

# Tourism and Climate Change: Public and Private Sector Responses in New Zealand

Douglas G. Pearce  
Christian Schott

Douglas G. Pearce, Christian Schott (2010), Chapter 10 Tourism and climate change, in Christian Schott (ed.) *Tourism and the Implications of Climate Change: Issues and Actions (Bridging Tourism Theory and Practice, Volume 3)* Emerald Group Publishing Limited, pp.165 – 186  
[http://dx.doi.org/10.1108/S2042-1443\(2010\)0000003013](http://dx.doi.org/10.1108/S2042-1443(2010)0000003013)

This chapter is (c) Emerald Group Publishing and permission has been granted for this version to appear here (<http://researcharchive.vuw.ac.nz>). Emerald does not grant permission for this article to be further copied/distributed or hosted elsewhere without the express permission from Emerald Group Publishing Limited

## TOURISM AND CLIMATE CHANGE

Public and Private Sector Responses in New Zealand

**Douglas G. Pearce**

**Christian Schott**

Victoria University of Wellington, New Zealand

**Abridgement:** While the need to respond to the wide-ranging challenges posed by climate change has been widely emphasized, there is still a relative lack of attention being given to the type, scale, and nature of responses that are taking place in different economic sectors and parts of the world. This chapter provides a review of the tourism-related responses to the implications of climate change in the context of New Zealand. This is a country where tourism is a very important sector of the economy that depends heavily on the credibility of its green and unspoilt destination image. However, due to its relative isolation in the South Pacific, New Zealand requires most international tourists to travel long distances, which results in considerable greenhouse gas (GHG) emissions. The chapter outlines the private and public sectors' responses to these challenges with particular attention to their collaboration. **Keywords:** New Zealand, tourism public sector, tourism private sector, mitigation, tourism strategy.

## INTRODUCTION

Over the past decade international research has highlighted the important, complex, and reciprocal relationships between tourism and climatic change. This research has drawn attention to both the impact which tourism may have on climate change and the consequences of a changing climate on the tourism industry. In response to the climate change related issues which have been identified, policymakers, operators, and tourists have been called on to adopt a range of mitigation measures (Becken and Hay 2007; Peeters 2007). However, relatively little work has yet been done in examining actual responses to such calls. This chapter seeks to contribute to reducing this gap by considering responses taken by the tourism public and private sectors in New Zealand. In particular, attention is given to the nature and scope of those responses and to the public-private sector cooperation involved. New Zealand provides an appropriate focus for such a study given the challenges faced by the country. Tourism in New Zealand is a significant sector of the economy, one that depends heavily on the image and reality of a clean, green environment but also one where the patterns of demand are such that international travel to and from New Zealand generates high levels of greenhouse gas (GHG) emissions resulting from long haul air travel. To set the public and private sector responses in context, the chapter begins by outlining the basic characteristics of tourism in New Zealand, the country's GHG emissions profile, and the expected impacts of climate change.

### *Tourism in New Zealand*

Over the past three decades tourism has developed into a significant sector of the New Zealand economy. In the year ended March 2009 tourism expenditure amounted to US\$15.8 billion (NZ\$21.7 billion) of which \$8.7 billion was generated by domestic and \$7.1 billion by international tourists. The expenditure on inbound international tourism represented 16.4% of total export earnings. Tourism's contribution (direct and indirect) to gross domestic product was 9.1%, and the sector directly and indirectly supported almost 10% of fulltime equivalent jobs in the country's workforce (Statistics New Zealand 2009). The five leading markets for New Zealand's 2.4 million international tourists are Australia (41%), the United Kingdom (11%), the United States of America (8%), China (5%), and Japan (4%) (Ministry of Tourism 2009a). These figures illustrate effectively that New Zealand depends heavily on long haul markets with 99% of all arrivals being by air, according to Ministry of Tourism (2009c) statistics. Even travel from New Zealand's nearest major market, Australia, involves at minimum a three hour flight. Significant numbers of New Zealanders also travel overseas. Almost two million trips abroad were made by the country's four million residents in the year ended June 2008 (Reid and Pearce 2008). Virtually all outbound travel is also by air, with almost half of all departures to Australia, followed by Fiji (4.8%), the United Kingdom (4.6%), and the United States of America (4.6%) (Ministry of Tourism 2009b). Domestic travel nevertheless remains significant. Most domestic travel occurs by car within the tourist's home region but lower airfares have also led to an increase in travel by plane.

Travel by international tourists within New Zealand is often characterized by a high level of touring (Figure 1), with international tourists undertaking sightseeing tours of both the North and South Islands (Forer 2005). This contrasts with the pattern of single-destination holidays commonly associated with sun-sand-sea tourism that is prominent in many of the world's key tourist destinations. While tourists come to New Zealand for a variety of reasons, major attractions are the country's rich and varied natural scenery and associated opportunities to engage in a wide range of nature-based and adventure activities. Half of all international tourists, for instance, visit a national park during the course of their stay. Additionally, the recent growth in international tourist arrivals (1.4 million in 1998; 2.4 million in 2009) has been strongly supported by the award-winning *100% Pure New Zealand* marketing campaign by Tourism New Zealand, which promotes a green and

unspoilt image of the country. As a result, many tourists to New Zealand have high expectations in terms of the clean green image promoted by the country and of the activities that they engage in.

Figure 1 here

#### *New Zealand's GHG Emissions and Expected Climate Change Impacts*

New Zealand's obligation under the Kyoto Protocol is to reduce the country's average net emissions of GHGs to 1990 levels over the period 2008-2012 (Ministry for the Environment 2009a). Obligations beyond 2012 are not clear at the time of writing. However, as illustrated in Figure 2, total emissions have increased steadily since 1990. The agricultural sector contributes about half of all New Zealand's GHG emissions (predominantly methane) and the energy sector contributes 43%. The largest increase in emissions (mostly carbon dioxide (CO<sub>2</sub>)) relative to 1990 was generated by the energy sector. The tourism sector (which includes transport within New Zealand) is estimated to generate about 6% of all New Zealand's GHG emissions (NZTS 2015), and transport (primarily road transport) accounts for 45% of this sector's total emissions (Ministry for the Environment 2007a). However, emissions from international air travel are excluded from this figure while travel to and from New Zealand is estimated to account for 90% of all CO<sub>2</sub> emissions generated by international tourists (NZTS 2015).

Figure 2 here

Becken (2002) estimates that on average tourists arriving by air into New Zealand traveled 12,915 km and that tourists from the United Kingdom generated 2.4 tons of CO<sub>2</sub> per tourist one way (this has recently been revised to 3.7 tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>-e) GHG by Landcare Research who incorporated a radiative forcing multiplier). In the same context, Smith and Rodger (2009) note that in 2005 total CO<sub>2</sub>-e emissions attributable to air travel to and from New Zealand by international tourists was 7893Gg (or kilo tons) while outbound New Zealand tourists, including return travel, generated 3863Gg. The authors stress that CO<sub>2</sub>-e values are strongly driven by tourist origin (or destination) rather than tourist numbers. In 2005, for example, Australians constituted 37% of total arrivals but generated only 13% of CO<sub>2</sub>-e emissions. Conversely, Europeans made up 18% of all arrivals but accounted for 43% of CO<sub>2</sub>-e emissions attributable to international air arrivals. Smith and Rodger also note (2009:3444) that "the contribution of international air travel to New Zealand's GHG emissions is...considerably larger than the world average" (approximately 10% compared to world averages estimated to range from 3.5% to 6.8%). Significant levels of energy use and emissions also result from domestic travel, accommodation, and activities within the country, though these vary by segment and sector (Becken and Simmons 2002; Becken, Frampton and Simmons 2001, 2003).

The expected environmental changes triggered by climate change have recently been assessed by the National Institute of Water and Atmospheric Research (in Ministry for the Environment 2008). The changes that scientists are "very confident" will occur in New Zealand are: increases in mean temperatures; fewer frosts and more high temperature episodes; increase in sea levels of 18-59cm on average between 1990 and 2100; and increase in ocean temperatures similar to increases in air temperature. And scientists are "confident" for the following to also occur: heavier and more frequent extreme rainfalls especially where mean rainfall increases are predicted; shortened duration of seasonal snow; and continuing longterm reduction in ice volume and glacier length.

#### NEW ZEALAND'S RESPONSES TO CLIMATE CHANGE

Given the pervasive nature of climate change issues and the structure of tourism in New Zealand, it is not surprising that responses to these issues can be viewed from a variety of perspectives and at different scales and that an array of initiatives and actions have been introduced. These initiatives include specific climate change legislation, broader tourism strategies, and specific measures taken by tourism businesses. While a number of adaptation initiatives are taking place around the country (particularly dealing with water resource management, flood water management, and coastal erosion), there is little evidence of concerted adaptation action in the context of tourism. For tourism, the focus of both the public and private sectors appears to be solidly on mitigation rather than adaptation. This is likely to be a result of the statement that “many indications are that New Zealand is going to be less affected than many other countries by the physical impacts of climate change” (Ministry of Tourism 2008b:18).

The public sector’s approach to climate change adaptation overwhelmingly takes the form of information provision and education of the New Zealand public and local government about climate change and its likely impacts, with the advice to prepare for these challenges. While the public sector’s attention to adaptation is increasing by compiling more detailed information about likely impacts and adaptation advice for the agricultural and forestry sectors, tourism is neglected in this context. The only noteworthy reference to climate change adaptation for the tourism sector is in the 2008 New Zealand Tourism and Climate Change Plan (Ministry of Tourism 2008), which states a need to identify adaptation measures as one of the eight focus points outlined. When the plan expands on this point, there is however a lack of specific information and suggestions for action. Instead the plan emphasizes the need for adaptation issues, options, timings, and costs to be identified.

This lack of concerted adaptation action is counter to the recommendation by Stern (2007) that adaptation policy is crucial in dealing with the unavoidable impacts of climate change and that governments play an important role in providing a policy framework to guide effective adaptation. However, Stern also recognizes that adaptation is under-emphasized in many countries. A few possible explanations for this observation present themselves. The first is the above-mentioned expectation that the physical climate change impact on New Zealand will not be severe, particularly in comparison with many other countries, leading to the conclusion that adaptation is not of grave concern to the tourism industry. Second, it is perceivable that the New Zealand government does not want to urge tourism operators to allocate their limited financial resources to something that is not yet fully understood (for example in terms of what needs to be adapted and how). Or, third, there may be reluctance to invest in something that does not have the same customer-focused image benefits that mitigation is expected to provide, and could at worst project a negative image to international markets by acknowledging that New Zealand tourism will be impacted significantly enough by climate change to warrant adaptation measures. In any case, adaptation does not feature prominently as a response. As a result this chapter will now focus on reviewing New Zealand’s mitigation responses.

### *National-scale Responses to Climate Change*

Under the Labour-led coalition (1999-2008) the government recognized climate change as a longterm strategic issue for the country and, in response, initiated a series of whole-of-government programs. While these programs were driven by a concern for the direct environmental impacts that climate change could have on New Zealand, there was also recognition of the wide-ranging indirect implications if no action was taken, “New Zealanders rely on our clean green brand to obtain premium prices for primary exports and our tourism – our two largest sources of earnings. That brand is at risk from trade barriers and political consequences if we fail to take action” (Ministry for the Environment 2007b). However, the National-led coalition which came into power in November 2008 has not given the same priority to climate change issues and indeed has recently revised

relevant pieces of legislation. These changes highlight the importance of politics to policy responses. Given the ongoing nature of these changes, the emphasis in this chapter is on outlining the situation up to 2009.

Under Labour the government devised a number of strategies, initiatives, and policies aimed at mitigating GHG emissions. The government's vision of a low-emission energy system was set out in the New Zealand Energy Strategy (Ministry for Economic Development 2007) and accompanied by an action plan supporting the energy efficiency, energy conservation, and renewable energy objectives set out in the New Zealand Energy Strategy. Both of these documents are being reviewed and updated by the National-led government at the time of writing.

Irrespective of different political agendas, both of New Zealand's major parties (Labour and the National Party) have identified a need for an instrument that has the ability to make a noticeable impact on net GHG emissions and incorporates most sectors of its economy. As its central mitigation instrument the Labour-led government opted for an Emissions Trading Scheme (ETS) under the Climate Change Response Amendment Act 2008 which came into force on September 26 2008. The act introduced a price on GHG emissions, thus providing an incentive for New Zealanders and New Zealand businesses to reduce emissions and enhance forest sinks. Under the scheme emission units could be traded within New Zealand and internationally. The different sectors, such as forestry, agriculture, and liquid fossil fuels, were to be introduced gradually into the emissions trading scheme over a period of five years through to 2013. The ETS covers all liquid fossil fuels (petrol, diesel, aviation gasoline, jet kerosene, light fuel oil, and heavy fuel oil) used in New Zealand, but importantly for tourism, excludes emissions produced by international aviation and marine transport; as consistent with the Kyoto Protocol. Under the scheme small and medium-sized businesses (SMEs), which constitute the majority of tourism businesses in New Zealand, will not be required to trade emission units as they will not be directly involved in the ETS. However, SMEs will be impacted by the indirect effect of the ETS as the costs of emissions are passed through the economy, such as increases in fuel and electricity prices.

In a submission to a select committee in February 2008, the Tourism Industry Association of New Zealand (TIANZ 2008b) expressed a number of concerns about the Labour-designed ETS outlined above. These concerns included the design of the ETS as well as the implications of introducing such a scheme. Specifically, the following points were raised: there was a lack of consultation and identification of the longterm impacts of emissions trading for industries; concerns over the impact of associated energy price increases on tourism SMEs as well as larger businesses and the fact that New Zealand businesses will experience a competitive disadvantage relative to other destinations that are not subject to such schemes; concern about the fact that tourism becomes subject to the implementation of the ETS several years earlier than other sectors such as agriculture (included in 2013); the expectation that the ETS might create a financial disincentive for SMEs to move towards carbon neutral certification; and a perceived lack of quantification of pledged support to help SMEs adjust to the new scheme.

Since the National-led coalition took office in late 2008 a number of climate change related initiatives and policies that were passed under Labour have been reviewed and/or amended. This is largely due to the National Party's policy direction which appears to support a more "balanced" approach to addressing the challenges of climate change. In other words, the new government pursues a line in which concern for the natural environment is on par with (or some would argue subordinate to) economic growth. The amendments made to the ETS include later entry dates for various sectors (agriculture enters the scheme in 2015 rather than in 2013 as proposed by Labour), increased financial support for trade-exposed emission intensive industries and agriculture (thresholds for financial support based on intensity and not absolute levels), and the phase-out of these support schemes has been reduced from an 8% decrease per annum to a mere 1.3% decrease

in financial support per annum. The National-led coalition believed that longer transitional and support periods were needed in response to the economic recession. Critics of the amended ETS lament that major polluters will receive financial support at the expense of New Zealand taxpayers and that in particular the agricultural sector is receiving unfair protection and financial support. At the time of writing it does not appear as if the tourism sector was to receive any direct support under the amended scheme. Judging from the actions by the new government there is then evidence to suggest that the inherent links between the economy and the environment as well as the economic rationale for committed mitigation and adaptation action, as identified in the Stern review (2007), are not fully recognized by the National-party led coalition. For further details about the ETS and revisions to key climate change documents since the time of writing visit <http://www.climatechange.govt.nz>.

### *National Strategies and the Tourism and Climate Change Plan*

Over the last decade, consecutive national tourism strategies have placed an increasing emphasis on the sustainable development of tourism and the country as a whole. The New Zealand Tourism Strategy (NZTS) 2010, produced jointly by government agencies and the tourism sector in 2001, emphasized the need to secure and conserve a longterm future. In addition to economic, social, and cultural dimensions, the strategy recognized the need to pay increasing attention to environmental sustainability because domestic and international tourist numbers continue to grow and “the natural environment is fundamental to the New Zealand brand and many tourism products” (NZTS 2001:27). While progress was seen in such areas as implementation of the Green Globe proposed practices, the strategy also acknowledged that the country might struggle to meet its commitments under the 1997 Kyoto protocol regarding CO<sub>2</sub> emissions. The strategy aimed “to have all operators and organizations recognizing the value of the natural environment and actively protecting, supporting and promoting its sustainability as part of what they do” (NZTS 2001:30). To this end, the first of the key recommendations was that the relevant government agencies and the TIANZ “on behalf of private sector operators, develop and promote resource use efficiency initiatives and environmental management systems to achieve agreed international benchmarks (including carbon neutrality) by 2010” (NZTS 2001:30).

The 2001 document was updated and superseded in 2007 by the launch of the New Zealand Tourism Strategy 2015 (NZTS 2007), again a joint public-private sector undertaking. The overall vision of the new strategy is that “in 2015, tourism is valued as the leading contributor to a sustainable New Zealand economy” (NZTS 2007:6). Four major outcomes were identified, the third being: “The tourism sector takes a leading role in protecting and enhancing the environment”. The strategy advocates “a whole-of-New Zealand approach” making the case that:

A sustainable tourism sector cannot be achieved in isolation. The tourism sector is so intimately woven into New Zealand’s economy and across New Zealand’s communities that we need a nationwide commitment to sustainability. This requires all areas of government and all economic sectors to play their part and to acknowledge the connections that exist between us... This needs to encompass all the work being done across government to address climate change including the New Zealand Emissions Trading Scheme. A clear national framework, articulating a national direction and national priorities, will provide certainty and context for the tourism sector (NZTS 2007:11)

Climate change is thus considered in the wider context of environmental sustainability and there is more specific mention of it in the 2015 strategy than in the preceding document. However, while the need to be environmentally sustainable is broadly made, the challenge regarding climate change is presented not so much in terms of directly reducing any adverse impacts tourism might

have on the climate but more in terms of how the perception of this issue would affect tourist arrivals (NZTS 2007):

International concern about climate change is increasing, particularly in our key markets in the United Kingdom and Europe. This may start to affect visitor arrivals in New Zealand... We need to respond to our visitors' concerns and provide them with options for reducing and mitigating their carbon emissions. We must also demonstrate best-practice management within New Zealand (p.12)

Consequently, the strategy draws attention to the need to reduce carbon emissions as well as to improve the general environmental performance of tourism businesses. In terms of reducing carbon emissions it identifies the need to "work with Air New Zealand and other airlines to provide tourists with options to minimize and mitigate the carbon emissions they generate travelling to and within New Zealand" (NZTS 2007:44). Options listed to reduce tourists transport use within the country include: promoting holidays based in just one region (to discourage GHG emissions-intensive circuit travel, Figure 1); encouraging the use of lower impact forms of transport (e.g., coaches instead of planes) and public transport, biking or walking; providing more fuel-efficient transport fleets; and the introduction of carbon offsetting mechanisms.

To meet the expectations created by the *100% Pure New Zealand* campaign, the 2015 strategy, as with the previous one, emphasizes the need for a national approach to addressing environmental issues. Such an approach will involve a wide range of stakeholders, including tourism operators and tourism sector associations and such government agencies as the Ministry for the Environment, Department of Conservation, Ministry of Transport and Local Government New Zealand. Specific actions are directed at international tourists and tourism operators. The key actions relating to tourists are to understand their environmental aspirations and how they view New Zealand's environmental policy, to incorporate this information in marketing activities and product development, and to help consumers make informed choices aligned with environmental values, for example through increased awareness of environmental accreditation schemes.

No direct mention of domestic tourists is made here, although measures aimed at international tourists would largely also apply to New Zealand holidaymakers. Other parts of the strategy stress the need to meet the expectations of domestic tourists and ensure travel within the country is affordable. Retaining more New Zealand holidaymakers within the country would not only bring economic benefits but also reduce emissions associated with outbound air travel. However, as noted above, domestic travel also produces significant levels of GHG emissions (Becken and Simmons 2002; Becken et al 2001, 2003), and as a result more explicit attention to addressing this is needed.

With regard to operators, carbon emission reduction initiatives focus on increasing the energy efficiency of tourism transport operations, for example, by encouraging the use of biofuels, adopting best-practice standards for fuel-efficient vehicles, and developing options to offset carbon emissions. Other actions to improve the energy efficiency, energy conservation, and the use of renewable energy throughout the sector are encouraged through working with the Energy Efficiency and Conservation Authority, using the highest-possible energy-efficient building standards and adopting energy management and new technologies. Steps to reduce and manage waste, by both tourists and operators, are also outlined in the 2015 strategy.

Improving New Zealand's environmental performance was also one of the six priorities identified in the Tourism Industry Election Manifesto released by the TIANZ in the lead up to the November 2008 general elections. This document outlines how the national tourism sector organization saw the key priorities for New Zealand tourism over the next election term and what



actions it seeks from Government. While recognizing that the industry must take responsibility in running its businesses in a more sustainable manner and provide environmentally friendly products, the manifesto also asserted that:

...the tourism industry cannot deliver on New Zealand's 100% Pure brand promise on its own. The government must ensure that a vision and funding are available to enable key agencies such as the Ministry for the Environment and Department of Conservation to work with local government and the tourism industry. The focus should be on practical and visionary initiatives to protect and enhance New Zealand's environment (TIANZ 2008a:12)

A more specific Tourism and Climate Change Plan was developed by a working group of people from the tourism industry and relevant government agencies in late 2008 (Ministry of Tourism 2008b). The plan's two aims are for the New Zealand tourism sector (a) to attain a sustainable growth path and remain competitive internationally in light of climate change risks, and (b) to actively and credibly contribute to reducing the severity of climate change. In the plan a need was identified to treat climate change as part of the overall strategy for tourism rather than as a stand alone issue. Hence, the following responses were formulated into four interlinked sections: maintain effective messaging and positioning in key markets; enable and ensure a well judged response by tourism businesses; respond effectively to concerns about GHG emissions generated by air travel; and establish a forward research agenda. Particular weight is given to the first of these, addressing consumer concerns and attitudes, especially in light of the 100% Pure New Zealand brand strategy. This plan then further emphasises that the public sector's concern is more strongly focused on consumer attitudes towards how New Zealand addresses the challenges of climate change than dealing with the direct impacts of climate change on the natural environment.

#### *Public Sector and Collaborative Responses*

The need for sound environmental practices is thus well-established and acknowledged in New Zealand and more specific issues associated with tourism and climate change are being explicitly recognized by both the public and private sectors. The national tourism strategies provide a good framework within which these matters can be addressed. The question now is to what extent are these policies being implemented and to what extent have the initiatives outlined been adopted? Clearly there is much more work to be done and continuous effort will be required over the longterm to ensure the sustainability of the industry, although a variety of steps have already been undertaken or are currently being put in place, at times in collaboration with the tourism industry.

The first set of responses relates to initiatives by the public sector to improve environmental management among tourism businesses. To encourage the adoption of best practice, the Ministry for the Environment and the Ministry of Tourism have produced a set of sustainability guides directed at different groups of operators, for example, fresh water and marine activities, tourist attractions, and transport operators which was distributed by TIANZ. These good practice guides vary in emphasis from one sector to another and take a broad-based approach to sustainability. However, they do incorporate specific measures that will assist in mitigating tourism's impacts on the environment through the reduction of carbon emissions and increased energy and fuel efficiency. Transport operators, for example, are encouraged to develop, adopt, and review a sustainability policy for their business, to monitor fuel and energy consumption, and to look for opportunities to optimise travel routes to reduce mileage, fuel use, and vehicle maintenance needs. Marine operators are advised to select more efficient four stroke outboard motors, to tune engines regularly and to regulate cruising speeds.

Further ways of improving energy efficiency are being explored through the Tourism Energy Efficiency Programme, part of the national Energy Efficiency and Conservation Strategy 2007. A pilot programme was launched in mid 2008 as a partnership between TIANZ and the Energy Efficiency and Conservation Authority. In the first phase detailed energy audits of ten accommodation businesses and three transport operators were undertaken to develop energy audit models and to provide advice and mentoring to help identify changes that could be made. The aim of the pilot was to provide practical and indepth information which can be shared with the industry and fed into accreditation schemes (Qualmark Enviro, see more detail below) and the Sustainable Tourism Adviser in Regions program. Initial results reported savings of at least 20% through such basic measures as replacing inefficient lamps, reducing shower flow rates, installing time switches on showers and heaters, insulation, and turning off computers (Bradshaw and Wilkinson 2008). Due to the success of the pilot, the Tourism Energy Efficiency Programme was extended into a national program in May 2009.

Other public-private sector partnerships include the earlier mentioned Sustainable Tourism Adviser in Regions program which evolved from the regionally-based Sustainable Tourism Charter and funds experts to provide one-to-one sustainability advice (including but not focused on energy efficiency) to businesses. Additionally, the integration of a larger proportion of environmental criteria in the national tourism quality assurance scheme (Qualmark) and the creation of a separate Qualmark (Enviro) award are noteworthy examples. Qualmark is a public-private sector partnership between Tourism New Zealand and the New Zealand Automobile Association. It is New Zealand's only official tourism quality assurance scheme.

Qualmark is recognized by the NZTS 2015 as an important instrument in enhancing New Zealand's reputation as a world class destination, which is one of the four strategy goals. The role of the recently-launched Qualmark-Enviro label is also recognized as important in this context and creates a strong link to another of the four strategy goals – the tourism sector's role in protecting and enhancing the environment. The purpose of the Qualmark scheme is to provide quality assurance to international and domestic tourists by assigning a one-to-five star rating to accommodation or endorsing tourist activities, services, or transport. While Qualmark initially introduced an environmental component in 2002, this only applied to some categories and accounted for about 2% of Qualmark criteria in the case of the accommodation sector. In 2008 the environmental component was augmented to represent 5% (accommodation categories) or 8% (tourist activities, services, and transport) of the Qualmark criteria. Even though the environmental categories were not developed to specifically address climate change, but to foster a more environmentally sustainable tourism industry, one of the five categories assesses energy (including liquid fossil fuels) and another assesses waste management, both of which are relevant to GHG emissions.

Meeting the base line on all criteria, including the environmental criteria, is a requirement for achieving a star rating or endorsement. In addition, the new Qualmark Enviro program and label has been developed to reward environmental high performers by assigning Qualmark Enviro-Bronze, Enviro-Silver or Enviro-Gold to a business depending on the extent of environmental performance. The Qualmark Enviro label is designed to be displayed alongside the general quality assurance label (Qualmark). Initiatives to promote businesses that achieved Qualmark Enviro accreditation include being listed at the top of the accommodation directory hosted on the Tourism New Zealand website (<http://www.newzealand.com/travel>).

It is understood that the Qualmark Enviro ecolabels are not intended to compete with the most established tourism ecolabel in New Zealand, Green Globe, but rather for the two labels to complement each other. Green Globe is a for-profit ecolabel and its point of difference in relation to Qualmark Enviro is based around its exclusive focus on sustainable tourism accreditation, its

emphasis on environmental management, and its global representation in 52 countries (Green Globe NZ 2008). While Green Globe has a comparatively strong presence in New Zealand, one of its key challenges is consumer awareness, which was found to be small (on average 8%) across all tourist markets with a pronounced lack of awareness by domestic tourists (Schott 2006). As such, Qualmark Enviro may be useful in generating greater domestic awareness of environmentally-minded accreditation labels *per se* and ultimately in creating the opportunity for both schemes to benefit from those businesses that display both labels (thus indirectly raising awareness of the other scheme).

### *Private Sector Responses*

No comprehensive and systematic data is available about the extent to which tourism businesses throughout New Zealand have adopted environmental management practices or are attempting to mitigate their GHG emissions. However, case study material and other research does provide some indication of what is being done and why, even if the extent of these practices has not been fully established. For instance, as an attempt to raise awareness of these issues a panel discussion on sustainability was held as part of TIANZ's 2008 annual conference. Additionally, the examples presented below shed some light on both the actions by some businesses and the issues facing them.

Kea Campers (<http://nz.keacampers.com/>), one of the country's leading campervan operators, has an explicit responsible tourism policy and has won multiple industry awards. The company operates a fleet of diesel powered vehicles which meet EURO4 emission standards and are replaced regularly. Their campervans are manufactured in New Zealand, incorporate lightweight timber from renewable plantations, and have solar panels. While carbon offsets have been explored by Kea the scope and time scale considerations of buying sufficient credits to achieve carbon neutrality does not appear practical to the company; and they have found evidence of mistrust about these programs amongst their clients. No one solution is thought to exist for mitigating environmental problems. Instead Kea is taking a series of small initiatives in the shape of a policy of ongoing improvement, which includes keeping things simple, involving staff, surveying clients, and being a fast adopter of new technology. Editor's note: for a more detailed casestudy of KEA Campers see Chapter 8.

Adventure South (<http://www.advsouth.co.nz/>) is a small cycle tour operator which has a long record of environmental certification, being the first New Zealand company to achieve full Green Globe certification in 2003 and the first New Zealand company to receive CarboNZero certification (a New Zealand program that verifies carbon neutrality) in 2007. Environmental initiatives taken include driver training to improve fuel efficiency, an expanded and modified fleet to allow vehicle selection fit for purpose, and to eliminate the need for trailers. The director of this SME indicates that the company's environmental policy and commitment were driven by social conscience and not as a marketing strategy, however, adds that the company was keen to maximize any marketing advantage, but none was yet evident. He also pointed out that the cost of accreditation was expensive, asserting that his clients expected the operator to provide their environmental engagement at no added premium.

The Youth Hostel Association's Wellington hostel <http://www.yha.co.nz/Hostels/North+Island+Hostels/Wellington/> is another example of a committed grass-roots initiative. In 10 years the city hostel has more than doubled in size, and in 2006 recorded an average occupancy of 78%. Hand-in-hand with this expansion has been a concerted drive to improve the hostel's energy efficiency which has resulted in both cost savings and improved customer satisfaction according to the hostel manager. Key components in the initiative to conserve energy and minimize GHG emissions were started in the 90s: installation of

an atmospheric heat-exchange system to assist in water heating, an automated heating system which saves energy by providing even, radiant heating when required, and the installation of an ECO GFX which transfers the heat from warm waste water into the incoming cold water to reduce the need for prolonged water heating. Along with other hostels nationwide the Wellington association is also a supporter and participant of the Green Footprint Project, which is an annual tree planting initiative of trees purchased by its guests over the duration of a year. Editor's note: for a more detailed case study of Wellington City's hostel association see Chapter 7.

Recently completed research on environmental management among tourism operators in the Nelson Tasman region of New Zealand's South Island provides a broader picture of such practices amongst tourism SMEs. Grubb (2007) surveyed 61 businesses (30 accommodation and 31 activities) and found almost all accommodation providers and just over half of the activity operators had adopted some form of energy consumption minimization measure, especially energy efficient lighting and appliances. About two thirds of each group had also taken steps to reduce vehicle emissions, for example, through better tuning and more efficient use of their vehicles. The four most effective environmental practices identified by the respondents were those relating to waste management, energy use minimisation, contributions to conservation and environment, and interpretation. Lower bills were found to be the most significant factor influencing the adoption of energy saving measures. Energy saving measures topped the list of the practices that SMEs wanted to adopt more widely. Grubb (2007) found the major barrier to doing this was the capital cost of installing equipment for solar power and heating. In a more general study of 43 small accommodation providers, Hall (2007) reports climate change was found to be only a minor consideration in terms of daily management and planning although potentially significant over the longer term. These businesses were also opposed to directly bearing any compliance costs associated with government initiated climate change adaptation or mitigation schemes.

While the responses of SMEs are important (they are estimated to account for more than 85% of tourism businesses in New Zealand), the actions of the larger businesses are perhaps even more crucial, especially those in the transport sector given that this is where the largest proportion of carbon emissions are generated (Becken and Simmons 2002; NZTS 2015). Significant steps are also being taken in this field. InterCity, which operates a nationwide coach network, has committed to becoming carbon neutral by 2010 (TIANZ 2008a). It already meets EURO3 standards relating to both fuel efficiency and carbon emissions and builds all its vehicles in New Zealand to meet its standards. However, it is the airline industry whose actions are particularly crucial, given the country's dependence on long haul air travel.

Air New Zealand (<http://www.airnewzealand.co.nz/about-us/>), the national carrier which is majority-owned by the government, has taken a series of initiatives to reduce carbon emissions and improve its environmental performance; its stated goal is to become the world's most environmentally sustainable airline. Air New Zealand seeks to reduce its CO<sub>2</sub> emissions by more than 100,000 tons within five years and in June 2008 reported it was on track to achieving this, having delivered 91,000 tons in reduced emissions within the first three years of its fuel saving program. Initiatives taken by Air New Zealand include the ongoing replacement of its fleet with more fuel efficient aircraft, such as replacing 747s with 787-9 jets, which are said to use 20% less fuel than other similar aircraft. Air New Zealand was also the launch-customer for the aerodynamic enhancement package on its fleet of Boeing 777-200ER aircraft as well as being an early adopter of new blended winglets which are expected to reduce CO<sub>2</sub> emissions by 18,400 tons annually for the company's five Boeing 767-300ER aircraft.

The company has also taken a number of operational measures, such as reducing weight on aircraft (simple steps such as digitalising flight manuals), more accurate fuel loadings, optimizing flight speeds, improved descent profiles and new flight and navigational technologies to reduce fuel

use. A test flight from Auckland to San Francisco in September 2008 using GPS technology for example saved 1200 gallons of jet fuel and emitted 12 tons CO<sub>2</sub> less. Air New Zealand is also actively exploring options for alternative fuels so that by 2013 biofuels make up 10% of the airline's annual needs. A successful twelve hour test flight from Auckland to Los Angeles, which used a mix of 50% second generation biofuel (jatropha oil) and 50% traditional Jet A1, took place in December 2008. The post flight report found that the biofuel's properties offer performance improvements over Jet A1 including a 1.2 % saving in fuel, which would result in a 4.5 tons reduction in CO<sub>2</sub> emissions on a twelve hour flight. Other initiatives include the introduction of a facility in 2008 for domestic and international travellers to purchase carbon credits to offset their travel emissions; the offsets are used to purchase wind farm credits. And already in 2005, the company launched the Air New Zealand Environmental Charitable Trust, created for the "protection, promotion and preservation of the natural environment, flora and fauna of New Zealand" (Air New Zealand 2008). The first phase is a 100 acre native reforestation and pastoral tree planting project, to which Air New Zealand passengers are invited to donate money. Donations to the Trust are presented as a less costly alternative to purchasing carbon offsets.

As this review has shown, the tourism sector in New Zealand is responding to issues of climate change in a variety of ways. Given the scale and nature of the challenge facing New Zealand and the relative recentness of most of the responses, it is too soon to judge whether the policies and measures outlined are successful, to evaluate the extent to which the measures recommended are being taken up, let alone assess the impact these policies and measures are having. This is especially the case with the National Party amended ETS legislation and the Tourism and Climate Change Plan. What is clear is that with the exception of some of the air transport measures, the responses from the tourism sector have generally been couched in broader terms of sustainability and the need to be (and be seen to be) environmentally responsible, rather than as a reaction to climate change *per se*. This is evident in the national tourism strategy, in the Green Globe and Qualmark Enviro ecolabels, and in the measures taken to educate and inform operators as well as in the individual actions taken by tourism businesses. These responses appear to be motivated by a mix of genuine environmental concern, increasing awareness that the ethical and environmental concerns of consumer markets are shifting and that these shifts may have an economic impact on the tourism sector as in some instances savings may be achieved by adopting environmentally friendly practices.

This sustainability-focused approach is based on the notion that both the impacts triggered by tourism as well as the factors and processes affecting tourism are of an interrelated nature. It also reflects a broader concern for the credibility of New Zealand's clean, green image, which is actively promoted by the *100% Pure New Zealand* destination marketing campaign, and the recognition that tourism in New Zealand is heavily reliant on the country's natural resources and features. While such a broad-based and integrated approach has its strengths and there is a need for all operators to play their part, there is also a risk that the central challenges associated with climate change, those resulting from emissions produced by international air travel, by both inbound and outbound tourists, are not being addressed sufficiently given their overall significance. Measures such as reducing energy consumption in the accommodation sector or improving fuel efficiencies in domestic transport will all contribute. However, as Smith and Rodger (2009) clearly illustrate, it is mitigating the effects of international air travel that is crucial and an area where effective solutions for reducing emissions are not readily found. They concluded from the analysis of carbon emission offsets for aviation-generated emissions that, "We have been unable to identify an offsetting option that is physically realistic, or politically realistic, within New Zealand's geographic boundaries" and that "Carbon emissions from aviation are an international issue requiring an international solution" (p.3446). The international dimension arises out of issues associated with taxing fuel for international travel and questions of taxing travelers in the market or at the destination. Moreover, international transport currently lies outside the provisions of the Kyoto Protocol.

While Air New Zealand has been proactive in exploring energy-saving measures and aviation issues are set out in the Tourism and Climate Change Plan, broader national climate change related debates and initiatives largely concentrate on other sectors. New Zealand's main initiative at the Copenhagen Climate Change Conference, for example, is expected to focus on reducing emissions from agriculture, which is by far the largest contributor to New Zealand's GHG emissions. In terms of tourism, attention appears to be directed most immediately to possible shifts in environmental consumer attitudes and related travel preferences, as well as the effects this will have on the country's industry (Ministry of Tourism 2008a).

According to Tourism New Zealand research on UK respondents (who had previously visited New Zealand) 20% stated that they try not to travel long distances by air because of the impact travel may have on the environment (Tourism New Zealand 2007). These findings indicate that the travel attitudes of consumers from the UK (New Zealand's second largest market) are changing. A similar trend has previously been observed in the food miles' initiative which saw UK supermarkets label products with the distance a product has traveled. A key issue in this debate is likely to be the overall GHG footprint of each tourist which in the case of European tourists to New Zealand will remain sizeable even if aircrafts reduce their GHG emissions and tourists minimize their emissions during their stay in New Zealand. Changing attitudes may also be compounded by the increase in departure taxes (Air Passenger Duty) for flights from the UK, which are levied on flights between the UK and other countries, with the explanation that the taxes will reduce the GHG emissions generated by aviation by decreasing demand for flights (HM Revenue and Customs 2009). No mention of the intended use of the additional revenue could be found. The departure tax increased on November 1 2009 to \$89 (£55) for Economy and \$179 (£110) for higher classes on a flight from the UK to New Zealand and increases again from November 1 2010 to \$138 for Economy and \$276 for higher classes. It appears that this tax amount is for a one-way flight, which means that a return flight between the UK and New Zealand will cost substantially more as a result of this tax.

Any attempt to assess the impact of changing attitudes and any new taxes is complicated by the effects of the global economic recession. In the year-ended October 30 2009, international arrivals to New Zealand dropped by 1%, or 24,400 fewer tourists, while 3.3% fewer trips abroad were made by New Zealand residents (Ministry of Tourism 2009b). However, it is worth noting that the pattern of change was far from uniform. Arrivals from the UK fell by 10.6%, those from South Korea by 37.9%, while arrivals from Australia rose by 9.7%. The overall decrease, and especially the decline in long haul tourists, will, of course, have reduced total GHG emissions from international air travel. Not surprisingly, this dimension has not been highlighted in industry reactions. Rather, the concern has been with the economic aspects of this decline. The national tourism marketing response to the recession has been a targeted campaign to boost travel from Australia, New Zealand's nearest market, not because of the lower emissions such travel generates but because this was where the best opportunities were seen to lie in terms of available marketing dollars and the competitive advantages New Zealand has in the Australian market in recessionary times. A related development is the increasing marketing as well as public-sector sponsored research attention focusing on the Chinese tourist market, which has established itself as the fastest growing market over the last few years and is now New Zealand's fourth largest source market. New Zealand can be reached from most Chinese cities by traveling about half the distance required to reach New Zealand from European cities, which renders the Chinese tourist market not only attractive in terms of the continuous growth in arrivals, but also in the context of GHG emissions produced by tourists traveling to New Zealand. This then provides a valuable opportunity for New Zealand to adapt to the indirect impacts of climate change by modifying the mix of tourist markets with greater investment in the Chinese and other Asian markets.

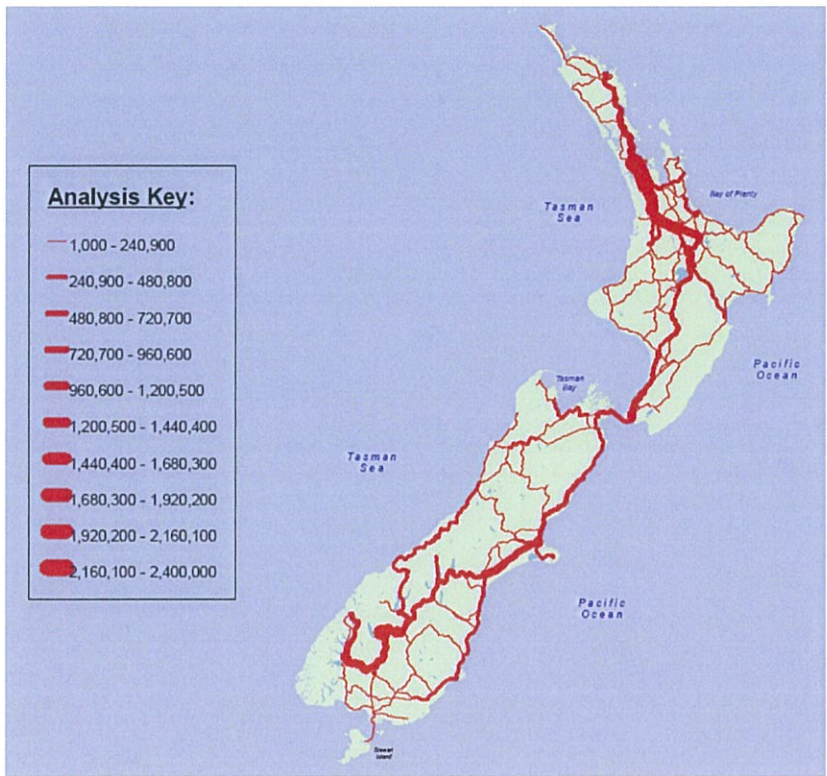
Ultimately, more research on tourism in the context of climate change is needed to gain more insight into the relationships between tourism and climate change, with tourism as both vector and victim, to gain a better understanding about changing consumer attitudes to international air travel as well as new tourism opportunities for New Zealand in the face of a changing economic, political, and natural climate. It is also important to conduct research on the effectiveness and issues raised by different policy instruments, such as the ETS in New Zealand's case.

## CONCLUSION

In summary, the public and private sectors in New Zealand have been active over the last few years in developing a more sustainable tourism industry, including efforts to address climate change issues and mitigate GHG emissions. Given the country's dependence on long haul travel, its clean and green positioning as a tourist destination, and with the forecasts of increasing severity of global climate change, it is likely that the challenges New Zealand faces will only intensify in coming years. As the reaction to the current economic recession has shown, there is no indication that the New Zealand tourism industry will move away from a growth strategy. The NZTS 2015 (2007) forecasts 3.4million international arrivals in 2015 compared to 2.4million in 2008. Further, current and foreseeable technological advances do not appear to provide sufficient solutions, particularly in terms of mitigating air transport emissions, to ensure that growth will be environmentally sustainable and make a real contribution to addressing the implications of climate change.

*Acknowledgements* - We would like to thank Erica Inkster and Ella Street for their assistance in gathering and compiling material for this chapter.

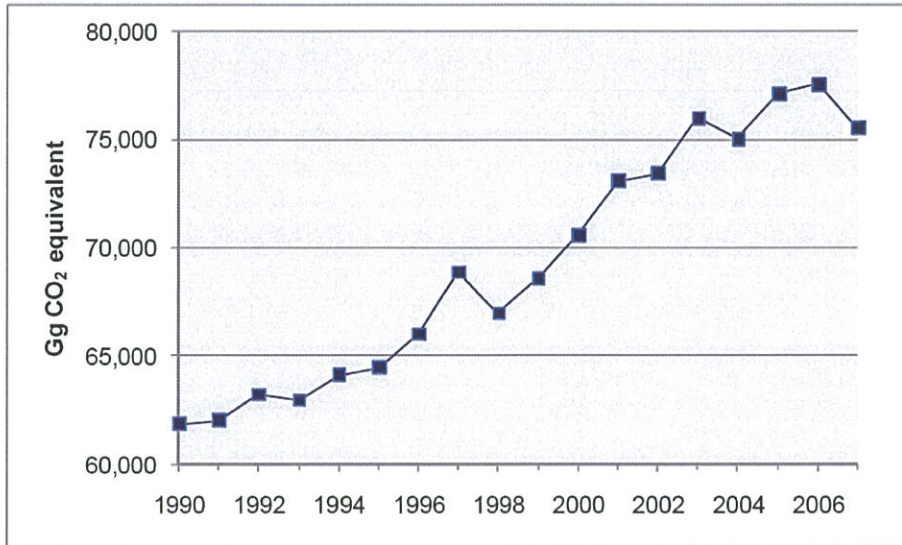
FIGURES AND TABLES



Source: Ministry of Tourism (2007)

**Figure 1. Road Flows by International Tourists in 2005**





Source: Ministry for the Environment (2009b)

**Figure 2. New Zealand's Total GHG Emissions 1990-2007**