviour in ways that could help to address those concerns, irrespective of the most recent media-fuelled controversies (Anable, Lane, & Kelay, 2006; McKercher, Prideaux, Cheung, & Law 2010). This pattern, like the poll results elicited in the wake of the IPCC ARC4 controversy, reflects the normative status in Western societies of what Weaver (2007) describes as superficial or veneer environmentalism. Circumstances such as the Global Financial Crisis or a terrorist attack can also quickly relegate the environment in general to a lower public priority issue. Children, students and young adults are not necessarily more responsive, with research in the UK revealing among teens and pre-teens a lack of concern with climate change but very strongly positive attitudes and intentions toward automobiles (they are perceived to provide convenience, freedom, comfort, adult identity, safety, etc.) which were not altered by their climate change attitudes (Line, Chatterjee, & Lyons, 2010). Shaw and Thomas (2006) note similar views among students about low-cost airline use. Accordingly, the industry might increasingly target these groups, as exemplified by frequent flyer programmes focusing on children (Gössling & Nilsson, 2010) and creating unsustainable norms and perceived entitlements that may be difficult to change later in life.

I believe that modern society is and will remain "mobility promiscuous", travelling by aircraft, automobile, cruise ship or otherwise to more places than ever and that this is unlikely to change except perhaps marginally and periodically through economic compulsion. From a supply side perspective, tourists have demonstrated their capacity to make personal travel adaptations to changing weather and climatic conditions (Becken, 2008; Hall, 2008a; Scott, 2008) and thus have little vested interest in the long-term survival of specific destinations at least. Climate change concerns might even be stimulating travel among some segments, with the perverse phenomenon of "last chance tourism" evident, for example, among visitors to Churchill (Canada) who feel that future opportunities to view polar bears in their natural habitat may not exist (Dawson, Stewart, Lemelin, & Scott, 2010; see also Eijgelaar, Thaper, & Peeters 2010). Anaemic levels of public awareness and responsiveness to tourism-related certification schemes are another indicator that no groundswell of support for deep climate change action within the travel/mobility arena is forthcoming (Weaver, 2006).

Overall, climate change mitigation may be seen as yet another responsibility for companies and customers, adding to the complexities and pressures already arising out of wider sustainability concerns, and may consequently be perceived as a burden too heavy to carry – perhaps eventually leading to a decline in interest in sustainability action more generally.

Issue 5: a house dividing? Adaptation versus mitigation

It is widely averred that the tourism sector must pursue adaptation strategies in response to the ongoing and inevitable effects of climate change but should concurrently participate in mitigation efforts to avoid increases in impacts from climate change that become too

significant to be handled through adaptation (Becken & Hay, 2007; Gössling, Hall, & Weaver, 2009; IPCC, 2010a). Dubois and Ceron (2006) accordingly regard adaptation and mitigation as two sides of the same coin. I question the assumed complementarities of the two approaches and suggest the possibility of expanded future conflict between "adaptationists" and "mitigationists" as decisions are made to allocate scarce resources in response to climate change scenarios.

Contrasting ideological foundations are apparent insofar as adaptation often constitutes a rational "capitalism-compatible" response by individual businesses to actual or high-probability threats. This is demonstrated in the ski industry with its expanding investment in snow-making capacity (Elsasser & Messerli, 2001) and could be manifested more often in future by seaside resort hotels adjusting to rising sea levels (or reasonable threat of same) by building floodwalls or opening new facilities on higher ground. Tellingly, investments in such adaptation strategies contribute directly to sustainable tourism only insofar as the latter includes the *financial* sustainability of operators. Implications for the more conventional stakeholder-oriented (rather than shareholder-oriented) parameters of environmental (i.e. the original concern of the Brundtland Report; cf. WCED 1987) and sociocultural sustainability are potentially negative when they divert funds from these other arenas and/or involve massive amounts of energy and water (as with snow making) or clearance of habitat (as with the relocation of ski runs to higher altitudes or hotels to higher ground). Such measures, ironically, may directly or indirectly exacerbate global warming and its effects.

Mitigation similarly evokes technological innovation, for example in the quest for more fuel-efficient aircraft, alternative energy transport or the most efficient modes of carbon sequestration. However, a neo-Malthusian thread is evident in concurrent calls to lower the "carbon footprint" by reducing travel (and long-haul air travel in particular), to cut the use of non-renewable energy sources and even the need to reduce population growth – all of these being developments that are incompatible with the pro-growth ethos of free market capitalism and its implicit technological utopianism. Beyond the obvious financial benefits of increased fuel efficiency and other cost-effective innovations, the rationale for investing in mitigation, moreover, is unclear given the long-term and unpredictable character of the climate change to which such strategies are in response and the failure of the 2009 United Nations-sponsored Copenhagen climate change conference to produce tangible and (some would allege) just commitments to reduce greenhouse gas emissions (see Scott & Becken, 2010). Moreover, while some high-status reports have made the point that it will be considerably cheaper to pay for mitigation now rather than to pay for adaptation in the future (Stern, 2006), other authors have argued that it would be more appropriate for (more wealthy) future generations to pay the costs of climate change (e.g. Lomborg, 2007), a perspective that has received considerable attention and applause from industry, despite its inherent risks.

Additional arguments against mitigation include the idea that investments in adaptation may subsequently provide a disincentive to mitigate – for instance, if a ski company has invested in snow-making capacity or relocated to higher altitudes, it may be comfortable with climate change prospects as long as medium-term investment horizons are covered (Wolfsegger, Gössling, & Scott, 2008). Climate change may conceivably even be perceived as an advantage by these resorts, as it might "wipe out" their competitors. Although evidence of overt adaptation/mitigation rivalry as framed above is not yet forthcoming (at least within the tourism/travel sector), there are several recent developments which could reveal the fault lines. One example is the International Air Passenger Adaptation Levy, proposed by the Maldives in 2008 to raise $8 billion per year to fund the adaptation of small islands and

low-lying areas to the effects of climate change (Scott & Becken, 2010). Where does this leave mitigation, notable among which is the focus of concurrent proposals for a carbon tax on international air travel (Mayor & Tol, 2007)?

The conflict between adaptation and mitigation might become increasingly important, because currently mitigation is cheap (at the individual scale) and often even leads to savings (Gössling, 2009), while adaptation is not yet an issue that is understood in most tourism sectors. In the future, cheap options to reduce emissions will likely be exhausted, while the need to adapt to climate change will become more pressing, thus laying a double claim on available resources.

Issue 6: distracting from the intensity perspective

Høyer (2000) makes a useful distinction between a "volume perspective" that encompasses global effects such as climate change which result in part from cumulative patterns of tourism-related activity and an "intensity perspective" focusing on destination-level impacts such as congestion, water pollution and crime that arise from local spatial and temporal concentrations of tourists and tourism facilities. Høyer further describes the tourism sector's focus on the latter perspective, a claim that is corroborated by evidence from destinations such as Calviá (Majorca) and Malta (Dodds & Kelman, 2008) and by the lack of climate change content in tourism planning texts (Dredge & Jenkins, 2007; Gunn & Var, 2002; Hall, 2008b).

As with adaptation and mitigation, one can envisage the possibility of a parallel conflict between proponents of the volume and intensity perspectives. Influential stakeholders within the international system of tourism governance have recently embraced at least the rhetoric of climate change, following its popularisation by Al Gore's 2007 Academy Award-winning documentary *An Inconvenient Truth* and the release of the four IPCC reports. The World Tourism Organization, specifically, has to date convened two major specialised conferences on tourism and climate change (Djerba, Tunisia in 2003 and Davos, Switzerland in 2007) and noted in the Davos Declaration of 2007 that climate change "*must be considered the greatest challenge to the sustainability of tourism in the 21st century* [my italics]" (UNWTO, 2007, p. 4). It also notably proclaimed a new "'quadruple bottom line' of environmental, social, economic and *climate* responsiveness [original italics]" (p. 2).

Positioned by high authorities as an existential issue, it is not surprising that some destinations have similarly embraced climate change action, at least rhetorically, in their planning and policy agendas. Destinations such as Costa Rica, Norway, Scotland, Maldives and Sri Lanka, for example, are being positioned to become "carbon neutral" (Gössling, 2009), and it will be interesting to examine the effect that subsequent actions will have on efforts to address traditional "triple bottom line" issues in these places. Notably, there appears to exist no strategic or operational plan in any of the countries/regions about how to achieve "carbon neutrality". Scotland seems to already have abandoned plans to become carbon neutral, as all reference in this regard has disappeared from the Visit Scotland and Tourism Innovation websites, and Norway has a strong focus on growth in tourism, which is unlikely to lead to a decline in emissions from this sector, not even to speak of "carbon neutrality". Costa Rica and Sri Lanka have not presented any specific strategies, but it seems clear that they aim at achieving "carbon neutrality" through reforestation programmes, which is unlikely to be a long-term sustainable approach (Gössling, 2009). It is unclear at this point why there is a lack of serious commitment regarding "carbon neutrality" claims, but the most cynical explanation is that these have always meant to be a greenwashing smokescreen with the goal of averting regulatory policy intervention and perhaps of additionally diverting

attention and resources from local intensity perspective issues. More charitably, it may be that the techniques, skills and behavioural change mechanisms required to achieve this status are not yet available.

There is an argument that engagement with climate change could serve as a catalyst for a higher level of attention with those other more localised issues, but the case for a distraction and greenwashing effect is equally compelling, especially given the limited resources available to most destination managers for achieving sustainable tourism. Both possibilities can be read into recent comments by the guest editors of the special issue of the *Journal of Sustainable Tourism*, on Tourism: Adapting to Climate Change and Climate Policies (Volume 18/3, 2010), who espoused the view that:

> The recent climate change dialogue has increasingly become an important driver of broader discussions of more sustainable forms of future tourism development. For example, the four scenarios developed as part of the ongoing strategic tourism futures exercise in the UK (Tourism 2023 – Forum for the Future, 2009) are all dominated by developments in climate policy and/or the impacts of climate change. (Scott & Becken, 2010, p. 289)

Their comments were upheld by the co-editor of the same journal in 2009:

> The winds of climate change have the potential to give new life to the concept of sustainable tourism . . . . A powerful driver has emerged (Lane, 2009, p. 27)

It is, however, clear to this observer that this new focus on climate change, whether ingenuous or not, has meant that the potential for other sustainability dimensions to be neglected is greatly increased, in terms of both policy making and practice.

Issue 7: lack of industry commitment

Collectively and individually, the tourism industry appears to be following the UNWTO in its embrace of climate change action. The World Travel and Tourism Council (WTTC), for example, has set a 25–30% target reduction in greenhouse gas emissions from a 2005 baseline (Scott & Becken, 2010). However, and notably, this target is "aspirational" only: Scott, Peeters and Gössling (2010) speculate whether such statements can be regarded as more than empty rhetoric. The sector's overall efforts to achieve sustainable tourism are unimpressive if judged by factors such as participation in quality externally verified environmental certification schemes (Weaver, 2006). However, this may simply reflect more than anything else the public's own tepid approach to the latter, as discussed above. Perhaps best symbolising the current state of industry engagement are the ubiquitous linen re-usage signs in hotels which (1) constitute a high profile "coalface" signal of ostensible corporate commitment to the environment, (2) provide a convenient and low-investment way for guests to help "save Mother Earth" (the signage costing very little) and (3) yield considerable savings to the company through reduced labour and energy costs.

It is entirely unsurprising that the industry will engage with climate change to the extent that this yields gains in public opinion and profitability and reduces regulatory pressure from government. Ad hoc or strategic adaptation based respectively on actual events or assessments of high-probability risk are thus one type of rational response, along with the relatively superficial environmentalism of recycling and linen re-usage which simply reflects the normative status of superficial environmentalism within society as a whole. There is no public pressure at this time to do anything more. Other considerations that further discourage deep action include the failure of the Copenhagen climate change conference to yield binding emission target commitments and a prevalent "psychology of denial" (Stoll-Kleemann, O'Riordan, & Jaeger, 2001) with regard to climate-intense consumption (Giddens, 2009).

Final thoughts

It is difficult to imagine a cause more tragic and destined to fail than climate change action, with its inherent unpredictability, long-term timeframes, lack of directly tangible consequences or clearly identifiable villains (except perhaps for air travellers), issues about credibility, the powerful vested interests involved and its cost implications in an era of chronic economic uncertainty (Gössling, 2009). The failure of the international community to arrive at a consensus for concerted action is therefore unsurprising. Further complications arise specifically within the tourism sector from the rudimentary state of knowledge about the relationships between the tourism and climate change, an apathetic and fickle travelling public and a reciprocally uncommitted (or superficially committed) tourism industry.

Accordingly, it must be queried whether the growing trend for destinations and companies to become "carbon neutral" and to otherwise divert scarce resources to the volume perspective climate change issue is a matter of vital reform or a potentially harmful distraction. A first thought is that adaptation is fundamentally a matter of rational strategic response by business to actual or high-probability risks and will occur regardless of what tourism academics write or say (see Bramwell & Lane, 2007), though the latter may indeed provide invaluable knowledge as to strategic and tactical specifics. The ski industry already provides ample evidence of this. Adaptation, in my view, should not be regarded as an essential parameter of environmentally and socioculturally constructed sustainable tourism, and resources intended for the latter therefore should not be allocated to the former. Furthermore, I do not regard grandiose proclamations to become "carbon neutral" (whatever that means) by 2020 or beyond to be particularly helpful or useful given the diabolical policy context and examples of apparent retreat (or possible insincerity) outlined earlier in this paper.

Alternatively, I do support engagement with mitigation to the extent that this (1) yields practical and tangible benefits – of which there are surprisingly many (cf. Gössling, 2009) and (2) simultaneously addresses attendant localised intensity perspective issues, the arena which I believe must remain the priority of destination planning and management. Alternative energy-based transport can reduce emissions and alleviate local air pollution problems. Appropriate habitat restoration and tree planting can enhance local biodiversity while also storing greater quantities of carbon. Both initiatives can improve the quality of life for residents and increase visitor satisfaction, all the more so if they have positive long-term implications for climate change. Cumulatively, such localised efforts may indeed have a tangible effect on global climate change and attract less scepticism and cynicism in so doing. Participatory exposure of residents and tourists to these kinds of local level initiatives is more likely than sensationalist exposure to the grand and quixotic narratives of climate change and carbon neutrality to incrementally carry society, and thus industry, beyond superficial environmentalism.

Acknowledgement

I wish to extend my sincere appreciation to Stefan Gössling and Bernard Lane for their invaluable input into the content of this paper.

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Note

1. See Chhabra (2010) for the emerging discussion on the attitudinal and behavioural differences between contemporary generational cohorts.

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