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Low-emissions economy inquiry
New Zealand Productivity Commission
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Air New Zealand Limited Submission on the Productivity Commission, Low-emissions economy, Issues paper – August 2017

1. This submission by Air New Zealand Limited on the *Low-emissions economy, Issues paper – August 2017*, released by the Productivity Commission, is provided in response to the following questions:
 - a) Question 6: What are the main barriers to sequestering carbon in forests in New Zealand?
 - b) Question 7: What policies, including adjustments to the New Zealand Emissions Trading Scheme, will encourage more sequestering of carbon in forests? and
 - c) Question 10: In addition to encouraging the use of electric vehicles, what are the main opportunities and barriers to reducing emissions in transport?

What are the main barriers to sequestering carbon in forests in New Zealand? (Question 6)

2. In early 2017, Motu Economic and Public Policy Research (**Motu**) released a research paper that was commissioned by Air New Zealand on the barriers to native forestry entering New Zealand's Emission Trading Scheme (**NZETS**).¹ That research noted that although over one million hectares of economically marginal land could revert to native forestry cover, very little native forest land is registered in the NZETS (~8 percent of registered forest) and almost none is new native forestry established since 2008.² It also concluded that some of the barriers for native forestry being used to generate carbon benefits for New Zealand include:
 - a) Policy uncertainty – particularly in relation to future New Zealand supply and prices in the NZETS and accounting methods for forestry;

¹ Carver T & Kerr S, "[Facilitating Carbon Offsets from Native Forests](#)", Motu Working Paper 17 – 01, Motu Economic and Public Policy Research, April 2017.

² Only 500 hectares of native forest, planted since 2008 has entered the NZETS.

- b) Complexity, and resulting high costs of participation in, and lack of understanding of, the NZETS including proving land eligibility, and measuring and reporting carbon sequestration; and
 - c) Some afforestation incentives biased toward exotic species over New Zealand natives.
3. Air New Zealand supports the Motu research findings and considers that the Government has an opportunity to remove these barriers and enable more native forestry to enter the NZETS and start sequestering carbon. We believe New Zealand can unlock carbon benefits and multiple other co-benefits including:
- a) Biodiversity enhancements for both flora and fauna; given new habitat that can be created for native species;
 - b) Preventing soil erosion as tree root systems can bind soil in erosion prone areas, including in particularly erosion prone areas such as the East Coast;
 - c) Improving health of freshwater and marine ecosystems by reducing sediment runoff;
 - d) Improving economic performance and related social indicators of New Zealand's regions – for example through employment benefits including providing services and jobs associated with fencing, seed gathering, nursery establishment, planting, weeding and predator control. These benefits would be particularly relevant to marginal land including Maori-owned land.

What policies, including adjustments to the New Zealand Emissions Trading Scheme, will encourage more sequestering of carbon in forests? (Question 7)

4. Air New Zealand repeats the recommended policy adjustments and additions to the NZETS described in the Motu research. In particular, recommendations in respect of:
- a) Reducing policy uncertainty;
 - b) Reducing the complexity of the NZETS;
 - c) Increasing transparency and access to data;
 - d) Reducing the emphasis and focus on *Pinus Radiata*; and
 - e) Enabling and facilitating voluntary offsetting action.
5. Air New Zealand supports positive change and policy that can incentivise native forestry regeneration across New Zealand. Policy change and adjustments to the NZETS have the potential to enable a refreshed incentive package that would encourage more carbon sequestration as well as acknowledge the additional ecological and other benefits from large-scale native forest establishment and subsequent management.
6. Establishing mutually beneficial public private partnerships, may also assist with furthering the afforestation agenda.

In addition to encouraging the use of electric vehicles, what are the main opportunities and barriers to reducing emissions in transport? (Question 10)

7. Air New Zealand has been active in its search to replace traditional fossil fuel with sustainable biofuels. With Virgin Australia in 2016, we sought supply of up to 20 million litres of biofuel in Australia and New Zealand from 2020 and we continue to explore potential suppliers in New Zealand. We have learned that large scale and practicable volumes of biofuel remain some way from becoming a commercial reality, particularly with the current price of oil globally and in the absence of clear policy incentives to encourage production in Australasia.
8. Air New Zealand will continue to be proactive in adopting new technology and solutions to reduce our emissions in transport. Air New Zealand has a leading corporate light vehicle fleet and has championed the transition to EV options, including through an EV pledge led by Air New Zealand and Mercury, with support of Westpac, which led to over 1,300 new EVs being pledged by corporate participants. Air New Zealand has also invested in a modern and fuel-efficient aircraft fleet, which is one of the youngest airline fleets in the world, supported certification of sustainable aviation biofuels, and is transitioning its own corporate and specialist airport ground vehicles to electric options. However, Air New Zealand is unlikely to itself develop new breakthrough technologies in either aircraft or engine design or aviation biofuels that can substantially reduce greenhouse gas emissions. For the foreseeable future Air New Zealand will therefore be a purchaser of new technology rather than leading in the development of it, and will also be a purchaser of emissions units.
9. Specific measures that would be of direct benefit to Air New Zealand (and New Zealand) in reducing aviation emissions, include incentivising development of local sustainable biofuels for scalable and cost-effective supply.

Air New Zealand prepares an annual Sustainability Report,³ outlining its sustainability agenda and performance against publicly stated targets. The carbon section of the 2017 Sustainability Report is attached to this submission for reference.



Nick Judd
Chief of Strategy Networks and Alliances

³ Air New Zealand "[Sustainability Report 2017](#)" (October 2017)

AIR NEW ZEALAND 

A STAR ALLIANCE MEMBER 

Sustainability

2017

Our Place

KAITIAKITANGA



Carbon

WHY THIS MATTERS

AVIATION CARBON
REDUCTION

LOW CARBON
STATIONARY ENERGY

LOW CARBON
GROUND TRANSPORT

WASTE
MANAGEMENT

PROPERTY AND
INFRASTRUCTURE

Why This Matters

Our goal is that Air New Zealand stabilise emissions through carbon neutral growth post 2020, in a way that simultaneously drives significant environmental, social and economic benefits.

Air transport is essential to New Zealand's trade, exports, investment and tourism industries and plays a critical role connecting our people to the world, and the world to us.

These social and economic benefits are, however, counterweighed by the aviation industry's significant climate change impact, with the global sector contributing at least 2 percent of global emissions, and rising.

Air New Zealand's own growth trajectory reflects this tension: we emit more than three million tonnes of carbon dioxide into the atmosphere every year and this year our network capacity growth of 6.3 percent has been accompanied by a growth in total carbon emissions of 5.1 percent, despite fuel efficiency continuing to improve. Air New Zealand acknowledges the stark conclusion from the 2015 Paris Agreement,

that the world must hold the increase in the global average temperature to well below 2°C above pre-industrial levels by peaking global greenhouse gas emissions as soon as possible, or face a potentially irreversible threat to human societies and the planet.

Two degrees may not sound significant, but it translates into extreme impacts at the local and regional level.

A 50 degree June heatwave in Arizona, USA saw some airlines ground planes as temperatures breached jet operating limits.

Recognising that the industry significantly impacts, and will be impacted by climate change, in October 2016 the International Civil Aviation Organization (ICAO) reached a historic agreement on a global scheme designed to achieve

carbon neutral growth from 2020, and Air New Zealand supported its adoption.

Embedding our Carbon Reduction Programme and our continuing work to secure high quality carbon offsets and sustainable aviation biofuels form key parts of this response. We are committed to demonstrating carbon leadership in aviation but also for New Zealand. Our aspiration is that New Zealand transitions to an ultra-low carbon economy, on a pathway consistent with the world achieving net zero emissions by 2050.

Our support for industry initiatives to promote the adoption of electric vehicles, the rollout of our Sustainable Building Guidelines, and the introduction of wider-reaching operational electricity and waste targets all contribute to this agenda.

Opinion: How can we tackle climate change?

Sustainability Advisory Panel member **Dr Suzi Kerr** says that ending carbon emissions is the only way to mitigate climate change.

What challenges does climate change present to the world?

Until the emissions stop, the climate will keep on changing. That's a particular challenge for airlines because currently there is no technical solution: either we completely offset in the long term, but that's not easy, or we find a solution and can fly without emissions. Or we stop flying. That's a special challenge for New Zealand when we are so far away from the rest of the world, and dependent on tourism. Also, more than a quarter of us were born somewhere else so our families are somewhere else. It's a very personal problem.

What about the argument that in New Zealand the amount of our carbon emissions is so small it doesn't matter?

It's not about percentages. Everybody needs everybody to act – that's us as well. Because everybody is a tiny fraction of global emissions, nobody has an incentive to do anything on their own!

Are there solutions in sight?

We're making progress. Relevant technologies have been coming through in the past five to ten years, so it's beginning to seem possible with the combination of that and

politics shifting, but there's still a big gap. The technologies we do have are probably not the full set that we're going to use to achieve the full mitigation. The danger is that people will say 'let's just wait' but we must keep accelerating solutions.

What can an airline do?

They can improve the efficiency with which they fly. They can encourage policies to get emission reductions more generally and contribute to a broader reduction effort which doesn't have to necessarily be through their jet fuel.

An airline can also provide leadership publicly. We need a culture shift to get people thinking about all the hundreds of small changes in behaviour and technology rather than thinking of silver bullets. Embedding it in how we think.

What sort of opportunities to mitigate aren't being taken?

Globally, it's around efficiency. There's a huge range of variations in how efficient planes are, and how efficiently schedules are organised and how efficiently planes are handled on the ground. In every business, the really good ones are super-efficient, more profitable and tend to have low emissions.

You need to focus your smart people on those problems to really make progress.

How effective are carbon offset programmes?

People use offsets to pay people to grow forests. If you get enough people planting forests you can be confident you're getting more forests than you would otherwise [but] at some point we will have planted on all the land we can, and run out. So it's not a permanent solution.

If the message is so clear, why is it so hard to get any action happening?

It's the "free rider" problem – if I reduce emissions then you benefit and so does everyone else, so we all have a tendency to do too little.

Also, climate change is really existentially scary. It's scary to imagine what kind of world my children are going to be living in.

In a way, we need to allow people to not think about climate change but to think about moving towards a different way of living, changing the economic environment, so that when they make decisions that are favourable to reducing emissions there are no economic barriers.



Dr Suzi Kerr

Economist and senior fellow at Motu, adjunct professor Victoria University.

Suzi Kerr is a Senior Fellow at Motu Economic and Public Policy Research Trust and an adjunct professor at Victoria University.

Her current research on domestic and international climate change policy focuses on emissions pricing and land use. She also leads work on climate change impacts and adaptation in New Zealand.

She has previously worked on economic instruments for managing water quality, fisheries and air quality and run policy dialogue processes in the lead up to the establishment of New Zealand's emissions trading system, agricultural greenhouse gas emissions and New Zealand's Low Emissions Future. She is currently leads the Deep South National Science Challenge Impacts and Implications programme.

She holds a PhD in economics from Harvard University and won the NZIER Economics Award in 2010.

Aviation Carbon Reduction

We support the aviation industry's mid and longer term goals of carbon neutral growth from 2020, and halving 2005 emissions levels by 2050.

In 2017, our carbon footprint (greenhouse gas emissions) increased by 5.1 percent, due primarily to Air New Zealand's capacity growth, which increased by 6.3 percent.

We continue to aim for an average annual fuel efficiency improvement of 1.5 percent – approximately 49,000 tonnes of carbon dioxide per annum at current levels.

A Modern Fleet

One of the most significant ways to reduce emissions is by operating a modern and efficient fleet. We were the first airline to take delivery of the revolutionary 787-9 Dreamliner in 2014 and we retired our last Boeing 767 aircraft from our fleet in March this year.

As at 30 June 2017, our 103 aircraft have an average seat-weighted age of seven years, and we are targeting a slight reduction to 6.9 years by 2020. In the past year three new 787-9 Dreamliner aircraft have entered our fleet and a further four will arrive in the next 18 months.

Over the next four years we plan to invest approximately \$1.5 billion in new and more efficient aircraft.

OUR AVERAGE AIRCRAFT FLEET AGE (SEAT WEIGHTED IN YEARS)¹

2014	2015	2016	2017	2020
9.1	7.8	7.5	7.0	6.9 (projected)

¹ Average seat-weighted aircraft age is calculated as: The sum of each aircraft seat multiplied by the age of that seat, divided by total number of seats.

Sustainability Framework Target

1.5%* average annual improvement in aviation fuel efficiency (2009 - 2020)

Baseline year

0.93 tCO₂-e per revenue tonne kilometre (FY09)

2016

2.9% improvement compared to FY15

20% improvement compared to FY09

2017

0.3% improvement compared to FY16

20% improvement compared to FY09

(2.5% average annual improvement)

Status
Achieved

*IATA industry target

Aviation Carbon Reduction - continued

Operational Fuel Efficiency Improvements

Our annual fuel efficiency improvement rate in 2017 was lower than previous years, at 0.3 percent, compared to 2.9 percent in 2016. One reason for the lower rate was that fewer new and more fuel efficient aircraft entered the fleet in the past year compared to the previous three. Other factors included a slightly lower load factor, which impacted overall efficiency, measured as emissions per kilometre of weight transported.

Following IATA Fuel Efficiency Audit recommendations in 2016, the highest priority initiative for 2018 will be to reduce use of Auxiliary Power Units (APUs) that power air conditioning, lighting and some maintenance when the aircraft is not flying. By maximising ground power use (where the aircraft attaches to the airbridge/gate to access electricity), carbon emissions from aircraft fuel consumption can be reduced. Integration of this new approach will require continued collaboration with airports, to ensure airport infrastructure enables power and pre-conditioned air at all gates.

Following trials at Christchurch International Airport, this will be standard operating procedure at our three dedicated A320 aircraft gates. Combined with APU initiatives at Auckland International Airport, we estimate reducing more than 2,000 tonnes of carbon emissions in the coming year.

In 2017, we reduced residual weight on some of our aircraft by introducing lighter-weight baggage containers on our Boeing 787 and Boeing 777 aircraft, resulting in an annual saving of 3,553 tonnes of carbon dioxide emissions. In the coming year we will continue to collaborate with Airways New Zealand for new air traffic control to minimise fuel use.

We are currently evaluating other initiatives to reduce fuel use and carbon emissions including:

Single engine taxiing (to save fuel by using only one engine when taxiing to the gate versus both engines)

Reduced acceleration altitude (enabling aircraft to accelerate to optimum climb speed earlier after take-off)

Reduced flap landing (allowing lower power settings on approach due to less drag)

Idle reverse thrust (enabling lower reverse thrust settings on landing, when conditions allow)

Control check on taxiing (allowing aircraft to taxi to the runway sooner after engine start)

Domestic Carbon Emissions Policy

Air New Zealand continues to participate in the New Zealand Emissions Trading Scheme (NZETS). Our submission on the NZETS Review in 2016 encouraged a move to full obligations being placed on emitting entities.

Despite being currently reliant on fossil fuels to operate, we consider every part of the economy should be willing to put a price on carbon emissions, which will ultimately drive efficiency and incentivise new technologies.

In the past year, the transitional NZETS obligations were lifted by the New Zealand Government from 50 percent to 67 percent of our domestic emissions.

These NZETS obligations will be met through the surrender of emissions units (this will equate to obligations of approximately 402,000 emissions units in calendar year 2017). We also remain focused on how domestic carbon reductions can be encouraged and commissioned research to explore the barriers to native forestry-deriving carbon benefits¹. To put this in context, since 2006, no native forestry has entered the ETS². In line with our NZETS submission, we want to see more widespread afforestation being encouraged that can also achieve broader biodiversity, soil, waterway and community co-benefits.

1. Kerr, S & Carver T, Facilitating Carbon Offsets from Native Forests, Motu Economic and Public Policy Research, 2017.
2. OIA16-0176: Forestry ETS Data, Response to an Official Information Act request made by Motu Economic and Public Policy Research. Wellington: Ministry for Primary Industries. <http://motu.nz/our-work/environment-and-resources/emission-mitigation/emissions-trading/emissions-trading-scheme-forecasting-data>.



Aviation Carbon Reduction - continued

Greenhouse Gas Inventory

Total Operational Emissions Scope	GHG emissions sources	Tonnes CO ₂ -e FY15	Tonnes CO ₂ -e FY16	Tonnes CO ₂ -e FY17
Scope 1: Direct GHG emissions from sources owned or controlled by Air New Zealand	Aviation Fuel, LPG, Natural Gas, Ground Diesel, Ground Bio Diesel, Ground Petrol	3,073,455	3,308,947	3,477,944
Scope 2	Electricity	5,543	3,701	2,624
Totals		3,078,998	3,312,648	3,480,567
Biomass* (Wood Pellets)		880	1,235	998

For more detail on our greenhouse gas emissions, see our 2017 Air New Zealand Greenhouse Gas Inventory Report and a copy of the assurance statement from Deloitte [here](#).

Scope 1: Direct GHG emissions from sources owned or controlled by Air New Zealand.

Scope 2: Indirect GHG emissions associated with the generation of imported electricity.

*Air New Zealand uses a wood pellet boiler for space heating and engineering processes at its Christchurch site. The GHG Protocol requires organisations to report direct CO₂-e emissions from biologically sequestered carbon (e.g. CO₂-e from burning biomass) separately from Scope 1 or Scope 2 emissions.

International Aviation Carbon Emissions Policy

In October 2016, the International Civil Aviation Organization (ICAO) reached a historic agreement on a global scheme designed to help address the industry's target of carbon neutral growth from 2020, known as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Air New Zealand was consulted by the New Zealand Government (who is the state party at ICAO), and supported New Zealand's early engagement in the CORSIA. CORSIA will require airlines (including Air New Zealand), to offset growth in emissions above a 2020 baseline. Key terms regarding the integrity of carbon offset types is a continuing discussion topic within ICAO working groups and is something we consider must be robust, for the CORSIA to achieve enhanced environmental outcomes.

Sustainable Aviation Biofuel

We have been active in our search to replace traditional fossil fuel with sustainable biofuels. With Virgin Australia in 2016, we sought supply of up to 20 million litres of biofuel in Australia and New Zealand from 2020, and undertook further due diligence on potential suppliers in New Zealand.

We have learned large scale and practicable volumes of biofuel remain some way from becoming a commercial reality, particularly with the current price of oil globally, and in the absence of clear policy incentives to encourage production in Australasia.

We are however continuing to explore options for New Zealand manufacture, working with potential technology and fuel supply chain partners.

Customer Voluntary Carbon Offsetting Opportunities

In the past year we have worked to make it easier for customers to understand and voluntarily offset the emissions associated with their air travel. By offsetting their personal carbon impact they can drive deeper reductions in carbon emissions than what is currently mandated by regulation.

We have introduced a new voluntary carbon offsetting function to our New Zealand online booking engine, so customers can identify the emissions associated with their travel and then purchase certified carbon emissions units equating to their flight's emissions. Customers have opted to offset close to 40,000 journeys since the online function went live in October 2016, purchasing around 10,000 tonnes of carbon emissions units.

Air New Zealand takes no commission from this offering, and all emissions units are cancelled

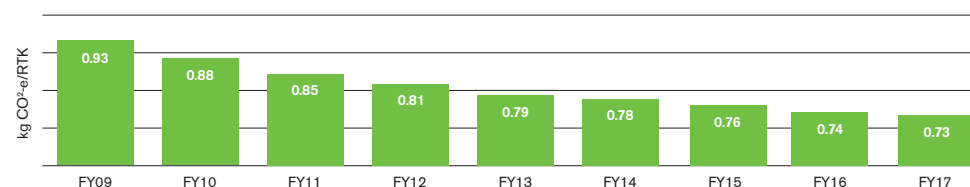
in the New Zealand Emissions Unit Register.

While this is a marked increase on previous uptake rates, we're striving to enhance this further in the coming year by improving awareness of the native forestry projects supported through voluntary offsets.

All voluntary contributions currently support permanent forestry sink initiative projects with the New Zealand Native Forest Restoration Trust. The non-profit trust has purchased over 7,000 hectares of land throughout New Zealand to restore with native trees, and covenants the land in perpetuity via Queen Elizabeth II Trust.

The trust also encourages community activities such as planting and weeding across New Zealand, and in the coming year we will enable Air New Zealand Greenteam planting days with this partner.

Fuel efficiency: CO₂-e per Revenue Tonne Kilometre (RTK)*



*Revenue Tonne Kilometre (RTK) is a measure of the weight that has been paid for on the aircraft (freight and passengers) multiplied by the number of kilometres transported. Freight values are from Air New Zealand records, and passenger weights are estimated at 100kg per passenger (including checked and carry-on baggage) as recommended by IATA for generating a fuel efficiency target. CO₂-e emissions are from Air New Zealand's use of aviation fuel over the same time periods.

For more detail on our greenhouse gas emissions, see our 2017 Air New Zealand Greenhouse Gas Inventory Report and a copy of the assurance statement from Deloitte [here](#).

Low Carbon Stationary Energy

We have been actively reducing our electricity use at our New Zealand sites through a dedicated energy efficiency programme. Our targets for reduced consumption of electricity have been exceeded with an 8.8 percent reduction in 2017.

TARGETS

We recognise that focusing on a simple reduction target is not necessarily the best measure of performance.

In the coming year we will investigate options to incorporate more photovoltaic (solar power) solutions at our large operational sites. LED has the advantage of a shorter payback time, but solar energy combined with battery storage has the advantage of enabling us to match load consumption, storing energy during the day to use at night when we undertake most of our aircraft maintenance, particularly at our Nelson and Christchurch engineering and maintenance sites.

Some of the ways in which we have achieved our annual target for 2017 include:

- Advancing monitoring and profiling of buildings and typical energy loads. Separate metering double checks consumption data and identifies real time energy saving opportunities.
- Converting to LED lighting as technology became available for LED aircraft hangar lighting.

Property & Infrastructure

Air New Zealand's property portfolio includes 250 buildings, two thirds of which are in New Zealand and more than 50 at Auckland Airport alone.

Over the past two years Air New Zealand has invested heavily in customer-facing areas at airports and in lounges. Alongside this we are increasing our focus on employee workspaces and the role these have on our employees' experiences every day.

In 2018, we will apply Sustainable Building Guidelines, developed in 2016, across a diverse range of projects and new builds. A strategic objective is to consolidate into campus-style environments with expected benefits including greater collaboration, and a reduction in overall building footprints.

Our sustainable building guidelines include Greenstar ratings and seismic standards. The New Zealand Building Code requires a seismic rating of 34 per cent New Build Standard for existing buildings (100 per cent for new). We have set a higher target of 67 per cent for Air New Zealand buildings by 2020.

We have commenced using an integrated design process that involves users in the

solution creation, and we consult with employees and all contractors involved in a project from the beginning. We have set up test labs for agile workspaces and paperless offices, where very few people have their own desk but there are spaces for individuals and teams to create, collaborate, contemplate or concentrate. We believe this approach will enable stronger customer and employee experience and engagement. Although it is currently challenging to measure a return on investment with this approach, one case-study team reported a positive impact on the way members worked together, by reducing hierarchy and encouraging productive collaboration in a team of mostly new employees.

We are also looking at what we call 'hero elements', such as designing staircases that will provide health benefits of people to use the stairs rather than take the lift. We are also using the circular economy concept in our planning. For example, in a recent project on our engineering base, 67 per cent of the material used in construction was recycled.

Sustainability Framework Target

5% annual reduction in electricity use against 2011 baseline

Baseline year

56,210,433 kWh
(FY11)

2016

15% reduction
compared to FY15

40% reduction
compared to FY11

2017

8.8% reduction
compared to FY16

43% reduction
compared to FY11

Status

Achieved

Low Carbon Ground Transport

Ground vehicle use represents a very small proportion of our overall carbon footprint, but is an example of the leadership role we can play in advancing a low carbon transition for New Zealand.

Light vehicles

This year we achieved our 2015 commitment to transition all 76 cars in our light vehicle fleet to electric models (comprising BMW i3, Renault Kangoo and Mitsubishi Outlander PHEV). When we commenced our electric vehicle project, there was no electric alternative for our large vans, but we expect two models on the New Zealand market next year. We are also investigating whether it is operationally feasible to transition these vans to electric options.

As an early adopter for a comprehensive EV fleet we had challenges in the variety of vehicles available, and consequently we acquired a mixed fleet with differing charging specifications. We are retrofitting vehicles to New Zealand Transport Agency Standard chargers. Currently we provide over 45 chargers around New Zealand, including four for Koru club members at Auckland airport and further chargers at our freight and cargo sites.

In 2016, Air New Zealand and Mercury, with support from Westpac, led a corporate EV pledge to encourage uptake of EVs by major New Zealand companies. More than 30 organisations have pledged to transition at least 30 percent of their fleets to electric options by 2019, a commitment of over 1350 EV's on New Zealand roads.

Ground Service Equipment

In addition to our light vehicle fleet, we have committed to electrify our fleet of ground support equipment (GSE) such as loaders and pushback tugs in airport operational areas. This year we have not markedly increased our level of electric GSEs beyond 50 per cent because of long lead times and delays in acquiring charging infrastructure in collaboration with the airport companies. Our strategy is to transition to 55 percent electric in the coming year. For both our light vehicle and GSE vehicle fleets new GPS systems will also allow data to be collected so we can ensure optimal fleet efficiency.

Sustainability Framework Targets

100% electric vehicles in light ground fleet (where feasible*) by end FY17

Baseline year	2016	2017
0% (FY15)	13%	100% (76) light vehicles transitioned to electric

Status
Achieved

*Where feasible refers to availability of electric models for operational requirements.

55% electric Ground Service Equipment (where feasible*) by end FY18 (100% by end FY20)

Baseline year	2016	2017
32% (FY15)	50%**	50.7%

Status
Some progress

*Where feasible refers to availability of electric models for operational requirements
**Re-stated from 45% to 50% to reflect the inclusion of leased GSEs

Waste Management



With our large operational sites and diverse waste streams, Air New Zealand has struggled to keep up with sustainably managing waste. While good progress has been made on ground waste reductions in past years, the average rate of reduction of landfill diversion rate has slowed and is sitting at 71 percent.

This year we introduced an organic waste collection at our Auckland head office, which helped improved landfill diversion rates by 9 percent at this site (some 13 tonne of organic waste being diverted). Following this result, we will be implementing organic waste collections at other major employee sites in the coming year. We will also be establishing new waste targets for all sites, investigating new technology opportunities, and focusing on improved internal communications to enable information sharing so that employees can play their part in driving a culture of waste minimisation.

Inflight waste continues to present the biggest challenge, and is top of mind for both crew and customers, who are often used to more sustainable waste practices in their own homes than they see on our flights. New waste management infrastructure is now enabling our wax coated inflight coffee cups to be recycled in certain parts of New Zealand and in response we have tested coffee cup recycling on our domestic services. A trial on our services to Dunedin

showed we can double the current inflight recycling rate and remove cups out of the landfill waste stream. We estimate rolling this out across our domestic fleet will allow us to recycle 6.5 tonnes of café cups, plastic glasses and water bottles per year, and we will make this standard operating procedure next year.

One of the biggest obstacles to inflight waste implementation is that many of the places we fly to around New Zealand have different waste regimes, which require crew to work in different ways depending on their final port. Standardising reporting, systems and processes for working with regional ports will be a focus in the coming year.

For international waste arriving at Auckland, 49 percent of dry (cabin) waste is now recycled rather than going to landfill. Following collaboration with our major caterer LSG Skycheffs and the Ministry for Primary Industries, some 40 untouched and unopened inflight products that were previously sent to landfill, are now being retrieved and put back into circulation.

Recycling of non-biosecurity risk packaging is also occurring. In the coming year, we will be measuring volumes of landfill diversion achieved by this collaborative project. We have also continued recycling uniforms and furniture that is no longer right for our purposes but can be most useful to non-profit groups. Approximately five tonnes of uniforms avoided disposal in landfill in the past year, and we estimate that over 500 pieces of furniture were distributed to not for profit groups across Auckland and to Fiji.

We are also repurposing office materials as part of some international fit-outs – a Melbourne airport office refurbishment this year resulted in reuse of existing good quality kitchen and office components, and donation of desks and screens to community groups. This has benefits to Air New Zealand in that landfill fees can be avoided. The property and infrastructure team has now created a more streamlined process for recording volumes of available and donated furniture items so that we can more accurately track and report on results next year.

Sustainability Framework Target

85% diversion from landfill at Auckland ground sites
by end FY18 (zero waste by end FY20)

Baseline year

65% (FY15)

2016

74%

2017

76.8%

Status

In progress