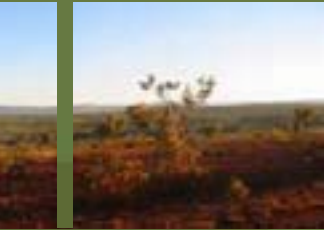


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## Climate Change Policies and Australian Tourism

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# Objectives

**To describe measures of how Australian tourism contributes to greenhouse gas (GHG) emissions**

**To explain the Federal government's core climate change mitigation policy approach**

**To explore how it might impact on the tourism industry**

**To highlight some problem areas**



# Outline

- **The Carbon Footprint of Australian tourism**
- **Australia's climate change policies- an outline**
- **Impacts on the tourism industry and businesses**
- **Issues for the tourism industry**



# STCRC Centre for Economics and Policy

**Team working on a range of tourism economics and climate change issues**

- **University of NSW: Ray Spurr, Laarry Dwyer**
- **Monash University: Peter Forsyth, Thiep Van Ho, Daniel Pambudi, Serajul Hoque**
- **University of Queensland: Tien Pham**



# **Measuring Australian Tourism's Emissions- the Carbon Footprint**



# Types of Emissions

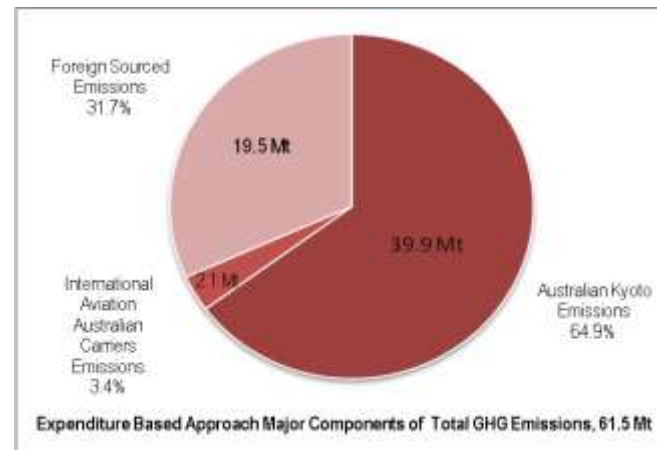
- 1 Australian based emissions subject to Kyoto agreement**
- 2 International aviation emissions, from Australian or foreign airlines- will be treated differently**
- 3 Emissions from production in other countries**



# KEY RESULTS

## Expenditure approach

- **Direct GHG emissions : 29.5 Mt (48.0%)**
- **Indirect GHG emissions : 32.0 Mt (52.0%)**
- **Total GHG emissions : 61.5 Mt (100.0%)**





## Direct Emissions

- **Mainly transport based**
- **Some tourism industries directly generate emissions- e.g. Hotel which uses gas for central heating; remote tourism business which uses fuel oil to generate electricity**
- **Domestic aviation accounts for 5.9Mt out of 10.5Mt**
- **Measures are based on emissions/ output for each industry, from:**
- **Monash MMRF Green model of the economy with AGO/DCC emissions data (same as for Garnaut and Treasury modelling)**



## Tourism Motor Vehicle Use

- Emissions are also produced from tourism consumption
- Use of motor vehicles by tourists (Tables 1, 2)
- Tourism is around 14% of total motor vehicle use
- Total emissions 11.1Mt
- While this is tourism consumption, we count this in the direct emissions from the tourism industry



# Indirect Emissions 1

- **Tourism uses electricity, which produces emissions**
- **Tourism uses IT, which uses electricity and gas, which produce emissions**
- **Tourism uses retail, which uses IT, which uses electricity and gas etc, etc**
- **Need to trace back an endless chain of indirect emissions**
- **Can do this using the Input Output structure within the MMRF Green model**
- **Can do this to find the ultimate pattern of goods and services produced for tourism and consequent emissions**



## Indirect Emissions 2

- **Comparable to direct emissions, at 18.8Mt**
- **Dominated by:**
- **Electricity -37%**
- **Agriculture etc- 30%**



# Tourism's Emissions Intensity

- **Can compare this with other industries for direct emissions**
- **Not for indirect unless data are available**
- **If motor vehicle emissions are included, tourism accounts for 4.7% of total industry and residential emissions**
- **Sixth most emissions intensive industry, after road transport and before mining (Table A7)**
- **Compare to 4.2% of GDP (from TSA, 2003-04)- slightly more emissions intensive than other industries**
- **Some tourism industries (e.g. Aviation) are more emissions intensive than the total**



# Australian International Aviation

- **Inbound and outbound services by Australian based airlines**
- **As included in the Tourism Satellite Account**
- **Based on international passenger kms, and emissions per passenger km**
- **Total of 4.7Mt**

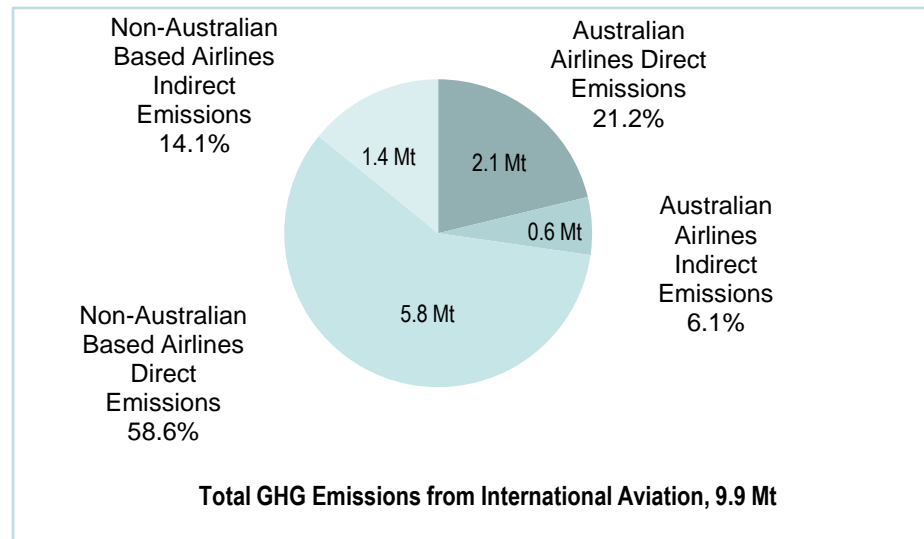


# Inbound International Aviation

- **All inbound tourism carried by Australian and non Australian airlines**
- **Includes Australian (Qantas) and Non Australian based (Singapore Airlines, Emirates) services**
- **Direct- estimated from passenger kilometres for different origins, with allowance for multiple destination journeys**
- **E.g. UK visitor stops off at Singapore**
- **Indirect: estimated as for other tourism industries**



# TOTAL GHG EMISSIONS FROM INBOUND INTERNATIONAL AVIATION



- **Total GHG emissions from International Aviation: 9.9 Mt**
- **Non-Australian based airlines direct emissions: 5.8 Mt (58.6%)**
- **Australian airlines direct emissions: 2.1 Mt (21.2%)**
- **Non-Australian based indirect emissions: 1.4 Mt (14.1%)**
- **Australian airlines indirect emissions: 0.6 Mt (6.1%)**



## Using the Footprint...

- **Many views about what should or should not be included**
- **Should motor vehicle use emissions be included?**
- **Which ever your view, the numbers are provided so that you can work out your preferred measure**
  
- **Carbon Footprint Report can be downloaded free from:**
- **[www.crctourism.com.au](http://www.crctourism.com.au)**



# Observations

- **Transport (motor vehicles and aviation) account for a high proportion of emissions (esp Direct emission)**
- **Indirect emissions of same order of magnitude as direct emissions**
- **Tourism not a particularly emissions intensive industry in aggregate, though individual industries are quite emissions intensive**
- **An accounting measure, not an impact study ( increasing tourism by 10% does not necessarily add 10% to Australian/global emissions because other industries will change**



# Australia's Core Climate Change Policies



# Australia's Approach to Emissions Reduction

- **Australia is seeking to reduce greenhouse gas (GHG) emissions**
- **It will set targets (limits) for the future**
- **The core policy is to be an emissions trading scheme (ETS), called the Carbon Pollution Reduction Scheme (CPRS)**
- **Plans to implement in 2010 (targets to come)**
- **There will be other policies operating alongside- the green car, coal R&D, solar incentives**



# The CPRS

- **“Cap and trade” approach**
- **Sets a limit on GHG emissions for each year into future (e.g. 450Mt)**
- **Limit will be less than business as usual emissions, so:**
- **The limit becomes the actual**
- **Permits to emit are created- all emitters need permits for their emissions**
- **E.g. 450Mt of permits- no more**
- **Government will sell or give permits away**

# Trading

- **Permits are in short supply- they will become valuable**
- **The tighter the cap, the higher the price**
- **Will probably start with a loose cap, low carbon prices**
- **Cap will be tightened, and prices will rise**
- **Significant reduction by 2020; exact level yet to be determined**
- **Some firms can cut back on emissions, and will sell permits- others will have to buy**



## Who Needs Permits?

- **Largest 1000 emitting firms (e.g. electricity generators) will need to use permits directly**
- **Smaller firms will be covered indirectly- e.g. sellers of fuel to them will need permits**
- **In tourism, most firms will be covered indirectly**
- **Hotel buying electricity, gas and motor fuel will pay more for them to cover the cost of permits**
- **No need for individual firms to be directly involved**

## Coverage

- **About 70% of emissions in the economy will be covered**
- **Not imports**
- **Not agriculture (difficult)**
- **Not international aviation (complicated an issue for tourism)**
- **Domestic aviation, hotels, attractions, buses, trains, motor vehicle use etc all included, mostly indirectly**



# Impacts on Tourism Businesses: Two Perspectives



## 1<sup>st</sup> Perspective- A Tax

- **The CPRS will be like a tax**
- **But not the same as a carbon tax of a given amount- the tax rate will vary**
- **From the firm's perspective, it will be like a tax, whether it needs permits directly or indirectly**
- **It either pays for its emissions or pays more for its purchases (for nearly all firms)**



## Possible Impacts

- **Some ROUGH, preliminary calculations:**
- **Say a \$20/tonne carbon permit price:**
- **Some sectors excluded**
- **Tourism direct and indirect emissions from included sectors: 33.5Mt**
- **Cost imposition: \$670m in 2003-04 terms**
- **Total sales in 2003-04: \$75.8b**
- **I.e., about 0.9%**
- **(But detailed modelling is needed – CEP Project)**



## Possible Impacts: Domestic Aviation

- **Again, ROUGH calculations:**
- **Domestic aviation direct in 2003-04- 7.1Mt**
- **Direct plus indirect emissions- 8.5Mt**
- **Cost increase at \$20/tonne: \$170m**
- **Tourism component- \$140m**
- **With 5% growth PA in emissions, in 2010-11:**
- **Total cost increase \$196m (tourism component about \$163m)**



# Implications for Costs and Prices

- **Some inputs will cost more:**
- **Electricity (a lot), Gas (less), domestic air travel (moderate), IT services (minimal)**
- **Businesses will need to review their purchasing to ensure that they are minimising their costs**



# The Pass Through Issue

- **Pass through-** it may not be possible for all businesses to pass through all of the cost increase to their customers, at least in the short term
- **Legally yes, but will the market permit?**
- **Airlines concerned (have not been able to pass through 100% of the fuel cost increases)**
- **Over time, as demand grows, full pass through likely**
- **Firms were able to pass through GST in the longer term**



## 2<sup>nd</sup> perspective: A Carbon Offset

- **The CPRS will work like a carbon offset scheme**
- **The amount of total emissions is FIXED**
- **If a firm emits more, it needs more permits, which it can only get if other firms emit less**
- **Firms can bid up the price of emissions- but they cannot add to emissions**



## Example

- **A business decides to use more domestic air travel**
- **It buys more seats from an airline**
- **The airline, directly or through its fuel suppliers, requires more permits**
- **It purchases these in the market**
- **Other firms have fewer permits, and have to reduce emissions**
- **The decision to travel more results in no additional Australian or global emissions**
- **The decision is effectively carbon neutral**



# Offset Schemes

- **The CPRS is an offset scheme**
- **Other offset schemes become redundant**
- **Thus there will be no need for specific offset schemes, such as domestic airline carbon offset schemes**
- **A decision to fly more is “carbon neutral”**
- **Not so for international flights**



## What to Do?

- **CPRS makes GHG intensive inputs more expensive**
- **Firms should reduce these to the extent that doing so adds to profitability**
- **Going beyond? Wish to reduce your GHG emissions further?**
- **Need to act outside the CPRS- e.g. Offset schemes not included**
- **No point in cutting back on your electricity or fuel use- this frees up permits that others will use**



# Issues for the Tourism Industry



# Short Term and Long Term Impacts

- **Carbon price in early years likely to be low- say \$23/tonne or less**
- **But will increase over time**
- **Supplier industries (e.g. Electricity) will adapt and reduce emissions, so the full impact on costs will be moderated**



# Impact on International Aviation

- **International aviation not included directly (yet)**
- **Issue is complicated- and needs international agreement**
- **But Australian based international airlines will be included indirectly**
- **Hence, a relative cost disadvantage to Australian international airlines**
- **Flights to/from Australia not carbon neutral (except EU, perhaps)**
- **Still a role for carbon offset schemes**

# Australian Targets or Industry Targets?

- **What matters is the *overall* GHG reduction target for Australia**
- **How this is achieved is not that important**
- **This does not need all industries to reduce by the same percentage**
- **Some will cut back more (electricity) and others less (aviation)**
- **If you are on a diet, do you reduce your intake of all foods by the same percentage?**
- **Fruit just as much as hamburgers and chips?**
- **Tourism and aviation do not have to cut emissions by the same percentage as Australian industry as a whole**



## Special Measures for Aviation?

- Domestic aviation is included
- Aviation not likely to reduce emissions very much
- Not much scope to do so in the short term
- A problem? No
- Some (e.g. Don Henry, ACF) have advocated special taxes on aviation
- Special measures (e.g. an aviation tax) would reduce *aviation* emissions, but not total Australian emissions
- They would free up permits which would be used by other industries
- Would add to costs and achieve nothing



## The CPRS...

- **Is not just another tax**
- **It will alter business costs, and businesses will need to adjust**
- **Saving emissions may save costs- but not always**
- **The CPRS changes the way we need to think about emissions issues: it is an offset scheme**
- **A comprehensive policy which makes many other measures redundant**
- **Will make Australian tourism less internationally competitive, unless other countries also act**
- **The details of the scheme will have real implications for the Australian tourism industry**
- **Poses issues in designing carbon neutral products for Australian tourism**

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# Thank You!

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