



Environment action plan and status report 2011



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EXECUTIVE SUMMARY

Airservices *Environment Action Plan and Status Report 2011* is designed to ensure the delivery of the organisation's Environment Strategy (2011-2016). The report will be republished annually, allowing the organisation to report on planned and implemented improvements and the expected benefits of changes. The aim is to ensure that Airservices moves forward as an organisation towards a 'greener' path.

This document maps out what we are doing and how we are performing from an environmental continuous improvement perspective. It describes the key activities we undertake to ensure our environmental performance and meet government expectations.

The details of our environment management activities are captured in our Environment Management System (EMS) and associated reporting through Airservices Environment Group.

Our goals, objectives and initiatives

Airservices Environment Strategy is based on three core environmental goals in the areas of services, infrastructure, and people and processes.

The goals will be achieved across the organisation through eight environmental focus areas, which are described in this document along with what we have achieved and what we plan to do in each area. By following this action plan, we will ensure the implementation of the Environment Strategy for this financial year.

Table 1 summarises how the action plan supports the Environment Strategy. In addition, to ensure we focus our efforts in the most efficient way, six key initiatives have been highlighted for the organisation for 2012. In this action plan and status report, we provide further detail on these key initiatives and the environmental benefits they are intended to deliver.

Services

"We will be recognised as an innovator in the delivery of environmentally efficient, community friendly ATM and related airside services"

Infrastructure

"We will minimise the adverse impact of our infrastructure on the environment"

People and Processes

"We will improve our processes to optimise environmental results, and our people will recognise and value their contribution to our environmental performance"

TABLE 1. Airservices Environment goals, focus areas, objectives and key initiatives

Environment goals	Focus areas and Objectives	Key initiatives
Services (Chapter 2)	Aircraft emissions Objective: We will maintain the environmental efficiency of the ATM system	Key initiative A: ATM System Improvement
	Aircraft noise and community engagement Objective: We will improve the management of aircraft noise and identify opportunities to reduce its impact on the community	Key initiative B: ASPIRE & INSPIRE
	ARFF services Objective: We will reduce the environmental impact of ARFF service delivery	Key initiative D: ARFF Environment Management Plan
Infrastructure (Chapter 3)	Infrastructure footprint Objective: We will minimise the environmental footprint of our organisation	
	Biodiversity, heritage and climate adaptation Objective: We will ensure that the biodiversity and heritage values of sites are maintained while assessing their vulnerability to climate change	
	Pollution and contamination Objective: We will minimise pollution and manage contaminated sites	
People & Processes (Chapter 4)	Environmentally focused workforce Objective: We will increase our people's understanding of how Airservices facilitates environmental improvements and how they can contribute to that process	Key initiative E: Environmental Assessment for ATM Key initiative F: Environmental Measurement & Metrics
	Innovation, management and measurement Objective: Through innovation, we will enhance environmental measurement and management processes	

01 INTRODUCTION



1.1 OUR ENVIRONMENTAL MISSION

Airservices is a commonwealth statutory authority, established by the *Air Services Act 1995*. Our mission is to provide safe, secure, efficient and environmentally responsible services to the aviation industry.

Airservices primary role is to provide air navigation and aviation rescue and fire fighting services. Under the Act and as part of our Mission, Airservices has an obligation to provide environmentally responsible services to our customers by minimising the environmental impact of aircraft operations and our own corporate footprint.

In demonstrating our performance to industry, a number of corporate indicators have been established which support our Environmental Mission, refer to Table 2. These indicators are recorded in our Corporate Plan and reported against quarterly.

TABLE 2. Corporate indicators of environmental performance

Corporate indicator	Target (2011–12)
Aircraft holding Percentage total of airborne holding to ground holding at Sydney, Melbourne and Brisbane.	40% : 60%
ATS attributable delays Total number of Air Traffic Service attributable flight delay events (where the delay is greater than 10 minutes, and demand is less than airport capacity).	< 7 per quarter
Runway capacity improvement Percentage increase in maximum hourly movement capacity through new Air Traffic Service initiatives at major aerodromes (excluding movement capped aerodromes).	≥ 3%
Runway capacity achieved Percentage of maximum runway movement capacity delivered during peak periods.	> 95%
Noise Enquiry Unit compliance Noise Enquiry Unit compliance to prescribed response times for complaints and enquiries.	≥ 95%
Noise complaints Percentage reduction in the number of annual complainants per 100,000 movements.	2%
Consultation on noise issues Number of procedural changes implemented without consultation in accordance with Airservices Communication and Consultation Protocol (excluding those implemented to address immediate safety issues).	0
Noise abatement Adherence to noise abatement procedures at all noise-monitored aerodromes (an allowance has been made in the target against 100% compliance for uncontrollable events such as weather).	90%
ATS availability Hours of Air Traffic Service availability as a percentage of total hours of coverage.	> 99.9%

1.2 ALIGNING WITH GOVERNMENT'S EXPECTATIONS

Airservices Corporate Plan and Environment Strategy are informed by the National Aviation Policy White Paper goals.

Initiatives in the 2011- 2016 Airservices Corporate Plan that aim to meet the White Paper objectives are:

- Implement an Environmental Strategy and associated environmental work program
- Improve consultation with the community on aircraft noise issues, manage complaints better and support an independent Aircraft Noise Ombudsman's office
- Undertake research, development and trials in the deployment of enhanced and cost-effective procedures, tools, technologies and systems.

The Minister for Infrastructure and Transport's Statement of Expectations (SoE) formally and publicly outlines the Minister's expectations of Airservices and gives strategic direction to the organisation. In response to the SoE, Airservices develops a Statement of Intent (Sol).

The current Sol states that, in relation to the environment, Airservices will:

- consult with the community on aircraft noise issues
- enhance management of the Noise Enquiry Unit to enable improved complaints handling
- maintain an independent Aircraft Noise Ombudsman's Office
- implement the recommendations of the Aircraft Noise Ombudsman.

In addition to the SoE, former transport ministers issued a number of Ministerial Directions regarding areas of Airservices environmental responsibility. We have implemented most of the directions through our business-as-usual model and monitored implementation through the Environment Management System (EMS). Outstanding Ministerial Directions are reviewed and addressed in conjunction with the Department of Infrastructure and Transport.

This environment action plan and status report captures progress against the environmental objectives listed in the White Paper and ensures that our work is aligned to the expectations of the Australian Government and the aviation industry.

As well as this, Airservices will focus on implementing a range of new systems and tools across the core air traffic management suite that support optimal operations. These changes aim to improve capacity, enhance safety, improve cost effectiveness, realise environmental benefits and meet customer needs. Airservices will, where appropriate, ensure environmental impacts and implications are considered through application of our EMS.



02 SERVICES



2.1 AIRCRAFT EMISSIONS

Objective:

We will maintain the environmental efficiency of the ATM system

Concerns over the level of greenhouse gas emissions from aviation remain an issue. Despite the fact that over time aircraft engines have become more fuel efficient and produce less noise, individual aircraft performance improvement has been offset by growth in air travel.

Fuel efficiency in Australia, when calculated on the basis of fuel burn per 100 Revenue Passenger Kilometres (RPK) has improved between 2008-09 and 2009-10 at a rate that is broadly comparable with long term industry trends. Preliminary analysis suggests that fleet replacement, improved load factors and a shift toward a greater proportion of long haul flights have been factors in this improvement. Increases in traffic will, if not mitigated, impact on the overall efficiency of our services, and this in turn will lead to increased fuel consumption through track extension and/or holding. Greenhouse gas emissions are therefore likely to increase at a greater rate than would have been predicted from traffic growth, eroding the impact of fleet replacement and improved load factors. We must therefore take action to understand current air traffic management system performance and identify and then address areas of inefficiency.

In the past year, Airservices delivered the following initiatives:

- between December 2010 and June 2011, more than 4500 flights chose more efficient FlexTracks, producing an estimated saving of over 1000 tonnes of fuel and reducing aviation greenhouse gas emissions by around 3350 tonnes. A new daytime Sydney–Singapore FlexTrack was introduced
- we provided 10 ‘off airways’ user preferred routes (UPRs) to airlines (Perth – Middle East, Perth–Auckland, East Coast – Middle East, East Coast – South Africa, East Coast – USA, East Coast – Pacific Islands, East Coast – Japan, East Coast – South-east Asia, Sydney – Buenos Aires, Melbourne–Auckland)
- as a joint initiative with Airways New Zealand, we have developed and implemented a new UPR between Melbourne and Auckland. The route is available to Air New Zealand, Emirates, Jetstar, Qantas, Singapore Airlines (cargo) and Virgin Australia
- we continued our participation in the ASPIRE program and collaborated with other ANSPs and airlines to establish INSPIRE (see Key initiative B for more detail)
- to promote flexible use of airspace, we increased the functionality of the web briefing page for pilots, including through provision of a priority level system (showing the likelihood of access) and greater detail on the role and function of the restricted airspace
- we developed the civil–military ATM joint operational concept, which includes efficiency and environmental considerations.

This year, Airservices will:

1. increase the number of optimised enroute flight paths through FlexTracks and UPRs.
2. subject to the reimplementation of the Long-range Optimal Flow Tool (ALOFT), enhance fuel efficiency for Sydney arrivals by absorbing 50% of identified delay in a more fuel-efficient phase of flight.
3. enhance fuel efficiency by absorbing 60% of total delay as (more fuel-efficient) ground holding.
4. roll out the first phase of the joint industry and Airservices Collaborative Decision Making program through the implementation of Metron Traffic Flow at Sydney, Perth, Brisbane and Melbourne.
5. create an environment and efficiency operational analysis capability to provide high fidelity efficiency and emissions modelling that can be used to assess the environmental benefits and impacts of future system changes.
6. continue to promote environmentally responsible aviation through participation in Asia and Pacific Initiative to Reduce Emissions (ASPIRE) and the Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE).
7. continue to engage with other Air Navigation Service Providers (ANSP), the International Civil Aviation Organization (ICAO) and the Civil Air Navigation Services Organisation (CANSO) to determine best practice environmental performance and achieve global aircraft emissions targets.
8. develop the ATC Future System Functional and Performance Specification and update the Joint Operational Concept, which addresses efficiency and environmental benefits.
9. collaborate with industry and Civil Aviation Safety Authority (CASA) on the operational trial of approaches with vertical guidance (APVs) by barometric vertical navigation (Baro-VNAV).

In future years, Airservices will:

- continue to expand the number of available optimised routes
- implement required navigation performance (RNP) arrivals and departures at airports
- encourage the implementation of structured terminal areas facilitating continuous descent approaches
- develop procedures and practices to avoid holding and vectoring within the terminal area
- continue research into user preferred trajectories, providing trajectory predictions to improve aircraft sequencing during all phases of aircraft movement
- continue to collaborate with industry and other agencies to implement APVs (70% by 2014 and 100% by 2016).

Key Initiative A: ATM system improvement

By improving the efficiency of the Air Traffic Management (ATM) system, we are able to reduce the fuel burn and greenhouse gas emissions of aircraft. However, those improvements must be balanced against their impact on other important requirements, such as safety and protecting communities against aviation noise. The main ATM system improvements currently in development that reduce fuel burn and emissions are described below.

Airport Capacity Enhancement (ACE)—The ACE program aims to make the best use of existing infrastructure to maximise efficiency. This will involve improving the processes and practices of air traffic controllers, airport operators and airlines. Improving runway efficiency and optimising the use of existing infrastructure, particularly during peak periods, is critical to the efficient operation of the national airspace system and to managing the impact of aviation on the environment. This year, we intend to develop an ACE strategy for Melbourne and Perth, and improve existing capacity.

Collaborative Decision Making (CDM)—The CDM program is aimed at improving ATM efficiency through increased information exchange among industry partners. One benefit of this is the reduction of airline greenhouse gas emissions by absorbing delay in more fuel efficient forms (e.g. ground delay instead of airborne delay). Three capabilities that will be established or improved as part of this program are air traffic flow management (AFTM), airport CDM (A-CDM), and integrated arrival and departure management (A/DMAN). This year, we intend to implement AFTM through the use of Metron Traffic Flow (see below) and commence a project to establish airport CDM at one demonstration airport.

Metron Traffic Flow—Metron Traffic Flow is an advanced AFTM tool capable of simultaneously managing traffic flows at multiple airports.

Where ATM demand exceeds capacity, Metron Traffic Flow will regulate traffic into a designated airport through the allocation of ground delay. This year, we intend to implement Metron Traffic Flow in Sydney, Perth, Brisbane and Melbourne.

Maestro Project—Maestro is a multi-airport and multi-runway sequencing and metering tool designed to assist controllers handle traffic inbound to major terminal area airports. It is a tactical system used to optimise traffic flow once aircraft are already in the air and moving towards a capacity-constrained airport. Minor adjustments to speed or routing often mean that holding can be avoided, even in peak periods at major airports. This year, we intend to standardise and align processes for Maestro operations between the airports already using the technology.

User Preferred Routes (UPRs)—The User Preferred Routes project will modify current systems and flight planning rules and procedures to allow airlines to fly optimised air routes specifically tailored to the characteristics of each aircraft, rather than a standard route shared by all airlines and aircraft types. This year, we intend to explore the viability of Brisbane–Perth UPRs for extended hours.

Approaches with Vertical Guidance (APVs)—Instrument approaches that give pilots vertical guidance have been shown internationally to provide significant safety, operational and environmental benefits. APVs generally require the use of augmented satellite navigation systems. CASA, along with Airservices and industry, are working to set the standards for APVs and to facilitate their adoption. The major airlines are already using this type of approach for their 'new generation' aircraft around Australia and overseas. An operational trial of Baro-VNAV approach procedures designed by Airservices to ICAO design criteria is being planned for this year to demonstrate use of APVs for regional aircraft.

Fact file: Flextracks and User Preferred Routes

Flextracks and user preferred routes are now being used widely between Australia and airports in Asia, the Pacific, the Middle East, New Zealand and the US.

A **Flextrack** is a non-fixed ATS route calculated on a daily basis to provide the most efficient operational flight conditions between specific city pairs by taking forecast wind conditions into account. Airservices National Operations Centre calculates and publishes Flextrack information for airlines flying into and out of Australian airspace.

Fuel savings made on each flight reduce greenhouse gas emissions.

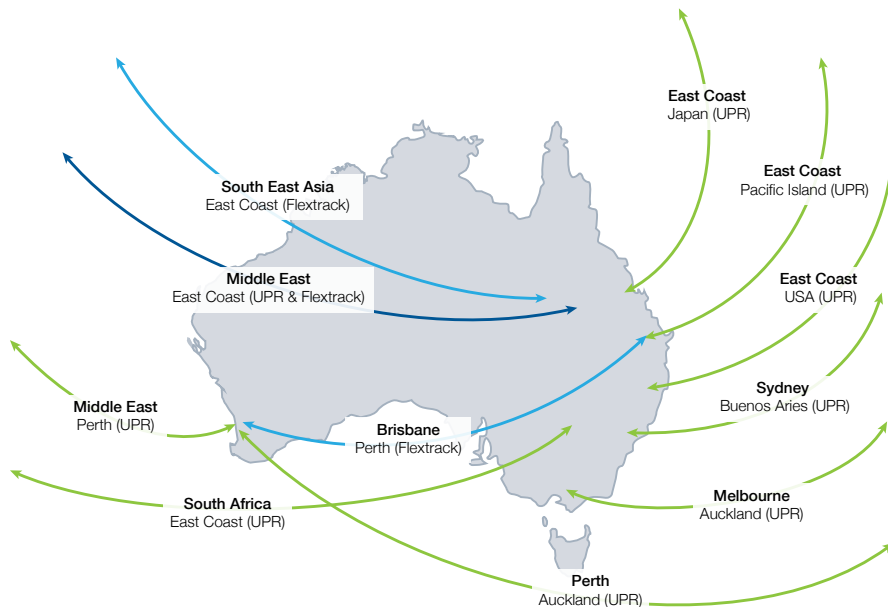
User Preferred Routes allow the airlines to fly optimised routes specifically tailored to the characteristics of each aircraft, rather than a standard route shared by all airlines and aircraft types.

UPRs are calculated based on factors such as forecasted winds, aircraft type and performance, convective weather and scheduling requirements.

Benefits of Flextracks and UPRs:

- enable airlines to optimise fuel savings
- increase flexibility for airline flight planning
- assist the aviation industry to reduce greenhouse gas emissions
- assist aircraft to arrive early or on time.

User Preferred Routes and FlexTracks available as at June 2011



Key Initiative B: ASPIRE and INSPIRE

The Asia and Pacific Initiative to Reduce Emissions (ASPIRE) and Indian Ocean Strategic Partnership to Reduce Emissions (INSPIRE) have been established with neighbouring civil aviation authorities and ANSPs. The objectives of these ongoing programs are to:

- accelerate the development and implementation of operational procedures to reduce the environmental footprint for all phases of flight on an operation basis, from gate to gate
- facilitate worldwide interoperability of environmentally friendly procedures and standards
- develop shared performance metrics to measure improvements in the environmental performance of the air transport system.

Green Components—Both programs demonstrate a network of green routes by tailoring best practices, such as UPRs; dynamic airborne reroute procedures; performance-based navigation—separation; reduced vertical separation minima; FlexTracks; continuous decent arrivals and tailored arrivals; and required time of arrival management between city pairs. The ‘green’ ATM procedures and technology demonstrated in the ASPIRE partnership have enabled participating airlines to report an average of 4% fuel savings and up to 15 tonnes reductions in CO₂ emissions per flight.

Supporting Global Emissions Reduction—

ASPIRE and INSPIRE strategic activities directly support the modernisation of ATM at all levels to sustain future projected air traffic levels while reducing fuel burn and greenhouse gas emissions. Furthermore, both initiatives support ICAO and CANSO environmental objectives.

Upcoming improvements include:

- the implementation of two ASPIRE city pairs with Qantas (Brisbane–LA, Melbourne–LA)
- the implementation of three INSPIRE city pairs: two with Emirates (Perth–Dubai and Dubai–Brisbane) and one with Etihad (Abu Dhabi – Sydney).

For more information, visit:

- ASPIRE website www.aspire-green.com
- INSPIRE website www.inspire-green.com



Fact file: Airservices involvement with ICAO and CANSO

A global agreement reached by the 37th session of the ICAO Assembly in October 2010 established a new benchmark to reduce international aircraft emissions and increase global fuel efficiency. States will work with ICAO to achieve a global annual average fuel efficiency improvement of 2% until 2020 and an aspirational global fuel efficiency improvement rate of 2% per annum from 2012 to 2050 (Assembly 37, Resolution 19).

National action plans to reduce international aviation greenhouse gas emissions

One hundred and ninety Member States have been invited to submit their national action plans to reduce emissions from international civil aviation to ICAO by June 2012. The action plans will enable ICAO to measure global progress towards the goals. Airservices is working closely with the Department of Infrastructure and Transport and other aviation partners to assist the development of Australia's plan. The plan will focus on implementing emissions management measures, rather than on constraining traffic growth.

In shaping global and regional emissions targets, Airservices is an adviser to Australia's representative on the ICAO Committee for Aviation Environmental Protection (CAEP). We have participated in the Asia-Pacific workshops on the development of state action plans and are taking a leading role representing Australian ATM in the Asia-Pacific region.

CANSO involvement

Airservices is also an active participant in the CANSO Environment Work Group. In the past year, CANSO has:

- supported the rollout of the ICAO Fuel Savings Estimation Tool (IFSET) to estimate fuel savings from key operational performance enhancements and demonstrate ATM's contribution to good stewardship of the environment
- published guidance on environmental awareness, environmental management systems, ATM efficiency goals for 2050, and determining the carbon footprint of ANSPs.

Over the next two years, the Environment Work Group intends to publish three white papers on aircraft noise, speed control, and ATM environmental measurement best practice. In collaboration with Boeing, the Environment Work Group intends to publish a paper on ATM efficiency. The CANSO Environment Metrics and Methodology subgroup is sharing information with CAEP to further the development of environmental metrics and operational measures. Airservices will be providing subject matter expertise and resources where required to facilitate CANSO's environmental programs.

For more information, visit:

- ICAO environment website
<http://www.icao.int/env>
- CANSO environment website
<http://www.canso.org/environment>

2.2 AIRCRAFT NOISE AND COMMUNITY ENGAGEMENT

Objective:

We will improve the management of aircraft noise and identify opportunities to reduce its impact on the community

Aircraft noise is the most significant cause of adverse community reaction to aviation operations. Limiting or reducing the number of people affected by significant aircraft noise remains a key environmental goal for the Government, Airservices, ICAO and the entire aviation community. To achieve the greatest environmental benefit for the Australian aviation industry, Airservices must work collaboratively with its industry partners. These partners include the airlines, airports, the government departments who oversight transport and environment policy and all parts of industry. They all have a role to play in reducing the environmental impact of the aviation industry and building community awareness.

In the past year, Airservices:

- continued to implement the Sydney Long Term Operating Plan, movement cap and curfew, including reviewing procedures for the management of the movement cap, thereby ensuring compliance while maintaining as much capacity as is reasonably practicable
- continued to operate the Noise and Flight Path Monitoring System at Brisbane, Cairns, Canberra, Gold Coast, Sydney, Melbourne, Adelaide and Perth to collect noise and flight path data
- endorsed Australian Noise Exposure Forecasts for technical accuracy in the manner approved by the Minister for Infrastructure and Transport
- provided quarterly and annual Sydney Airport Australian Noise Exposure Index reports
- provided advice, support and services to government and industry on the Air Navigation Regulations (Aircraft Noise)
- provided a Noise Enquiry Unit service and maintained the Airport Noise Complaint Monitoring System database
- established the Aircraft Noise Ombudsman office to conduct independent administrative reviews of Airservices management of aircraft noise-related activities (the office subsequently made 18 recommendations through a review of complaints handling, which we have committed to implementing)
- established a dedicated Community Relations team to provide representation, advice and information for the community on aviation noise and environmental impacts, and to provide Airservices with greater knowledge and understanding of communities' concerns
- attended all established community aviation consultation group meetings to ensure community access to Airservices on the subject of aircraft noise (the consultation groups were introduced in the Aviation White Paper and described in the guidelines released by the Department of Infrastructure and Transport)
- attended all Sydney Airport Community Forum and Sydney Implementation Monitoring Committee meetings to ensure community access to Airservices on the subject of aircraft noise
- provided and enhanced the WebTrak service, which provides public access to information about aircraft noise and operations around eight of Australia's busiest airports
- provided curfew reports to the Department of Infrastructure and Transport for Sydney, Adelaide and Gold Coast.

This year, Airservices will:

1. continue to implement the Sydney Long Term Operating Plan, movement cap and curfew, including reviewing procedures for the management of the movement cap, thereby ensuring compliance while maintaining as much capacity as is reasonably practicable.
2. continue to meet the Ministerial Direction, 'Progressive implementation of Sydney Long Term Operating Plan', of 30 July 1997.
3. continue to provide monthly Sydney Airport operational statistics through our external website, including published hours of precision runway monitor usage.
4. continue to provide and operate the Noise and Flight Path Monitoring System at Brisbane, Cairns, Canberra, Gold Coast, Sydney, Melbourne, Adelaide and Perth to collect noise and flight path data.
5. continue to endorse Australian Noise Exposure Forecasts for technical accuracy in the approved manner and provide quarterly and annual Sydney Airport Australian Noise Exposure Index reports.
6. continue to provide advice, support and services to government and industry on the Air Navigation Regulations (Aircraft Noise).
7. continue to provide the Noise Enquiry Unit service and maintain the Airport Noise Complaint Monitoring System database, while implementing a noise enquiry and complaints strategy to fulfil all recommendations from the 2011 Aircraft Noise Ombudsman's report.
8. continue to conduct reviews of noise abatement procedures for compliance and effectiveness.
9. establish and implement an Aircraft Noise Management Strategy (see Key initiative C).
10. continue to review the environmental assessment process for ATM changes (see Key initiative E).

11. make further changes to WebTrak to enhance information services to the public, including by providing access to historical analysis.
12. continue representation of Airservices at community aviation consultation groups, including at four new locations (Archerfield, Hobart, Launceston and Townsville), and continue to attend community engagement forums at locations such as Cairns and Sunshine Coast, which are not federally leased airports.
13. define a framework for organisation knowledge management relating to community engagement and Aircraft Noise Ombudsman liaison.
14. actively case manage significant and referred aircraft noise complaints.
15. ensure that appropriate community consultation is integrated into ATC change management.
16. prepare for appropriate community consultation as part of the rollout of terminal area RNP procedures.

In future years, Airservices will:

- endeavour to implement future Aircraft Noise Ombudsman recommendations and review performance to improve complaints handling
- enhance web-based services, including WebTrak, to deliver improved information and complaints handling services to the general public
- ensure greater community awareness and access to education on ATM, including continually improving the way we communicate and engage with the community.

Key Initiative C: Aircraft noise management strategy

Airservices has legislative and other obligations to minimise the environmental impacts of aircraft operations. Our approach to the management of aircraft noise and associated environmental impacts has historically been compliance based. The framework that we have operated within has been driven by our legislative obligations under the *Air Services Act 1995* and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), as well as the interpretive material that supports those Acts, relevant ministerial directions, and the Minister's Statement of Expectations.

We undertake a range of activities and provide services and tools to meet our Air Services Act obligation, that is to protect the environment from the effects of, and effects associated with, the operation of Commonwealth jurisdiction aircraft. These activities, services and tools include the Noise and Flight Path Monitoring System, the Noise Enquiry Unit, aircraft noise testing, and monitoring and reporting on movements at the airports with curfews.

The EPBC Act requires Australian Government agencies to refer actions that are likely to have a significant impact on the environment to the environment portfolio minister for decision. While there is a reasonable bank of case law that defines the concept of 'action', there are no guidelines providing quantitative measures or threshold criteria for 'significant impacts'.

The way forward

ICAO acknowledges the importance of effectively engaging communities, and in 2007 expanded its balanced approach to aircraft noise management guidance to include 'people' issues, such as information on communication strategies and greater public access to information. The ICAO approach identifies four elements to address aircraft noise problems in an environmentally responsive and economically responsible way:

- reduction of noise at source (for example, quieter aircraft, noise standards)
- land-use planning and management (such as zoning, easements, building standards)
- noise abatement operational procedures (such as noise preferred routes and runways, limited engine ground running)
- operating restrictions on aircraft (such as caps, curfews and quotas), which are regarded as last resorts and only to be used after the other three options above have been exhausted.

Our fundamental objective is to reduce the environmental impact of the aviation industry because that is our legislated obligation. Concurrently, our aim is to inform and consult with communities to permit the industry to grow and evolve. Therefore, our focus needs to be on two areas: reducing impacts and enhancing consultation. This is consistent with the objectives specified in the Environment Strategy.

This year, we will finalise and continue the implementation of the Aircraft Noise Management Strategy, which aims to drive a reduction in the impact of noise through technology improvements, operational improvements and involvement in noise amelioration programs. The strategy will also develop activities, effectively manage change, and provide fit for-purpose information to stakeholders about aircraft noise and operations. The key to success will be the effective engagement of stakeholders, including the community.

The Aircraft Noise Management Strategy will strategically direct and align activities underway throughout the organisation to ensure that we achieve our overall objectives for aircraft noise and community engagement.

2.3 ARFF SERVICES

Objective:

We will reduce the environmental impact of ARFF service delivery

Airservices Aviation Rescue and Fire Fighting (ARFF) services are provided at 21 of Australia's busiest airports. The environmental performance of ARFF service delivery is achieved through minimising pollution and related risks associated with our current operations and managing legacy contamination issues such as previously used fire fighting foams.

In the past year, Airservices:

- changed to water-based ARFF training
- changed to fluorosurfactant-free foam at 18 current fire stations and cleaned existing infrastructure
- developed and began implementation of an ARFF Environment Management Plan to manage potential issues arising from the use of fire-fighting foams containing fluorosurfactants at ARFF training grounds (see Key initiative D)
- redeveloped procedures to assist local fire station environmental portfolio holders with environment management
- continued monitoring a threatened frog species at the Launceston fire training ground.

This year, Airservices will:

1. change to fluorosurfactant-free foam at Hamilton Island fire station.
2. continue to negotiate with Defence to change to fluorosurfactant-free foam at Darwin and Townsville fire stations and seek agreement to clean existing infrastructure as soon as possible.

3. systemically monitor contamination in the ARFF waste stream to fully understand the extent of contamination across all ARFF sites.
4. continue to conduct site assessments in line with the ARFF Environment Management Plan.
5. determine suitable treatment methods for fluorosurfactants and other waste contamination.
6. complete a report on current ARFF waste management practices to ensure consistency across all ARFF sites.
7. deliver training to support the implementation of ARFF environmental procedures.
8. develop new local instructions for environmental management at each ARFF location.
9. review the ARFF Environment Management Plan.

In future years, Airservices will:

- develop a centralised ARFF training facility to reduce environmental impacts at other locations
- review ARFF training requirements and procedures to strengthen environmental legal compliance and minimise impacts
- develop management options for fluorosurfactant contamination
- conduct site assessments at all 21 fire stations and 18 legacy sites.

Key Initiative D: ARFF Environment management plan

The ARFF Environment Management Plan (EMP) has been developed to provide an overarching management strategy for Airservices to improve environmental performance in ARFF services, including the handling of potential contamination.

Potential and realised ARFF environmental risks arise from current regulated operations and legacy activities. The ARFF EMP, established last year, outlines Airservices strategy for managing such risks, including:

- the objectives and principles guiding the overall strategy
- the initiatives to be developed and implemented
- the corporate governance associated with the strategy.

The principal objectives of the ARFF EMP are to:

- achieve environmental legal compliance for ARFF services and associated legacy obligations
- minimise, as far as is practical, the environmental impacts and related business risks associated with the provision of regulated ARFF services in the future.

The strategy initially focuses on:

- minimising pollution and related risk associated with our current operations
- managing legacy contamination issues in a duly diligent manner.

Once those areas are effectively managed, the focus will move to:

- reducing, as far as is practical, ARFF's environmental footprint
- continuously improving ARFF's environmental performance.



03 INFRASTRUCTURE



3.1 INFRASTRUCTURE FOOTPRINT

Objective:

We will minimise the environmental footprint of our organisation

Our service delivery requires a vast infrastructure network. The organisation owns or leases over one thousand sites which are spread across Australia, including outlying islands such as Cocos in the Indian Ocean and Lord Howe in the Pacific. Airservices continues to strive to improve the environmental performance of our assets and infrastructure.

In the past year, Airservices:

- occupied the 4 Green Star rated Da Vinci Building in Brisbane
- ensured that the impacts of Airservices operational vehicles and executive fleet are offset by membership of Greenfleet (through which trees are planted as carbon offsets)
- constructed new state-of-the-art fire stations, with water saving features, at Perth and the Sunshine Coast
- constructed Broome Air Traffic Control Tower, which is designed to collect rainwater for landscape irrigation and vehicle cleaning
- implemented the CarbonSystems Database to monitor the organisation's greenhouse gas emissions and energy consumption and production
- commissioned new radars at Sydney and Darwin, which are estimated to be 20% more efficient than our current radars
- participated in Earth Hour, along with 5,251 cities and towns in 135 countries and territories, and an estimated 1.8 billion people.

This year, Airservices will:

1. complete an update to the Facilities Management Environment Management Plan, which will assist staff in the environmental management of our property and infrastructure.
2. commence the rationalisation of business system servers (data centres), which will reduce energy usage.
3. install T5 lighting as part of the Alan Woods Building transformation project, saving 7.2% in total building load (through a 40% reduction in lighting consumption).
4. continue to support the Greenfleet program for offsetting vehicles from Airservices operational and executive fleets.
5. continue with the National Towers Program, using the Broome Tower as a blueprint for implementing ecologically sustainable design principles such as water-efficient plumbing, energy-efficient lighting and rainwater harvesting.
6. construct and fit out the Melbourne Technology and Asset Services (TAS) Building to 4 Green Star rating and 4.5 star NABERS performance rating.
7. fit out the Alan Woods Building in Canberra to 4 Green Star rating (the building owner intends to upgrade the building to a 4.5 star NABERS base-building performance rating).
8. establish a green lease schedule between Airservices and the owners of AWB to implement energy and water saving initiatives.
9. commence the National Chiller Replacement Project, realising energy and water savings.
10. commission new radars requiring 20% less energy at Canberra, Cairns and Adelaide.
11. incorporate ecologically sustainable design into the joint functional performance specification and tender documents for the ATC Future Systems program.

12. ensure diesel particulate filters are fitted in new Mk 8 vehicles to reduce nitrogen oxide (NOx) emissions (the filters reduce particulate matter by up to 90%, carbon monoxide by 81% and NOx by around 21%).
13. complete annual airport environment reports for Perth, Melbourne, Adelaide, Parafield and Jandakot.
14. commence the Utilities Cost Management Project to reduce the electricity consumption of the organisation.

In future years, Airservices will:

- establish an Energy and Water Management Plan to ensure efficient use and optimise consumption
- exploit energy-efficiency opportunities for light fittings, lighting controls and solar hot water preheating at Brisbane, Melbourne and Sydney ATS and ARFF sites
- develop and implement national accommodation guidelines, and ensure environmental benefits definition as part of the Capital Expenditure business case process
- replace chilled-water air conditioning plants at Brisbane, Melbourne, Sydney and Perth with more efficient air-cooled and water-cooled chillers.

Fact file: Making 'green' headway the Da Vinci building in Brisbane

Airservices is making 'green' headway with the Da Vinci Building office fit out. Refurbishment was completed in May 2010, and is now a blueprint for upgrading office space in the TAS Building in Melbourne and the Alan Woods Building in Canberra.

During the fit out, Airservices made a conscious effort to complement Da Vinci's green design by selecting components and materials to further reduce our carbon footprint and energy usage. We also chose to refurbish the office with recycled and environmentally friendly fixtures.

Airservices leases around 960m² of the building, which has a 4 Green Star rating (for building design) and has a target base building of 4.5 NABERS rating (for building operations).

Key features include:

- low workstation partitions to use more natural light
- green tapware with a 6 star water efficiency rating
- refrigerators with a 4 star energy rating
- dishwashers with a 4 star energy rating that use an average of 13.7 litres of water per wash
- wall panels made from recycled polyester fibre
- dual flush toilets
- air conditioning with economy cycles
- energy-efficient lighting.

3.2 BIODIVERSITY, HERITAGE AND CLIMATE ADAPTATION

Objective:

We will ensure that the biodiversity and heritage values of sites are maintained while assessing their vulnerability to climate change

Some of our facilities have already been recognised for their heritage value (e.g. Sydney Tower) and many sites are located in areas which are recognised for their unique biodiversity and fragile ecosystems.

In the past year, Airservices:

- upgraded the environment component of 100 site manifests
- supported the preservation of Australia's aviation history through the Airways Museum run by the Civil Aviation Historical Society
- revised the organisation's Heritage Strategy for 2010–2013 and submitted it to the Minister for Sustainability, Environment, Water, Population and Communities

- commenced studies on the heritage values of ARFF fire stations to allow their consideration for inclusion on the Commonwealth Heritage list, and publication in Airservices heritage register on our website.

This year, Airservices will:

1. continue to upgrade the environment component of our site manifests.
2. continue the implementation of Airservices Heritage Strategy 2010–2013.
3. continue to support the preservation of Australia's aviation history through the Airways Museum.
4. conduct a feasibility study for a national Australian Aviation Museum.
5. conduct ecological surveys as required.

In future years, Airservices will:

- continue to implement and develop Airservices Heritage Strategy
- continue to review and improve our management of biodiversity, heritage and climate adaptation.



Fact file: Airservices heritage strategy 2010–2013

Airservices Heritage Strategy identifies how the organisation will meet its heritage responsibilities under the EPBC Act. The new strategy for 2010 to 2013 builds on the organisation's achievements under the 2006–2009 Heritage Strategy.

In the implementation of the 2006–2009 strategy, we came to recognise its important role in identifying and managing places that have heritage values. In Airservices business activities, from policy development to on-ground work, we must all be aware of our corporate obligations to consider how our actions may affect heritage-related aspects of the natural, historical or cultural environment.

Places owned or controlled by Airservices may have heritage values. Under the 2006–2009 Heritage Strategy, the CEO authorised the nomination of seven Airservices places for listing on the Commonwealth Heritage list. Our nomination of the current Sydney Airport ATC Tower for heritage listing demonstrates that a place does not have to be 'old' to have heritage values.

The strategic objectives that underpinned the 2006–2009 strategy were retained in the 2010–2013 strategy. This allows the organisation to build on its achievements of the past three years and to maintain direction and focus.

The objectives of the strategy relate mainly to:

- ensuring the continued integration of heritage management into Airservices corporate planning framework
- ensuring, through education and training, that Airservices staff potentially responsible for dealing with heritage matters are aware of their obligations
- continuing the program of identifying and assessing likely Commonwealth Heritage values of places owned or controlled by Airservices
- preparing management plans for Commonwealth Heritage listed places owned or controlled by Airservices
- ensuring effective intergovernmental and community consultation and conflict resolution processes for heritage matters
- maintaining a register of heritage places under Airservices ownership and control.

All Airservices managers are accountable for ensuring that the objectives of the strategy are achieved in their areas of responsibility.

The 2010–2013 strategy is currently with the Minister for the Sustainability, Environment, Water, Population and Communities for approval before publication.

3.3 POLLUTION AND CONTAMINATION

Objective:

We will minimise pollution and manage contaminated sites

The organisation is currently undertaking a major capital expenditure program. Over the next five years over \$900 million will be spent on new or upgraded infrastructure. Such a program poses both opportunities and risks from an environmental perspective.

In the past year, Airservices:

- completed the contaminated sites register
- completed and began implementation of the ARFF Environment Management Plan (see Key initiative D)
- removed underground fuel storage tanks in Perth.

This year, Airservices will:

1. develop a combined register for contamination and hazardous materials to improve site induction and change management.
2. implement the National Underground Fuel Storage Project, which will replace storage tanks at 14 sites with above ground, self-bunded fuel tanks and associated pipework and controls.
3. continue to implement the ARFF Environment Management Plan and objectives (see Key initiative D).
4. develop and implement an electronic procedure for monitoring groundwater contamination.
5. continue to ensure pollution and contamination risks are managed during the implementation of Airservices Capital Expenditure Program.

In future years, Airservices will:

- continue to implement the ARFF Environment Management Plan and objectives (see Key initiative D)
- continue to improve the management of pollution and contamination.

04 PEOPLE AND PROCESSES



4.1 ENVIRONMENTALLY FOCUSED WORKFORCE

Objective:

We will increase our people's understanding of how Airservices facilitates environmental improvements and how they can contribute to that process

Airservices employs approximately 3600 people who either directly or indirectly support the provision of services. Staff are employed in 31 geographic locations across Australia. Like the broader Australian community, we are placing increasing value on achieving environmental goals and improving our environmental performance.

In the past year, Airservices:

- participated in environmental awareness initiatives, including Earth Hour and Greenfleet Tree Planting Day
- redeveloped the internal online environmental presence
- conducted training for Airservices staff on environmental issues, the Environmental Management System, risk management and staff accountabilities
- seconded a full time staff member to manage the CANSO Environment Workgroup.

This year, Airservices will:

1. develop and implement an Environment Training and Awareness Strategy to increase environmental competency and awareness.
2. develop and deliver specific training in environmental management for staff in TAS and ARFF.
3. improve accessibility to the Environment Management System.
4. improve the availability of information through our internal website and publications.
5. continue Earth Hour and Greenfleet Tree Planting Day participation.
6. participate in globally and nationally recognised environmental events
7. continue involvement in the CANSO Environment Workgroup.

In future years, Airservices will:

- ensure an environmentally conscious workforce through cultural awareness programs
- continue to explore new ways to improve engagement with our people on the environment.

4.2 INNOVATION, MANAGEMENT AND MEASUREMENT

Objective:

Through innovation we will enhance environmental measurement and management processes

In recent times, the way the organisation has managed its environment obligations has come under increased focus. We believe it is essential to improve our environmental performance and to better manage the impacts of aviation on the community that we can control or influence, as well as to capitalise on the opportunities that improved performance can bring to our airline customers.

In the past year, Airservices:

- maintained ISO 14001 certification for operations at Gold Coast Airport and the Gellibrand Hill radar site
- established the Environment Group to lead the improvement of Airservices and the industry's environmental performance and minimise the environmental impact of aviation
- established a Board Environment Committee to assist the Board to discharge its responsibilities by monitoring and advising on environmental compliance and initiatives, environmental regulatory functions and the organisation's environmental strategy
- developed the 'Environment by Design' reference guide for Airservices Capital and Operational Expenditure programs and embedded environmental management into the Integrated Project Delivery model to ensure that projects consider environmental performance appropriately
- defined Airservices new Environment Strategy 2011–2016 and submitted it to the Minister for Infrastructure and Transport

- registered Airservices for carbon emissions reporting under the National Greenhouse and Energy Reporting Act 2007 (the NGER Act)
- undertook assessments in accordance with EPBC Act requirements in support of new and changing internal business processes for projects, property and operational procedures
- continued to improve systems for monitoring the organisation's greenhouse gas emissions and energy consumption and production on an ongoing basis, in order to enable reporting in accordance with NGER Act requirements for the 2010–11 financial year
- completed three internal audits of environmental compliance for sites at Adelaide and Darwin, and ARFF environment management.

This year, Airservices will:

1. produce an inaugural sustainability report detailing our environmental performance and outcomes for last financial year.
2. continue to improve our CarbonSystems Database to increase the range and fidelity of stored information.
3. review the environmental assessment process and develop a discussion paper for the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) and the Department of Infrastructure and Transport (see Key initiative E).
4. undertake an Environment Management System renovation, which will improve the usability of our procedures, the effectiveness of risk management, and the level of environmental assurance, measurement and reporting of our environmental performance (see Key initiative F).
5. develop an improved environmental assurance strategy that includes consideration of the most appropriate locations for ISO 14001 compliance.

6. investigate the establishment of a standardised environmentally responsible approach to the publication of our corporate documents.
7. report under the NGER Act and National Environment Protection Measures.
8. continue environmental assurance of change as part of the Integrated Project Delivery model.
9. embed environmental Ministerial Directions within the Environment Management System, including ensuring regular reviews of compliance with the directions.
10. review, improve and republish Airservices Environment Strategy.
11. issue the Environment Action Plan and Status Report 2012.

In future years, Airservices will:

- report sustainability performance and outcomes annually, and report under the NGER Act
- continually review and improve our Environment Management System and Environment Strategy
- propose realistic and achievable targets for emissions and water use reduction
- review the national cleaning contract to include consideration of potential environmental opportunities
- align environment and safety processes and tools to provide a common risk management system
- ensure our preparedness to comply with future government initiatives.



Key Initiative E: Environmental assessment for ATM

In 2009, Airservices obtained independent external advice to review the internal environmental assessment process used to assess proposed changes to ATM practices and procedures. The existing process was reviewed against the requirements of the EPBC Act and against the current practices of other ANSPs. The review was the first stage of a planned revision of the current assessment process and associated aviation environmental issues.

The external report, completed at the end of 2010, identified some areas for improvement, particularly in relation to reviewing the noise criteria currently used by Airservices. The EPBC Act guidelines include no quantitative criteria, making this a complex task. The development of any such criteria will require consultation with internal and external stakeholders, including industry, government and the community.

A number of related issues must be considered as part of the review of the assessment process:

- threshold criteria for both noise and aircraft numbers, and the implications for day versus night and weekend versus weekday operations
- the application of section 160 of the EPBC Act to proposals other than instrument procedures and air route changes developed by Airservices Chief Designer

- Government policy on sharing noise versus reducing the overall number of people affected by noise through concentration
- trade-offs between noise and emissions
- threshold criteria for the natural environment
- stakeholder consultation on revising the assessment process (such as with industry, government and the community)
- the implications of immediate and delayed changes
- the validity of assessments, taking into account the delay between the assessment and the implementation of the procedure
- implications for the natural environment (for example, threatened and migratory species).

Airservices discussed the proposed revision with DSEWPaC in late December 2010. The Department believes that the aircraft noise assessment issue would be best handled by a reference group involving the department, Airservices and the Department of Infrastructure and Transport. The reference group would aim to develop a set of industry-specific guidelines. DSEWPaC considers community consultation during that process to be essential.

As a result, it was agreed that Airservices would develop a discussion paper as a first step. Initial meetings will then be scheduled with DSEWPaC and the Department of Infrastructure and Transport to progress the work during 2012.

Key Initiative F: Environmental measurement and metrics

Current measurement

Measurement is key to understanding our environmental performance. We currently use our CarbonSystems Enterprise Sustainability Platform to track the organisation's greenhouse gas emissions and energy consumption. We also track the number of noise complaints received by the Noise Enquiry Unit; our response times to those complaints and to requests from the Aircraft Noise Ombudsman; and our compliance with Sydney's Long Term Operating Plan. For aircraft emissions, we track the number of aircraft that use FlexTracks (which allows us to estimate fuel savings) and the amount of airborne and ground-based delay.

A new measurement strategy

This year, we intend to define a measurement strategy for the three primary areas of environmental performance: our footprint, aircraft noise management and ATM system efficiency. The measures will be embedded into our Corporate Plan and strategic planning framework to drive efficiency and environmental performance within the organisation. Defining and baselining our measurement strategy will help us to set realistic, achievable and yet challenging targets to improve our environmental performance over the life of the Environment Strategy. The measures will be aligned to the objectives in this document.

ATM environmental maturity

Due to the large-scale infrastructure nature of our industry, the long-term nature of system development and improvement, the number of stakeholders across the industry involved and the complexity of change, it is important to be able to measure ATM Environmental Maturity to influence the ATM improvement roadmap. This year, we will develop and undertake an environmental maturity assessment of our ATM technology and procedures, which will allow us to baseline our current service performance from an environmental perspective. This will help to ensure that our capital expenditure program includes the system enhancements necessary to achieve the desired level of ATM environmental performance improvement.

Environment and efficiency operational analysis

As our ATM system advances, the changes that Airservices makes will have environmental influence. It is important to be able to describe in detail the positive benefits and impacts (such as on aircraft fuel burn, emissions and noise). This year, Airservices will define the charter for and then establish an environment and efficiency operational analysis capability. That research capability will support the organisation in gaining an early understanding of the impact of potential ATM system changes through predictive analysis. As the ATM system becomes more efficient, the size of improvement opportunities shrinks; therefore, a higher fidelity operational analysis capability is required in this area to provide guidance for continual improvement.

05 ENSURING ENVIRONMENTAL PERFORMANCE AND IMPROVEMENT



5.1 AIRSERVICES ENVIRONMENT POLICY

Our environment policy underpins Airservices core obligations to reduce the environmental impact of the services we provide to the aviation industry.



Environment Policy

Airservices is a provider of safe, environmentally responsible and efficient air traffic and related aviation services. We are committed to improving the environmental sustainability of our organisation while facilitating improved environmental outcomes for our customers and stakeholders.

We will proactively work to protect the environment by:

- implementing innovations which ensure the environmental efficiency of our services;
- focussing on the management of aircraft noise and emissions, whilst improving consultation with communities who are, or may be, affected by noise;
- minimising our environmental footprint;
- enhancing environmental management practices through a fit-for-purpose Environment Management System; and
- embedding an organisational culture which is environmentally aware.

These outcomes will be achieved in a manner which assures that we are compliant with all relevant legislation and government policy, and with a focus on continual improvement.

We will collaborate with our customers and stakeholders in efforts to meet industry and community expectations in regard to our environmental practices and performance.

All staff are responsible for sound environmental management and all managers are accountable for environmental performance in their areas of responsibility.

Sound environmental management is an integral and vital part of the provision of an efficient, effective and sustainable air transport system.

Greg Russell
Chief Executive Officer
Airservices Australia

12 September 2011

5.2 AIRSERVICES ENVIRONMENTAL MANAGEMENT SYSTEM

Airservices uses its Environmental Management System (EMS) to ensure that its environmental legislative and regulatory obligations are satisfied, environmental accountabilities are met and environmental risks are effectively managed. The system also ensures that the organisation fulfils government obligations, including ministerial directives.

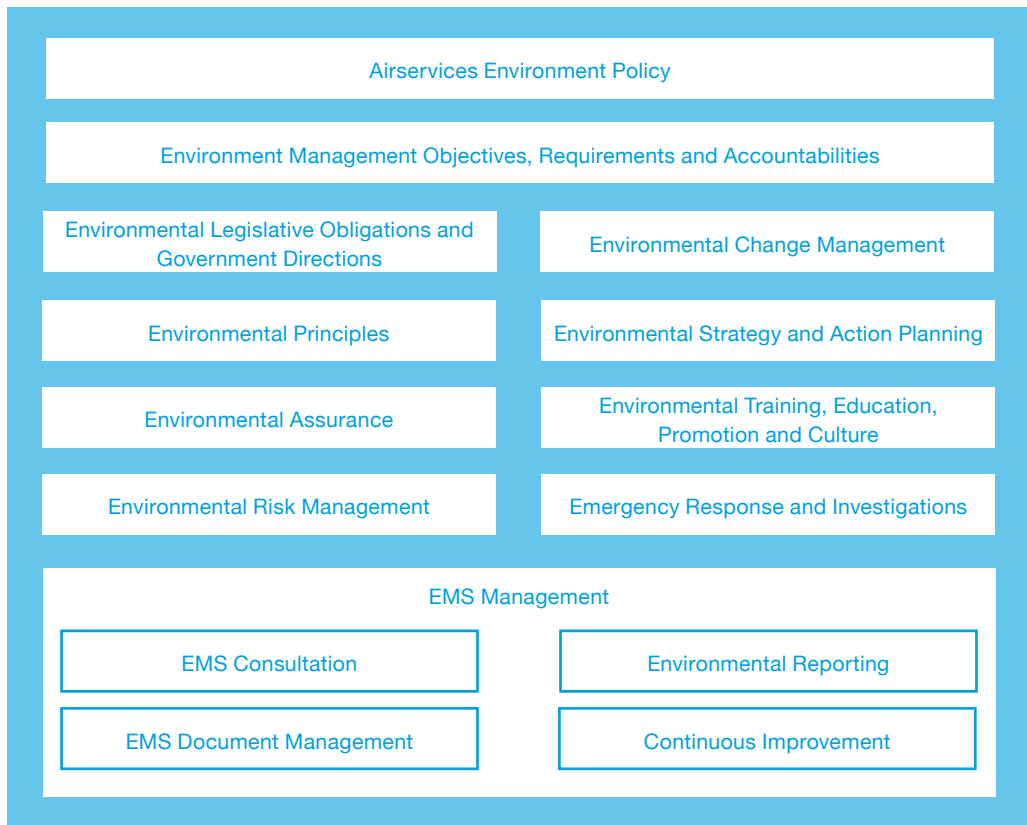
The EMS defines how the organisation manages its environmental obligations and specifies

activities that must be undertaken to minimise environmental impacts. It is an integral part of our day-to-day business operations.

The system includes policy, requirements and procedures. As defined in the policy and reflected throughout the EMS, all staff are responsible for environmental management and all managers are accountable for environmental performance in their areas of responsibility.

The EMS is certified to the international standard ISO 14001 for our ground-based operations at two sites: Gold Coast Airport and Gellibrand Hill Radar.

Airservices Environment Management System



5.3 ENVIRONMENTAL VALUES

Our aim is to be able to demonstrate Airservices values in our environmental performance:

Excellence

We are the best we can be. Airservices will excel in the management of environmental performance across our business and operations, in particular by managing ATM impacts on aircraft noise, reducing aircraft emissions and reducing our environmental footprint.

Inclusion

We are diverse and involved. Airservices will advocate a 'green' culture to our people and conduct cross-organisational discussions to ensure that environmental issues and impacts are addressed both tactically and strategically.

Cohesion

We are working together. Airservices is committed to working with the Australian Government, the Australian aviation industry, the community and other air navigation service providers (ANSPs) to pursue mutual goals in reducing noise complaints and in meeting the international aviation emissions reduction target set by the International Civil Aviation Organization (ICAO).

Initiative

We are making a difference. Airservices is taking the initiative to make a difference in transforming the way we conduct business. We will do this through improved environmental awareness among our people, incorporating ecologically sustainable design into our operations and delivering on this action plan.



5.3 PLANNING AND REPORTING CYCLE

Working across Airservices

Airservices Strategic Coordination Group will ensure that the Environment Strategy is aligned with other organisational planning and that results are delivered in line with this action plan. The group is made up of senior managers who are accountable for the strategic improvement of Airservices performance.

Reporting on progress against the action plan will be included in our regular reporting to the Airservices Board Environment Committee, through which the Board will monitor progress against individual actions in the plan.

The action plan and status report will be published annually, reporting progress made against actions identified in previous versions.

5.4 DEMONSTRATING A GREENER PATH

The Environment Action Plan and Status Report 2011 is a starting point on our environmental improvement journey to implement the Environment Strategy 2011–2016. The next step is to demonstrate a greener path before eventually connecting the industry for a greener network.



The background of the page is a blue sky with wispy white clouds. A dark teal diagonal shape cuts across the bottom right corner of the image.

Further information

More detail on Airservices environmental work is available from the Airservices Environment website <http://www.airservicesaustralia.com/aviationenvironment/>

For more information, email
environment@airservicesaustralia.com



The logo consists of a stylized white silhouette of a kangaroo or wallaby, facing right, with a blue swoosh above it that curves over the animal's back.

airservices
www.airservicesaustralia.com