



AETF/2/1

## **Chair's Report**

New Zealand

## Second Meeting of the APEC Transportation Working Group Aviation Emissions Task Force

Singapore, 15 – 16 September 2009

### DAY ONE

The second meeting of the Transportation Working Group's (TPT-WG) Aviation Emissions Task Force (AETF) was held in Singapore, 15 – 16 September 2009. The meeting involved 27 government, airline and academic participants from 9 economies (Australia, Canada, Chinese Taipei, Malaysia, New Zealand, Republic of Korea, Singapore, Thailand and United States), and two industry organisations (Association of Asia-Pacific Airlines (AAPA) and the International Air Transport Association (IATA)). The meeting was chaired by New Zealand with the United States as Vice-Chair.

### WELCOME

Delegates were welcomed by Ms Eileen Poh of the host economy Singapore who reminded delegates of the impact environmental issues have on the region and welcomed the discussion on this important issue.

### INTRODUCTION BY THE CHAIR

The Chair thanked Singapore for their excellent logistical assistance and hosting of this event given the short notice with special thanks given to Dalen Tan from the Civil Aviation Authority of Singapore.

### REVIEW OF AETF TO DATE

The first meeting of the Task Force was held in Auckland, New Zealand in July 2008. The Chair welcomed the significant increase of economies attending this second meeting. He recognised that the work of the AETF was to complement and not duplicate the work of the International Civil Aviation Organization (ICAO) and noted the key focus of the AETF in the last year was to:

- Encourage participation and sharing information on air traffic management (ATM) procedures to reduce environmental impacts;
- Facilitate the uptake of alternative fuels by streamlining the certification process;
- Work jointly with the APEC Tourism Working Group to review the flow of tourists into and between APEC economies and understand the impact on APEC economies from potential economic measures to address aviation emissions; and.
- Survey of economies on measures that have been implemented to reduce emissions.

The key question was how can APEC economies reduce greenhouse gases whilst allowing the sector to grow. The meeting outputs will contribute to the outcome of ICAO's Group on International Aviation and Climate Change (GIACC) which is being presented at ICAO's High Level Meeting on International Aviation and Climate Change in October. This in turn will contribute to the United Nations Framework Convention on Climate Change (UNFCCC) meeting in Copenhagen in December 2009 where a post Kyoto Protocol regime is to be agreed. It is important for international aviation to contribute to these efforts.

### SESSION ONE – UPDATE OF AETF PROJECTS AND ECONOMIES ACTIVITIES

**Australia's Department of Resources, Energy and Tourism** provided a progress update on the "*Study of international visitor flows and greenhouse gas emissions for a template to examine the impact on APEC economies of future market based measures applying to international transport*".

The project is led by Australia, with NZ, Thailand and Singapore as co sponsors. The consultants are GHD Meyrick and they were thanked for providing the presentation.

Initial key findings are the critical importance of tourism to APEC economies; that the economic impact differs across genders; and the significant challenge of modelling the impact of a carbon price on the tourism sector. Preliminary results with a realistic carbon price of less than US\$50/tonne show that there is minimal impact on tourism and GDP, but at US\$200/tonne there is a significant impact for some economies and those more dependant on tourism.

Industry questioned some of the preliminary results and called for the best possible data to be made available to the consultants to ensure the modelling has greater sensitivity. They also sought involvement in reviewing the draft study report to ensure the resulting findings are consistent with commercial realities.

IATA advised that it is seeking to have a global approach to address emissions. The Chair noted that this study is not a regional approach to have a regional market-based measure; instead the study is about getting better data, hence the need for industry to be involved in this.

The draft report will be circulated in October 2009 for Working Party comment and is expected to be finalised by the end of October. The report will go to the TPT-WG for consideration including a recommendation that it be published so that the findings and template in it are made available for wider use. It is hoped that this study will be a useful contribution to policy discussions in the future.

Australia's Department of Resources, Energy and Tourism will confirm ownership of and access to the intellectual property and the template model. It is expected to be available for all APEC economies given this is an APEC initiated and funded output.

**Australia's Department of Infrastructure, Transport, Regional Development and Local Government** provided an overview of the results from the Survey of Aviation Emissions Management Measures. Australia prepared and designed the survey with input from New Zealand. The Survey was distributed to all economies in March 2009 with 10 economies replying. The Chair acknowledged the excellent response rate.

The Survey results indicate that APEC economies are already pursuing a wide range of measures, with some economies applying more than others. The report on the Survey will be submitted to the TPT-WG with a recommendation that it be published on the TPT-WG website together with the individual responses to the survey. Ideally the AETF would like economies to update new actions. The suggestion is economies place information onto the relevant TPT-WG website. In the short term, those economies that have not yet completed the survey should be invited to do so. In the medium term economies are encouraged to share their ICAO Action Plans where relevant.

This could also include having updated points of contact and names of key decision makers in all APEC economies to ensure a comprehensive approach and buy in.

Discussion centred on identifying the drivers behind some economies adopting certain measures, the obstacles preventing economies from applying measures, and potential action that the AETF could take in the future to overcome these obstacles.

Industry noted that greater efficiency and therefore emissions reductions could be achieved through a regional approach rather than through individual application of measures within each economy. Clear examples are in air traffic management and alternative fuels. Australia advised that within the ICAO context, States tend to undertake action individually rather than on a cooperative, regional basis.

Whilst agreeing that ICAO has the lead in setting global standards and recommended practices, there is an opportunity for APEC and the AETF to identify this as an important issue to the region which could increase efficiency, facilitate trade, and make a real contribution to emission reductions.

Discussion noted that economies need to have a clear picture on the extent and complexity of the emissions reduction issue, its multiple components and the interdependencies of the various

measures before being able to focus and prioritise the AETF's future work. Industry also raised concern about the issue of accountability of emissions across the system – noting that it currently only lies with the air carriers without taking into account the roles of other key actors, including other elements of the aviation industry and governments.

The Aviation Measures Survey identified four actions that could remove obstacles to implementing measures with the first two being identified by the meeting as worth pursuing further.

1. **Collaboration to improve ATM practices in the region**
2. **Measuring and reporting aviation emissions** – seen as a key foundation stone which is best done through sharing best practice
3. APEC recognition of specific voluntary carbon offset schemes – especially around improving credibility of schemes to encourage greater uptake
4. Greater implementation of aircraft operational efficiencies – such as measures from ICAO Circular 303, and what are the obstacles to their greater implementation.

**In updates from economies of other activities New Zealand gave an update on the emissions trading scheme** announcement today that liquid fossil fuels will join the scheme in 1 July 2010 and the implications of this for the domestic aviation sector.

**Australia noted that legislation for an emissions trading scheme** has been rejected by the Senate. This will go back to the Senate in November with the government hoping to have the legislation passed prior to the UNFCCC meeting in December 2009. It was also noted that the first year of mandatory reporting has passed with parts of the aviation sector finding it quite complex to calculate their energy use and emissions – especially the non aviation fuel component e.g. ground electricity. Industry noted the additional administrative burden placed upon it especially when there are multi jurisdictional requirements.

## **SESSION TWO - INDUSTRY UPDATE AND DISCUSSION**

**The US Federal Aviation Administration** drew attention to the *Commercial Aviation Alternative Fuel Initiative* (CAAFI) - a consortium of industry and government agencies (numbering 300 and covering 6 continents) that is tackling the issue of alternative fuels. Interested parties in APEC economies are invited to participate in CAAFI activities. CAAFI has adopted an aggressive timeline to get three alternative fuel standards approved and adopted on a global basis by the end of 2013, the first having already occurred. The key is to have global harmonisation. To date three successful test flights have occurred.

Critical issues are the environmental life cycle of new alternative fuels to ensure the carbon footprint is less compared with existing fossil based aviation fuel, and the land requirements needed to meet projected demand. The CAAFI has an important commitment to not impact on food producing land. It is recognised that there is no one global sustainable alternative fuel solution. Instead many different feedstock sources could utilise diverse non arable land to meet demand.

Within the APEC region, the Asia Development Bank has refocused their lending and is focusing on projects that bring greenhouse gas reduction benefits. It would welcome APEC economies who seek finance for projects in this area.

**IATA provided** information on its work to reduce aviation greenhouse gas emissions. They propose an aviation target of improving fuel efficiency by 1.5% pa to 2020, followed by carbon neutral growth from 2020 and a 50% reduction in emissions by 2050 based on a 2005 baseline. Carbon neutrality would be achieved by technology (detailed in the IATA Technology Roadmap Report), aircraft operations, infrastructure and economic instruments.

A significant issue to date is the need for a coherent approach under the auspices of ICAO to deal with market based measures in order to avoid problems inherent in multiple, overlapping national or regional measures such as emissions trading schemes.

The IATA representative noted with concern that current and planned air space infrastructure in the Asia Pacific will not support future predicted population and aviation growth and this needs to be urgently addressed. 60% of the world's population lives in the Asia region with the population forecast to increase by 1.2 billion people by 2050. This increase alone is greater than the combined population of Europe and North America.

After discussion, the meeting agreed that a paper and an associated recommendation to encourage greater regional cooperation to enhance the operational efficiency of air traffic management across Asia Pacific should be provided to the APEC Leaders meeting in November. It is proposed that the AETF seeks endorsement from APEC Leaders to address this issue in its future work. The recommended first priority is a study across the region. The Chair noted that this needs endorsement from all economies in the TPT-WG to advance. New Zealand agreed to lead preparation of the paper with IATA and AAPA indicating their willingness to support this work.

The Chair also proposed the need for a paper that identifies challenges that could potentially constrain sustainable, efficient air transport growth in the APEC region. It may identify factors within the global aviation system and their various interdependences, and their proportional impact, when seeking to reduce emissions. It may recognise the many complexities that can arise in the short, medium and long term in implementing them. It may also consider the opportunities available to solve or balance these conflicts, noting that collaboration between the APEC economies is critical. This proposal will be taken by the Chair to the TPT-WG as a project proposal.

**Airservices Australia** provided information on the ASPIRE partnership (Asia & South Pacific Initiative to Reduce Emissions) between air navigation services providers in the US, Australia and New Zealand. The partnership seeks to collaborate to reduce the environmental impact of aviation between Asia and the South Pacific and the United States through existing technological innovation and existing best practice air traffic management from gate to gate.

The ASPIRE Strategic Plan includes three key activities: test flights to demonstrate best practices, end-to-end performance measurements for fuel and emissions and reporting, and a Work Program currently focused on the South Pacific region.

Three successful ASPIRE test flights have occurred (Air New Zealand, Qantas Airlines and United Airlines), with a substantial number of flight components requiring detailed management by the airport, air traffic control, the airline, ground handling, operations throughout the flight and again at arrival. The three flights resulted in 54,200kg of reduced carbon emissions.

## DAY TWO

### SESSION 3 – UPDATE ON GLOBAL WORK TO ADDRESS AVIATION EMISSIONS

**Australia's Department of Infrastructure, Transport, Regional Development and Local Government** provided an overview of GIACC's work programme and discussed in more detail the resulting Programme of Action that was adopted by consensus in GIACC and subsequently adopted by the ICAO Council. It contains 21 elements including an efficiency goal, a basket of emissions reduction measures that individual States can choose from to build their own action plans, a request for annual reporting of fuel use to ICAO and the development of a global CO<sub>2</sub> standard for aircraft. Under the Programme of Action, goals would not attribute specific obligations to individual States.

The opposing principles of non discrimination in ICAO and "common but differentiated responsibility (CBDR) in the UNFCCC, coupled with the shadow of the UNFCCC meeting in December 2009, severely impinged the final deliverables from GIACC.

Contributing to the fuel efficiency goal of 2% per annum could be challenging for some States. Those that have airlines with new fleets will find it expensive if not impossible to achieve this goal, some argue. Industry pointed out the alternative IATA commitment to 1.5% efficiency gains out to 2020.

Australia offered that managing the “CO<sub>2</sub> gap” between fuel efficiency and growth would be a challenge and is exacerbated by the aviation sector needing to avoid the ongoing perception and consequential labelling of not doing enough or even matching other domestic and global sectors.

**The US Federal Aviation Administration** detailed the ICAO High Level Meeting in October 2009 which seeks input from contracting States in preparing ICAO’s message (using GIACC’s Programme of Action) to the UNFCCC December meeting. The ICAO meeting will also address means to report and financial and human resource implications that ICAO considers necessary to manage this increased work programme.

Key questions face States attending the meeting including: can goals of greater ambition (e.g. carbon neutral growth, and absolute reductions if the fuel efficiency goal is not considered enough) be agreed and how to agree a timeframe to deliver a global market-based measure that is effective in reducing net emissions. Financing and assistance to address special circumstances may be a constructive way forward to address the special needs of some contracting States.

Recognising the worldwide pressure to address aviation greenhouse gas emissions, the meeting agreed to recommend that a statement in support of ICAO as the appropriate organisation for coordinating international aviation emissions management measures should be reiterated in the next APEC Leaders Declaration.

Delegates were made aware of ICAO’s Conference on Aviation and Alternative Fuels on 16 – 18 November in Rio de Janeiro. The intent of the Conference is to develop a road map that will be delivered together with the outcomes from the ICAO HL Meeting at the COP15.

## **SESSION 4: MARKET BASED AND VOLUNTARY MEASURES, AND MEASURING EMISSIONS**

**Australia’s Department of Infrastructure, Transport, Regional Development and Local Government** detailed the range of work to examine various market based measures (MBM) within ICAO since 1998. These range from emissions related levies, emissions trading and other voluntary measures. MBM are considered one of the effective measures to reduce net emissions over and above business as usual energy efficiency gains, and they can assist in meeting a future emissions goal. They can also be seen as a transitional measure until technological measures like biofuels can effectively and significantly reduce emissions.

Currently ICAO contracting States are urged to not include other States operators in an emissions trading scheme except on the basis of mutual agreement between States. A MBM Task Force was established under ICAO’s technical Committee on Aviation and Environmental Protection (CAEP) in 2007 and tasked with various studies to assist CAEP’s understanding of the issues involved. This work does not include the development of a global emissions trading scheme for aviation.

A separate working group on MBM was established as part of the GIACC process to help inform participants on available options. GIACC acknowledged that State or regional application of MBM in the absence of a global framework is far from optimal, and has recommended to the ICAO High Level Meeting that a MBM framework for international aviation be developed.

**The US detailed domestic legislation to establish an economy wide cap and trade measure** that is under development. The current version of the bill has fuel producers responsible for purchasing the carbon units for the fuel they sell with an expectation that this cost would be passed on to users of the fuel. Legislation has passed the House of

Representatives and is currently awaiting action in the Senate. It is looking highly ambitious to get the legislation passed in time for COP 15 in December 2009.

Nothing is mentioned in the bill about differentiation between fuel used for international aviation versus domestic aviation. IATA has communicated industry's concerns about the perception of an effective tax on fuel used in international aviation.

**Australia's Department of Infrastructure, Transport, Regional Development and Local Government** presented work on the Carbon Counter that they are developing. The calculator uses the ICAO Carbon Calculator methodology and fuel burn data with additional data (date, time, ICAO codes for airports, aircraft type) and adjustments to the great circle distance. Queries run against the data reveal a clear picture of where the fuel flows across Australia and internationally and the associated CO<sub>2</sub> emissions across every aviation route. An interesting finding at one airport was although total CO<sub>2</sub> is significantly more on long haul flights, short haul flights make up a significant proportion of total departures – contrary to intuition.

The ability to measure emissions in a uniform way will be critical if States are to report emissions to ICAO or if regions like APEC wish to work together on generating regional carbon footprint reports. Australia is interested in collaboration on validation with other models, particularly those with non great circle models. The intention is to release the software as freeware by the end of the year. Australia will advise the AETF when they are to release it.

This model would currently not be able to address the more complex assessment of NO<sub>x</sub> from aviation fuel burn.

**The AAPA** gave a regional perspective on challenges facing the industry and the efforts by the industry to address these. The Association represents 27% of global passenger movements and 40% of global cargo by volume. Challenges like a high and volatile fuel price, weak passenger and cargo demand, and the difficult economic conditions have reduced investment.

AAPA is concerned that there may be a proliferation of inconsistent, overlapping regulatory MBM within the region and globally, that are targeting aviation (some only domestic) and add to the challenge and cost to the industry. There is also the expectation from within UNFCCC negotiations that aviation levies and other revenues derived from the international aviation sector will fund non aviation mitigation measures. A globally harmonised MBM is preferred to a patchwork of arbitrary environmental levies or taxes on aviation that results in conflicting regimes, double counting, additional cost and complexity to the industry and business.

## **SESSION 5: FUTURE WORK OF THE AETF**

The meeting proceeded to confirm 7 proposed actions that had arisen during the meeting. In brief these were:

1. Ensure input from the APEC region's tourism industry associations, aviation industry associations and airports into the Tourism Study,
2. Confirm the Tourism Study model is available to all APEC economies to use,
3. Develop a paper and an associated recommendation to the APEC Leaders meeting in November to encourage greater regional cooperation to enhance the operational efficiency of air traffic management across Asia Pacific,
4. Promote measuring and reporting aviation emissions through sharing best practice examples,
5. Recognising global pressure to address aviation greenhouse gas emissions, the meeting agreed to recommend that a statement in support of ICAO as the appropriate organisation for coordinating international aviation emissions management measures should be reiterated in the next APEC Leaders Declaration.
6. Recommend to the TPT-WG that the Report on the Survey of Aviation Emissions Management Measures by Australia be published on the TPT-WG website together

with the individual responses to the survey as well as a facility for economies to provide updates on new measures, and

7. Develop a project proposal to the TPT-WG for work to identify challenges that could potentially constrain sustainable, efficient air transport growth in the APEC region.

In closing the Chair advised that the TPT-WG meeting in March 2010 will reconsider the future of the AETF. Resourcing and participation will be critical if the AETF is to continue, however the Chair recognised the value of the AETF to date.

Delegates thanked Singapore for their excellent hosting of the meeting and to all presenters for their excellent presentations and resulting discussion. NZ will advise all delegates when the presentations and tabled papers on the agenda are posted on a website for AETF delegates to access.

The meeting was closed at 15.15.

## LIST OF PRESENTATIONS

## APPENDIX A

### **Progress report on Study of International Visitor Flows and Greenhouse Gas Emissions**

*(Ms Susan Jabs, Department of Resources, Energy and Tourism)*

Update on the APEC AETF study that is being led by Australia and is expected to be completed by October 2009.

### **Results of the Survey of Aviation Emissions Management Measures**

*(Mr Ted Milczarek)*

Tabling of the results from the ten economies that have responded to the survey and what further areas of work could be considered.

### **Biofuels for Aviation**

*(Mr Kurt Edwards)*

Update on the Commercial Aviation Alternative Fuel Initiative (CAAFI), a consortium of industry and government agencies tackling the issue of developing biofuels for aviation.

### **Pathway to Carbon-neutral Growth in 2020**

*(Mr Ken McLean)*

Update on the IATA's aviation emissions reduction work including reduction targets and proposed regional approach to improving air transport infrastructure.

### **Air Traffic management Efficiencies**

*(Mr Stefan Jerga)*

Update on the ASPIRE Partnership including details of demonstrated successes and the future growth of the Partnership.

### **ICAO's Group on International Aviation and Climate Change**

*(Mr Dave Southgate)*

Update on the work of the GIACC and the resulting Programme of Action

### **ICAO's High Level Climate Change Meeting**

*(Mr Kurt Edwards)*

Presentation on the ICAO meeting in October 2009 and the key questions that need to be addressed in this meeting.

### **ICAO Market Based Measures**

*(Mr Ted Milczarek)*

Review of the work that has occurred within ICAO since 1998 to develop greater understanding of market based measures as they apply to the sector and how best to implement them.

### **Carbon Footprinting in Aviation**

*(Mr Dave Southgate)*

Presentation of a model being developed by Australia to calculate the carbon emissions across an aviation network and how this could be applied by APEC economies.

### **Regional Perspective from Association of Asia Pacific Airlines**

*(Mr Martin Eran-Tasker)*

Presentation on the challenges facing the region's airline industry and the efforts by the industry to address these.