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Climate change, tourist air travel and radical emissions reduction

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ABSTRACT

Tourism has been critiqued as an environmentally destructive industry on account of the greenhouse gas emissions associated with tourist mobility. From a policy perspective, current and projected growth in aviation is fundamentally incompatible with radical emissions reduction and decarbonisation of the global energy system. Efforts to address the aviation-climate change 'policy clash' must be informed by an understanding of public sentiments towards climate change, air travel and carbon mitigation. This article examines how consumers across four western nations are responding to the environmental excesses of contemporary air travel consumption. It focuses on individual receptiveness to voluntarily measures aimed at changing flying behaviours, industry responses and degrees of government regulation. Its theoretical context harnesses lessons from public health to inform a discussion of bottom up (social marketing, nudge) and top down (government regulation) approaches to the urgent challenge of radical air travel emissions reduction. The findings of its comparative empirical analysis are presented, based upon 68 in-depth interviews conducted in Norway, the United Kingdom, Germany and Australia. We highlight contrasts in how consumers are beginning to internalise and process the environmental excesses of contemporary air travel consumption. Whereas voluntary measures, such as carbon off-setting, are viewed with widespread scepticism, divergence was found across the four study contexts in willingness to accept regulatory measures. Norwegians were far more willing to accommodate strong government intervention through taxation, whereas participants from the other three nations favoured softer strategies that are not perceived as restricting individual freedoms to travel. We conclude that voluntary approaches will be insufficient alone, and that behavioural change in public flying behaviour requires diverse policy measures. These must be informed by insights into the public's willingness to palatate stronger mitigation interventions, which varies within and between societies.

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1. Introduction

Strong negative appraisals of frequent flying are increasingly voiced as part of climate change discourses (Stern, 2007; Garnaut, 2011; IPCC, 2013; Higham, Cohen, Peeters and Gössling, 2013; Rosenthal, 2010). Tourism accounts for 5% of global carbon emissions (Peeters and Dubois, 2010), 40% of which is attributed to air travel (Gössling, 2009). This share continues to rise in real and

relative terms, as the aviation sector remains on a trajectory of unrestrained growth and other sectors pursue emission reductions (Bows and Anderson, 2007). Indeed, tourism is projected to generate up to 40% of total global CO₂ emissions by 2050 (Dubois and Ceron, 2006; Gössling and Peeters, 2007) as demand for air travel continues to far exceed fuel efficiency and operational gains in the sector (Mayor and Tol, 2010). This trajectory is fundamentally incompatible with the challenge of radical emissions reduction and the urgent decarbonisation of the global energy system. It is also the cause of an aviation – climate change 'policy clash' (Bows and Anderson, 2007). The response of governments has been to encourage voluntary public behaviour change towards lower carbon lifestyles (Barr et al., 2011); an approach that has failed to gain

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traction in the context of discretionary tourist air travel (Cohen et al., 2011; Miller et al., 2010).

Attempts to explain this failure have addressed the freedom of choice that is central to contemporary neoliberal western lifestyles (Harvey, 2011), which encourages unrestrained consumption of the products of global capitalism (Urry, 2010). It has been argued that contemporary tourist air travel is a practice that may in some societies constitute elements of compulsive consumption or behavioural 'addiction' (Hill, 2007; Rosenthal, 2010). These forms of consumption are concerning in that while the short term benefits of air travel accrue to the individual, the severe negative consequences of air travel (specifically its growing relative and absolute contribution to climate change) are dispersed, global and unevenly distributed (Cohen et al., 2011). The deeply embedded nature of contemporary tourist air travel in developed societies has been highlighted by recent 'binge flying' (Burns and Bibbings, 2009; Randles and Mander, 2009) and 'air travel addiction' (Hill, 2007; Cohen et al., 2011) discourses, with parallels drawn between the public health denials of the tobacco, fast food and alcohol lobbies, and the climate denials of the aviation industry (Hill, 2007).

This article examines consumer willingness to change air travel behaviours, and receptiveness to voluntary measures, industry responses and government regulation in a comparative study across four western nations. We theoretically and empirically explore voluntary (autonomous), soft bottom up (social marketing, nudge) and hard top down (regulation) approaches to the significant challenge of air travel emissions reduction. Building upon past studies on awareness, attitudes and behaviour, here we focus on the public palatability of soft and hard forms of regulation. Leveraging the analogy of tourism as 'the new tobacco' (Rosenthal (2010, p. np)), we draw our theoretical context from the fields of public health, transport and environmental behaviour to inform an understanding of individual and structural approaches aimed at encouraging reduced flying. Drawing insights from long standing public health issues (e.g., binge drinking, smoking addiction and the obesity epidemic) we highlight the complex challenges of changing deeply embedded behaviours, through voluntary measures and/or regulatory interventions (Avineri and Goodwin, 2010; Marteau, 2011). We then report the results of four studies conducted in Norway, the United Kingdom, Germany and Australia, that examine how, and in what ways, consumers in these societies are internalising and responding to the environmental excesses of contemporary air travel. Although calls are increasing for policy measures to achieve radical air travel emission reductions (Hall, 2013; Higham et al., 2013), policy interventions must be informed by an understanding of public sentiments which are likely to vary both within and across societies to determine the efficacy (and potential rebound effects) of mitigation measures targeting consumer behaviour change.

2. Climate change and air travel emissions

Transport is widely recognised as one of the most expensive and difficult sectors in which to reduce energy demand, yet it is responsible for nearly 25% of global energy-related CO₂ emissions, with these expected to double by 2050 from a 2005 baseline (Anable et al., 2012; IEA, 2008). To date, the promotion of sustainable practices to the public has focused primarily on energy use in and around the home, and has tended to ignore the climate impacts of travel and transport (Barr et al., 2011). Although there is a variety of command-and-control, market-based and soft policy measures available in theory to achieve reductions in transport emissions (Friman et al., 2013; Sterner, 2007), there remains a major 'implementation gap' (Banister and Hickman, 2013). There is a growing consensus that this gap, at least partially, stems from a

social lock-in within transport policy, whereby overcoming the institutionalised nature of high carbon use in transport will require 'radical transitions' (Schwanen et al., 2011: 995), rather than just small-scale changes in behavioural practices.

The problem is particularly acute in the case of tourism transport (Gössling and Peeters, 2007; Mayor and Tol, 2010). Policies directed at addressing GHG emissions from transportation are typically aimed at everyday travel and tend to ignore the significant impacts of tourist travel (Bows and Anderson, 2008; Anable et al., 2012). Tourism-related trips, however, are likely to be longer and employ more energy intensive modes than everyday journeys (Holden and Linnerud, 2011). Increasing mobility in leisure patterns has emerged as a significant problem for accelerating climate change: a study of leisure consumption in Norway in 2005, for instance, shows that it represented 23% of the total energy use embedded in private and public consumption (Aall, 2011), with the most energy intensive forms of tourism transport growing fastest.

While consumers consider destinations that they are able to access within the constraints of discretionary time and income, cheap air routes have redefined the distance/cost/time thresholds of available destinations (Larsen and Guiver, 2013). Despite claims that low-cost services have increased social inclusion in air travel, flying remains the domain of the wealthy who have used the low-cost model to fly more frequently and use distance to reproduce existing class distinctions in holiday behaviours (Casey, 2010). This raises questions of social and national equity, as a relatively small proportion of frequent air travellers are personally responsible for high greenhouse gas emissions, while the consequences are (and will increasingly be) borne disproportionately by people in nations with relatively few flights per capita and relatively low per capita emissions profiles (Scott et al., 2012).

Although increasing air travel emissions continue to outpace fuel and operational efficiencies (Mayor and Tol, 2010), governments have been unwilling, to date, to implement meaningful policy initiatives to mitigate air travel emissions (Bows and Anderson, 2007; Higham et al., 2013). Restricting aviation unilaterally has been portrayed in opposition politics to great effect as reducing competitiveness in the global market. Domestic aviation was included in the Australian ETS implemented by the Labour government in 2011. It was immediately repealed by subsequent Liberal government (October 2013), which campaigned aggressively against the carbon tax in the 2013 Australian Federal elections on the grounds of anti-competitiveness.

International aviation was not included in Kyoto Protocol obligations and remains outside national emissions inventories due to questions of accountability arising from complex international aeropolitical arrangements (Becken, 2007). International aviation remains outside the EUs emissions trading scheme (ETS) (Duval, 2013), causing an aviation and climate change 'policy clash' in Europe (Bows and Anderson, 2007). The aviation lobbies meanwhile go to considerable lengths to convince policymakers that the environmental impacts of flying can be resolved primarily through technology, alternative fuels and operational innovations (Sustainable Aviation, 2011). In fact the absence of a step change in fuel efficiency is exacerbated by the extended design life of aircraft, which commits society to the most current technology for a minimum period of 30–50 years (Bows and Anderson, 2007). Airline representatives in the UK resist educating the public on the climate impacts of air travel, or transforming the nature of supply, despite the reality that there is no prospect of significant progress in aircraft design over the next two decades (ibid). Without a global market-based mechanism for aviation, such as carbon trading, and with resistance within the transport industry to radical changes in supply, the onus of responsibility for reducing personal transport emissions, through behaviour change, has been

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