Civil Aviation Authority

The CAA's Environmental Programme 2014 - 2016 Consultation

Foreword

The significance of the environment to the aviation sector continues to grow, and there is every indication that this is likely to continue over time. From climate change to noise and air quality, environmental concerns are central to the policy debate and discussions regarding the sustainability of the sector.

Aviation will only be allowed to grow if it tackles its environmental impacts. Indeed, the Government's aviation policy framework is built on this premise.

This programme of work, steered by the Government's own aviation policy framework, is aimed at improving the sector's environmental performance and generating benefits to consumers, the environment and the sector itself.

To be effective, our activities have to align with the latest policy backdrop to our work and the pattern of progress made by the sector.

In 2012, we published our first environmental strategy setting out our key activities. This latest refreshed version of the strategy builds on the first year's experience of the programme and reflects the Government's aviation policy framework, published in March 2013, which underlined the continued environmental challenges faced by the sector, most notably local community sensitivities from noise and the global issue of climate change. The document details our programme for the next two years, from 2014-2016 detailing what we expect to deliver in that time period.

In addition to reflecting these changes to our programme, we have also sought to improve the transparancy and accessibility of the programme. We received feedback on the last document that our articulation of our strategy was overly complicated and the link to our activities unclear.

We have therefore sought to provide a simple and clear explanation of our strategic aims and related programme of activities. It has been written to help facilitate others engaging with the programme and I would encourage everyone to do so to ensure that our programme is informed by the views of our wide range of interested stakeholders and remains relevant to the challenges the sector faces.

We are committed to regularly reviewing the programme and engaging widely with those with an interest in achieving a sustainable sector.

If you wish to comment on our programme or any of the individual activities, please get in touch at any time with the team at environment@caa.co.uk.

Andrew Haines
CEO

Our high level objectives

Since 2011, we have included the environment as one of our high level strategic objectives:

"To improve environmental performance through more efficient use of airspace and make an efficient contribution to reducing the aviation industry's environmental impacts."

This strategic objective places the environment at the heart of our activities.

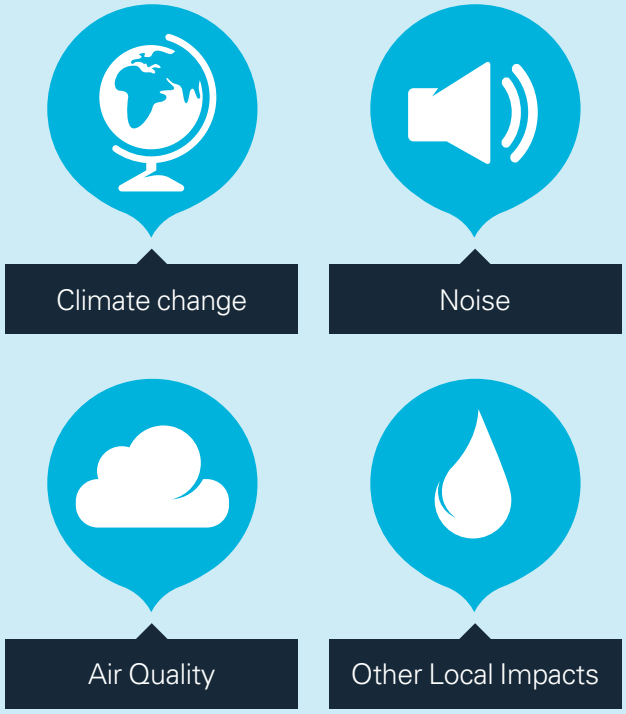
In delivering against this objective, we have been conscious of aligning our approach with that of the UK Government's high-level strategic framework that integrates its aims for aviation with wider Government objectives.

Our strategic environmental objective is necessarily informed by the UK's national aviation policy outcomes for climate change, noise, air quality and other local impacts.

Where possible, we have sought to highlight the objective(s) driving each element of our programme.

Whilst we undertake a number of activities relating to each of these national policy objectives, the bulk of our environmental programme is aimed at the priority areas of climate change and noise. This reflects both the seriousness of these challenges to the industry and our ability as the sector regulator to make a difference in these areas.

More information on the high level outcomes, including the evidence of a problem and a brief summary of the CAA's role, is available via the links to the right.



Climate Change

Problem

CO_2 and other Greenhouse Gas (GHG) Emissions from aviation are rising whilst most other sectors of the economy are reducing their emissions. Forecast high demand growth in the sector and a shortage of commercially proven low-carbon technological alternatives mean that this trend is forecast to continue.

CAA role

As the UK's airspace regulator, our actions have the potential to significantly alter the sector's climate change impacts through regulatory decisions that properly take into account environmental effects. In addition, we impact on the development of low carbon windpower outside the sector. We also play an advisory role and assist in the sharing of operational best practice and the development of international initiatives such as emissions trading designed to address climate change.

Priority level

High.

Evidence

It is widely recognised that man-made green-house gas emissions are contributing towards climate change and the warming of the planet. In 2010, governments agreed that emissions need to be reduced so that global temperature increases are limited to below 2 degrees Celsius. At present aviation globally accounts for around 2% of global emissions. It is expected to be easier and more cost effective to reduce carbon emissions in sectors other than aviation.

Find out more:
UK Committee on Climate Change,
www.ccc.org.uk

UK National Policy Aims

"The Government's objective is to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions." **(Government's Aviation Policy Framework, para 2.4)**

"Our emphasis is on action at a global level as the best means of securing our objective, with action within Europe the next best option and a potential step towards wider international agreement." **(Government's Aviation Policy Framework, para 2.5)**

Noise

Problem

Addressing aircraft noise is one of the biggest challenges facing the UK sector, with the number of people affected by noise from the sector the highest in Europe. Unsurprisingly, concerns about noise have a very significant influence on the debate over existing airport operations and future airport expansion, meaning consumers are also indirectly affected.

Our role

Through regulating airspace and providing expert and objective advice and noise modelling services to Government and industry, we have the potential to significantly influence the distribution of noise as well as a role in helping to improve the understanding of other decision-makers and those affected.

Priority level

High.

Evidence

Noise is widely recognised to affect the quality of life and impact on human health. Noise affects quality of life by causing annoyance and by interrupting other activities. It impacts on health by disturbing sleep which can lead to fatigue and loss of performance. It is also linked to increased risk of high blood pressure, cardiovascular disease and strokes, and to cognitive impairment in children.

Find out more:
CAA (2010) Environmental Noise and Health: A Review, www.caa.co.uk

UK National Policy Aims

"Our policy on aviation noise will be consistent with agreed international approaches and we will comply with relevant European laws.
(Aviation Policy Framework, para 3.6)"

The Government fully recognises the ICAO Assembly 'balanced approach' principle to aircraft noise management. The 'balanced approach' consists of identifying the noise problem at an airport and then assessing the cost-effectiveness of the various measures available to reduce noise through the exploration of four principal elements, which are:

- reduction at source (quieter aircraft);
- land-use planning and management;
- noise abatement operational procedures
- (optimising how aircraft are flown and the routes they follow to limit the noise impacts); and
- operating restrictions (preventing certain (noisier) types of aircraft from flying either at all or at certain times).
(Aviation Policy Framework para 3.7)

The Government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise, as part of a policy of sharing benefits of noise reduction with industry."
(Aviation Policy Framework para 3.12)

Air Quality

Problem

Air pollution can have a serious effect on people's health. Exposure to air pollution can have a long-term effect on health, associated in particular with premature mortality due to cardiopulmonary (heart and lung) effects. As a result, standards have been set for a number of pollutants in order to minimise health impacts and to achieve certain levels of environmental quality. These include particulate matter (PM10 and PM2.5), nitrogen dioxide, ozone, sulphur dioxide and others. The principle objective is to ensure compliance with EU legal limits, particularly for PM10 and NO2, where targets are still not being met, particularly in certain urban areas. However, for fine particulate matter (PM2.5), evidence shows there is no safe threshold, thus there is also an objective to continue to reduce PM exposure everywhere, not just where it exceed legal limits.

Our role

Our role is secondary to those of Government and local authorities who are statutorily empowered to engage on air quality issues. However, we will give consideration to air quality where appropriate, particularly when establishing best practice for operators and when helping to influence new technology standards.

Priority level

Low.

Evidence

The UK has a number of instances where air quality exceeds the European limits for PM10 and Nox. One of those is on the perimeter of Heathrow, where airport operations together with nearby surface transport (e.g. M4/M25) emissions create concentrations above the legal limits with risk to human health.

Find out more:
UK's Department for Environment, Food and Rural Affairs
www.defra.gov.uk

UK National Policy Aims

The UK's Aviation Policy Framework includes the improvement of air quality as one of its key environmental policy aims and highlights improvement in emissions standards as one of the key ways in which progress should be made:

"Emissions from transport, including at airports, contribute to air pollution. EU legislation sets legally binding air quality limits for the protection of human health. The Government is committed to achieving full compliance with European air quality standards."
(Aviation Policy Framework para 3.47)

"[Policy] on air quality is to seek improved international standards to reduce emissions from aircraft and vehicles and to work with airports and local authorities as appropriate to improve air quality, including encouraging HGV, bus and taxi operators to replace or retrofit with pollution-reducing technology older, more polluting vehicles"
(Aviation Policy Framework para 3.48)

Other Local Impacts

Problem

Airports are significant users of resources and can have major effects on their immediate environment. These effects and diverse from water quality impacts from de-icing fluids used on aircraft to the impact on biodiversity or habitats from airport operations.

Our role

Whilst we have neither the authority or specialist expertise in house to significantly impact this high level outcome, we do have a duty to make available appropriate information on the sector's impacts. We plan to work with dedicated environmental agencies such as the Environment Agency and Scottish Environmental Protection Agency to work with them on making such information more readily available. Furthermore, we will work to support environmental protection and enhancement where consistent with our own duties.

Priority level

Low.

Evidence

There are many examples of how the sector has the potential to impact on the local environment. An example is the status of bird populations around airports. Bird strikes occur when aircraft hit birds during take-off and landing. Roughly 85% of bird strikes involve aircraft below 800 feet, and up to 40% of bird strikes take place beyond the airport perimeter.

Because birds are a significant hazard to aircraft, control measures are used at many airports to reduce bird strike. These measures can include landscaping or the use of techniques to deter birds such as noise and flare guns. Furthermore, 13km exclusion zones operate around airports, with planning authorities required to consult the owner or operator of the airport before giving planning permission for any development that could attract birds.

Find out more
Civil Aviation Authority
www.caa.co.uk

UK National Policy Aims

As with other parts of the economy, the aviation sector has an obligation to protect local environmental quality consistent with UK regulation. Whilst there is no aviation-unique policy aim in this area specified in the Aviation Policy Framework, the sector is subject to regulation by the Environment Agency, whose overarching policy aim "to protect or enhance the environment, taken as a whole."
(Environment Act 1995, Section 4)

Overview of Activities

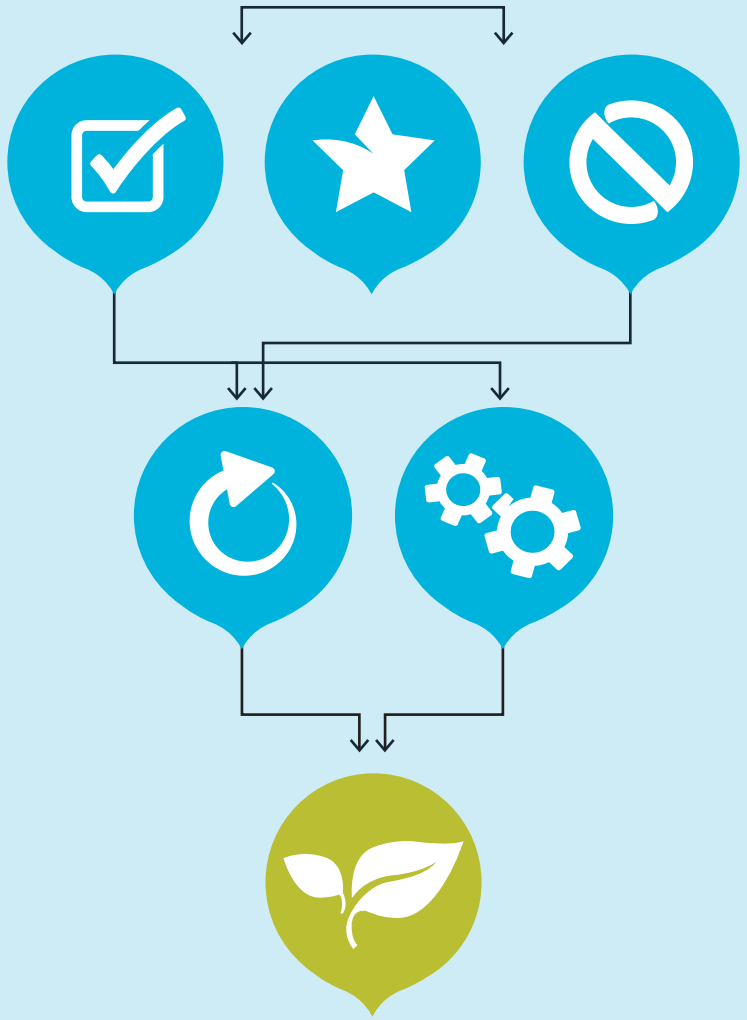
To achieve our strategic objective and contribute towards the UK's high level outcomes for aviation, we are able to employ a mixture of statutory powers and influence.

As with other areas of regulation, we seek to target our activities on where there is clear evidence of a problem and where we can cost-effectively make a positive impact.

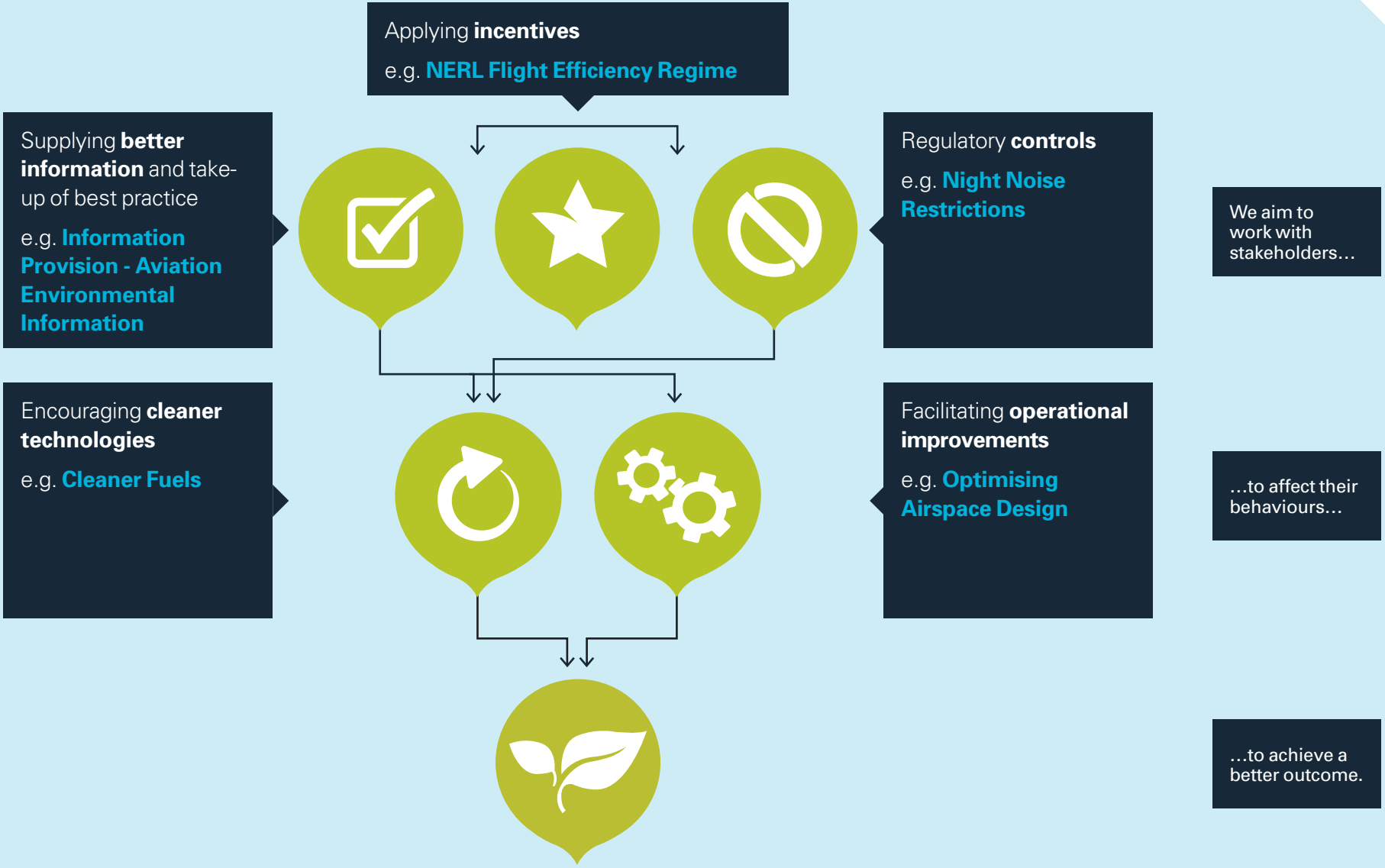
We are keen to support cleaner technologies (e.g. less polluting aircraft engines) and operational improvements (e.g. more direct routings) to achieve better environmental outcomes. We rarely achieve these directly, but instead use our regulatory influences to alter the behaviours of sector stakeholders such as airports, airlines, air traffic managements or users of those services (i.e. consumers). Examples include using economic incentives to drive better environmental outcomes or simply providing better information to better equip decision-makers.

More detail on all of our environmental activities is available via the environmental journey graphic on the next page.

The section is designed to give you a clear and easy overview of our programme activities and how they relate to activities and stakeholders within the sector. It is designed to be viewed in interactive form.



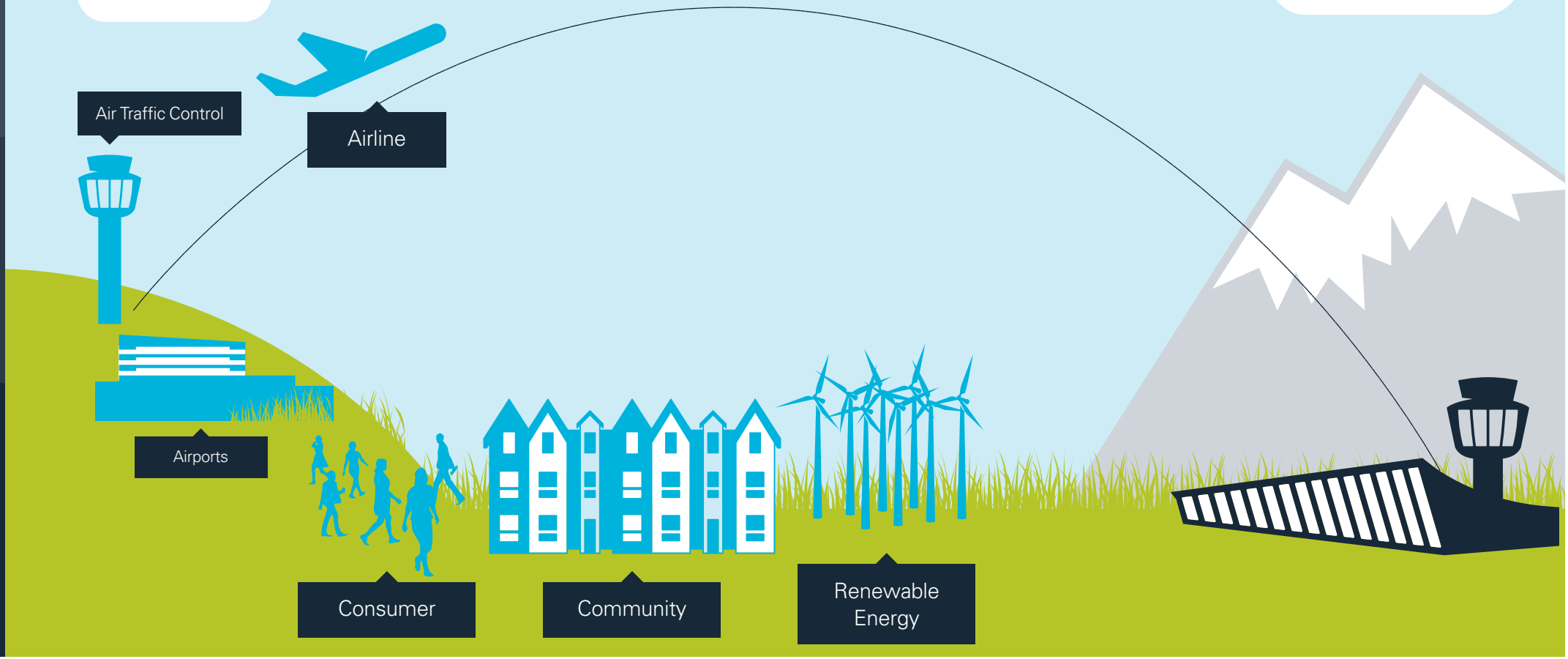
Overview of Activities



The Environmental Journey

Our programme in detail:

The section is designed to give you a clear and easy overview of our programme activities and how they relate to activities and stakeholders within the sector.



The Environmental Journey

Airline Operations

Aircraft are the essential part of the aviation sector and the entirety of our environmental programme relates to addressing the environmental effects of airline operations. From facilitating the development of cleaner engine standards and technology, to airspace design, to designing incentives to encourage the efficient operation of aircraft, airlines feature heavily.

Cleaner Engine Standards
Cleaner Operational Procedures
Cleaner Fuels
Optimising Airspace Design
Flying more Precise and Flexible Routes
Synchronizing Traffic and Managing Queues
Impact of Noise (technology)
Impact of Noise from operations
Night noise restrictions
Contributing to EU-ETS and future Market Based Measures
NERL flight efficiency regime
Information Provision – Carbon Information
Information Provision – Aviation Environmental Information
Environmental Landing Charges

The Environmental Journey

Air Traffic Control

The way that airspace is managed has a significant effect on the environmental performance of the sector. For example, routeings over populated areas can expose more people to noise than is necessary or requiring aircraft to take an indirect route to their destination will increase the amount of fuel burnt and global warming gases released. As the airspace regulator for the UK, we have a responsibility to ensure that we facilitate the best environmental outcomes wherever this can be consistent with the safe operation of the sector.

Optimising Airspace Design

Flying more Precise and Flexible Routes

Synchronizing Traffic and Managing Queues

The Environmental Journey

Airports

Airports have a major impact on the environment, from the noise associated with the airport to often less immediately apparent impacts on local air quality and other local impacts. A large part of our environmental programme touches on airport operations, particularly as it affects their local communities.

- Noise Policy
- Improved noise mapping
- Impact of Noise (technology)
- Impact of Noise from operations
- Night noise restrictions
- Support for the Airports Commission
- Health effects of Aviation Noise
- Environmental Landing Charges

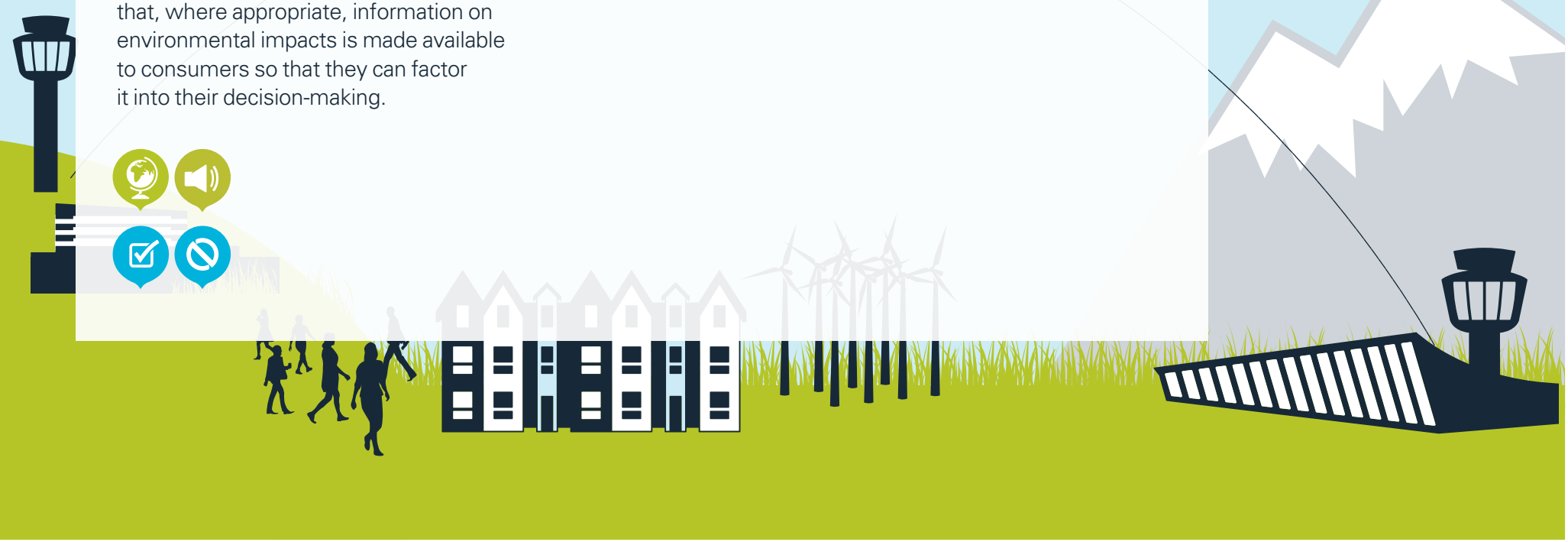
The Environmental Journey

Consumers

Although most consumers of aviation products prioritise convenience, price and connectivity over environmental factors such as the carbon emissions of their flights, a significant proportion are interested in such matters. Our activity in this area relates to ensuring that, where appropriate, information on environmental impacts is made available to consumers so that they can factor it into their decision-making.

Information Provision – Carbon Information

Information Provision – Aviation Environmental Information



The Environmental Journey

Communities

The main focus of our work with communities is to address the issue of aircraft noise and other local impacts from airports such as air quality. Our many current activities are varied and range from seeking to gain a better understanding of the impacts on those exposed to aircraft noise and communicating noise information more clearly to addressing operational and technical changes in an effort to reduce those effects.

- Improved Noise Mapping
- Impact of Noise (technology)
- Impact of Noise from operations
- Night noise restrictions
- Support for the Airports Commission
- Health effects of Aviation Noise
- Environmental Landing Charges

The Environmental Journey

Renewable Energy

The Government's drive to enhance the supply of renewable energy (on and off shore wind turbines) has significant potential impacts on radar, aircraft routeing and procedures. We are working to address the technological issues and safety assessment process to ensure that such developments can be progressed where appropriate.

Facilitating Renewable Energy Development Outside of Aviation

Greening the CAA

What high level outcome(s) does this activity relate to?

- CO_2
- Local Environmental Impacts

What type of activity does this relate to?

- Better information
- Cleaner technologies
- Operational improvements

How does this fit with the CAA's environmental strategy?

The activity ensures that the CAA is in a good position to articulate the actions it is taking (as well as demonstrate those it has already taken) to improve its own environmental performance at the corporate level therefore underpinning its broader agenda of facilitating better environmental performance by the sector.

What specific risk or opportunity is this activity designed to address?

The activity is designed to reduce the CAA's own environmental impact with an internal sustainability programme to identify and deliver environmental improvements across the CAA's estate, colleague activities and supply chain.

How would you describe the activity?

The programme is designed to improve CAA's environmental sustainability by targeting reductions and improvements in energy, waste, water, travel and procurement. These targets areas were agreed by the Executive Committee in July 2012, and target the following reductions in the impact of the CAA's business activities by 2015:

- Energy: the agreed ambition for this target is 'stretching' and aims to achieve a 15% reduction in energy use over 2011/12 levels by 2015.
- Waste: we aim to achieve 1) a minimum office recycling rate of 70% by 2015; and 2) a 10% reduction in office waste production over 2011/12 figures by 2015.
- Procurement: we aim to attain Level 1 of the 'Sustainable Procurement in Government: Flexible Framework'.
- Water: we aim to reduce water consumption across the CAA estate to less than 6.5m^3 per FTE.
- Travel: we aim to achieve a 10% reduction in CO_2, generated from business travel over 2011/12 levels by 2015.

Greening the CAA cont.

What does success look like for these activities?

Success can be identified by the above targets being met and by the CAA staff to be fully engaged in observing a positive environmental behaviour.

How will success be measured?

Success will be measured by performance against the targets identified for the programme.

Who is funding this work?

CAA

Which stakeholders are most directly affected by this activity?

All

How can I find out more about the activity?

By visiting the CAA website.

Climate Change Adaptation Reporting

What high level outcome(s) does this activity relate to?

- CO_2
- Local Environmental Impacts

What type of activity does this relate to?

- Better information

What specific risk or opportunity is this activity designed to address?

Climate change is likely to have a major impact socially and economically in the future. In line with the obligation placed upon the CAA as a reporting authority, this project is designed to identify likely changes to the climate, potential impacts on the sector, as well as a means of adapting to these changes.

How would you describe the activity?

The Climate Change Act 2008 legislates for climate change mitigation and adaption. It sets the requirements for the Climate Change Risk Assessment, the National Adaptation Programme and the Adaptation Reporting Power. The CAA is regarded as a 'reporting authority' for the purposes of the adaptation reporting power, which includes providing an assessment of the state of adaptation across the aviation sector (specific airports and NATS).

The CAA published its first adaption report in 2011. This activity will update that report, taking account of the organizational issues associated with adaptation and the sector issues, an analysis of costs of adaptation and resulting benefits as well as potential opportunities and barriers to adaptation, including funding.

What does success look like for this activity?

The report and subsequent engagement enables stakeholders to quickly and reliably identify risks to their operations from climate change and take appropriate steps to adapt to these.

How will success be measured?

The level of awareness and influence generated by the adaptation report.

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Airports
- Air Navigation Service Providers

How can I find out more about the activity?

The CAA's first round report and relevant documentation is available here.

More general information is available on the Defra web site.

Cleaner Engine Standards

What high level outcome(s) does this activity relate to?

- Local Air Quality
- Noise
- CO_2

What type of activity does this relate to?

- Regulatory controls

What specific risk or opportunity is this activity designed to address?

Addressing technical standards for engines has the potential to significantly affect the level of materials, noise and climate change gases emitted by aircraft engines which can directly affect the level of an aircraft's environmental performance.

How would you describe the activity?

The activity will involve:

- Providing advice and guidance to CAA colleagues.
- Providing advice and guidance to UK Industry.
- Providing advice and technical guidance to Government – DfT in particular.
- Influencing the development of ICAO engine standards in the area of CO_2 and Particulate Matter emissions.
- Helping to improve local air quality within the UK.
- Helping to reduce climate change gases produced by aircraft engines worldwide.

What does success look like for this activity?

By 2016, ICAO has set aircraft engine standards regarding the emission of CO_2 and Particulate matter to aid an improvement in local air quality/noise levels and to produce a reduction in climate change gases.

How will success be measured?

The ICAO aircraft engine standards set in 2016 lead to a significant improvement in local air quality/noise emissions and a reduction in climate change gases.

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Airlines

How can I find out more about the activity?

Further information on this activity is available from the ICAO website.

Cleaner Operational Procedures

What high level outcome(s) does this activity relate to?

- Local Air Quality
- Noise
- CO_2

What type of activity does this relate to?

- Better information
- Operational improvements

What specific risk or opportunity is this activity designed to address?

There is an opportunity to improve gate to gate operational handling of aircraft in order to achieve a effect on local air quality, noise and climate change gas emissions produced by aircraft.

How would you describe the activity?

Our engagement in this activity is designed to positively influence operational best practice by UK airlines concerning gate to gate handling of aircraft in relation to CO_2, Air Quality and Noise.

The activity will include a number of steps:

- A completed audit of current operational practices:

  Points of responsibility for the implementation of best practice for gate to gate operational handling of their aircraft in relation to local air quality, noise and the emission of climate change gases.

  Operational practices for gate to gate handling of their aircraft in relation to local air quality, noise and the emission of climate change gases.
- Best practice gate to gate operational handling procedures are identified for Aircraft Operations and made freely available to all UK airlines to adopt.

What does success look like for this activity?

All UK airlines adopt best practice gate to gate operational handling procedures with reference to local air quality, noise and the emission of climate change gases.

How will success be measured?

There is significant take-up of best practice gate to gate operational handling procedures for Aircraft Operations in the UK with consequent benefits in terms of local air quality, noise and the emission of climate change gases.

Who is funding this work?

CAA

Which stakeholders are most directly affected by this activity?

Airlines

How can I find out more about the activity?

Further information can be found on the ICAO website.

Cleaner fuels

What high level outcome(s) does this activity relate to?

- Air Quality
- CO_2

What type of activity does this relate to?

- Better information
- Cleaner technologies

What specific risk or opportunity is this activity designed to address?

The lack of take-up of low-carbon fuels in the aviation sector.

How would you describe the activity?

Supporting the development of fossil fuels by working with Government and industry to identify barriers to the development of a sustainable aviation fuels industry in the UK.

- Providing advice and guidance to UK Industry.
- Influencing UK Government policies, targets and incentive setting for the use of Bio Fuels in the UK's Aviation Industry.
- Influencing the development of EASA and ICAO policy, target and incentive setting regarding the use of Bio Fuels for the Aviation Industry.

What does success look like for this activity?

Greater use of sustainable fuel sources by UK airlines leading to a possible reduction in the adverse effect of engine emissions on local air quality and in climate change gases emitted by aircraft.

How will success be measured?

The level of investment in sustainable biofuels in the UK.

Official figures on the use of biofuels in the aviation sector.

Who is funding this work?

CAA

Which stakeholders are most directly affected by this activity?

- Fuel Manufacturers
- Airlines

How can I find out more about the activity?

Further information can be found on the ICAO website.

Non-Aviation Renewables

What high level outcome(s) does this activity relate to?

- CO_2

What type of activity does this relate to?

- Regulatory controls
- Cleaner technologies

What specific risk or opportunity is this activity designed to address?

The lack of independent evidence, research material, suitable comprehensive guidance documentation and adequate means of mitigating some of the effects of the various renewable power sources on Air Traffic Management communication, navigation and surveillance (CNS) equipment, aircraft operating on or in the vicinity of aerodromes or in their wider areas of operation and stand alone CNS equipment mean that The Aviation Industry is one of the primary obstacles to the proliferation of renewable energy sources in the UK and spurious objections can also be raised using aviation concerns as a lever to delay certain renewable projects.

How would you describe the activity?

The activity can be broadly split into two areas:

1) Provision of best practice guidance for the assessment of renewable projects' impact on safety, ensuring a more evidence-based, consistent and efficient response to such developments.
To include:

- All UK licensed and unlicensed aerodromes to have a uniform method of ensuring all potential Safety Hazards are identified and where appropriate addressed in an efficient and effective manner when introducing current renewable energy sources into the aviation environment on or in the vicinity of their aerodromes.
- ATS Engineering Inspectors will have a uniform method of ensuring that all ATM CNS equipment Safety Hazards are properly identified assessed and where appropriate addressed in an efficient and effective manner when current renewable energy sources are introduced into the aviation environment on or in the vicinity of their aerodromes.

2) Work to mitigate the impact of windfarms on CNS equipment to include:

Conduct an initial feasibility on the inclusion of strategic windfarm mitigation in future non-cooperative surveillance infrastructure;

Non-Aviation Renewables cont.

What does success look like for this activity?

The provision of aviation safety assessments for wind farm developments is evidence-based, consistent, and efficient. Strategic wind turbine mitigation solutions are in place allowing the expansion of renewable energy projects. The impact on radar, aircraft routeing and procedures is entirely mitigated significantly reducing the aviation related restrictions on renewable energy projects.

How will success be measured?

Levels of safety in the sector are maintained whilst the proportion of planning applications receiving objections on the grounds of interference of air navigation is significantly reduced from 2012/13 levels.

Who is funding this work?

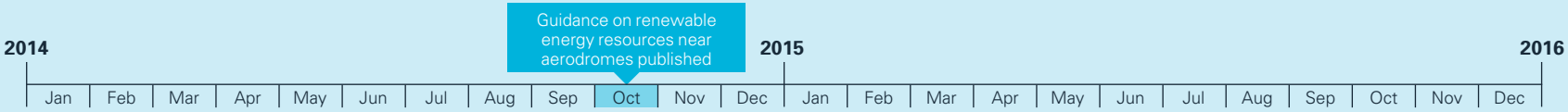
- CAA and the UK Department of Energy and Climate Change.

Which stakeholders are most directly affected by this activity?

- Airports
- Windfarm developers

How can I find out more about the activity?

Further information can be found on the **CAA website.**



Optimising Airspace Design

What high level outcome(s) does this activity relate to?

- CO_2
- Noise

What type of activity does this relate to?

- Regulatory Controls
- Operational improvements

What specific risk or opportunity is this activity designed to address?

Legacy airspace design is not able to support the exploitation of the potential benefits of new Air Traffic Management (ATM) technologies and operating techniques introduced through other elements such as Arrival Management and Performance Based Navigation. Routes flown are inefficient and therefore environmentally sub-optimal in terms of track distance.

How would you describe the activity?

Under an optimized airspace structure aircraft can integrate into the air traffic control system with fewer tactical interventions and more direct routes – this reduces track miles, saves on fuel and reduces CO_2. Elements of this activity include:

- Implementing high-level 'super sectors' across the UK/Ireland FAB to facilitate the removal of fixed airspace structures and create more direct and free route opportunities.
- Introducing a higher Transition Altitude - to support the London Airspace Management Programme (LAMP); the Northern Terminal Control Area (NTCA) Programme and the re-design of the airspace around airports - to maximize the potential benefits of new ATM technologies and operating techniques (such as continuous climb) introduced through other sections of the FAS deployment plan such as Arrival Management and Performance Based Navigation.
- Continuing to enhance the Civil / Military processes for the management of 'Special Use Airspace' in order to maximize the ability for airline flight planners to take advantage of more direct routes.

Optimising Airspace Design cont.

What does success look like for this activity?

Timely and effective implementation of the above measures will yield considerable benefits.

How will success be measured?

Introduction of super sectors is predicted to generate fuel and CO_2 savings of:

- Fuel: £86m - £119m1 and CO_2: £18m - £24m[2]
- Fuel and CO_2 savings from implementing continuous climb alone are estimated at: Fuel: £15m - £47m1; CO_2: £3M - £5M2
- Enhanced civil/military coordination is expected to generate savings of: Fuel: £17M - £23M1; CO_2: £3M - £5M2

Who is funding this work?

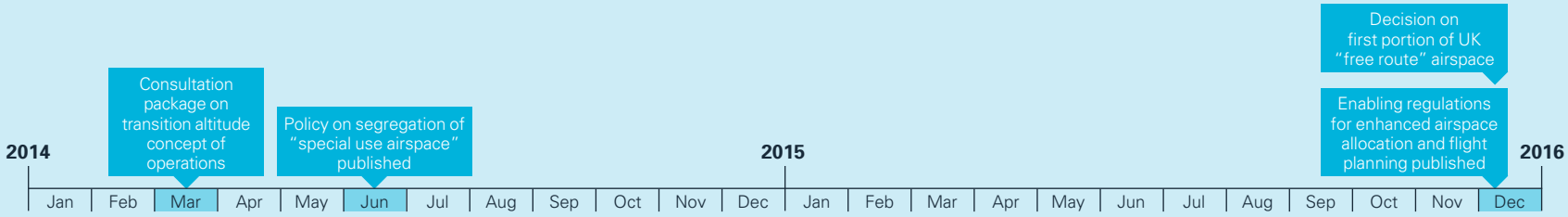
- CAA
- Industry

Which stakeholders are most directly affected by this activity?

- Airlines
- ANSPs

How can I find out more about the activity?

Further information can be found on the CAA website and that of the UK-Ireland FAB.



Flying more Precise and Flexible Routes

What high level outcome(s) does this activity relate to?

- CO_2
- Noise

What type of activity does this relate to?

- Regulatory controls
- Operational improvements

What specific risk or opportunity is this activity designed to address?

The current complex and congested terminal airspace arrangements restrict aircraft's ability to climb and descend efficiently and the ability of airports to maximize the efficiency of their runways.

The advanced navigational capability of many aircraft is significantly under-utilized in today's system, especially in the terminal airspace and at low altitudes around key airports, where much of the fleet is already equipped and there is the greatest potential to realize benefits.

How would you describe the activity?

The introduction of Performance Based Navigation (PBN) will allow performance improvements to be derived through changes to the airspace design.

In order to support the introduction of Performance Based Navigation the CAA will:

- Publish "Basic" UK Guidance on Route Spacing for the trialling of improved terminal procedures;
- Publish "Enhanced" UK Guidance based on collated trials in the terminal environment which will help shape UK and international standards;
- Produce location specific impact assessments to support the tailored use of mandates (ie for LAMP) and guide the transition to full Performance Based Navigation adoption.

Flying more Precise and Flexible Routes cont.

What does success look like for this activity?

Changes to terminal and airport airspace facilitated by this activity will be designed to Performance Based Navigation standards - in the near-term RNAV1. This enables the implementation of closer spaced, more precise routes that facilitate the systemisation of today's tactical arrangements.

How will success be measured?

Introduction of more efficient route network is predicted to generate higher performance (punctuality and reliability) as well as fuel and CO_2 savings of:
Fuel: £499m - £622m[1];
CO_2: £107m - £133m[2]

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Airlines
- ANSPs

How can I find out more about the activity?

More information can be found on the CAA website.

Synchronizing Traffic and Managing Queues

What high level outcome(s) does this activity relate to?

- CO_2
- Noise

What type of activity does this relate to?

- Regulatory controls
- Better information
- Operational improvements

What specific risk or opportunity is this activity designed to address?

Flights inbound to airports that operate at close to maximum capacity are often subject to congestion that results in queuing and delays. For example, the use of stack holding to manage traffic bunching burns extra fuel and generates CO_2.

Traffic growth and the trend towards larger aircraft are forecast to put increasing pressure on runways and, if nothing is done, will lead to an increase in stack holding.

How would you describe the activity?

In order to support the introduction of arrival management the CAA will provide policy and regulatory support to help shift the operational and commercial incentives that drive industry behaviours around scheduling and block times to improve arrival punctuality. This will facilitate:

- The development of a Queue Management capability within the UK/Ireland FAB, using ATC support tools (AMAN) to absorb some arrival delays through speed control in the en-route sectors and stream traffic to arrive in the terminal in an efficient order for landing.
- Expanding the Queue Management capability across FAB boundaries, to increase international co-operation (through a tool known as XMAN), and further the scope to absorb arrival delays and accurately stream traffic.
- Refining the schedule, improving arrival punctuality and removing stack holding in normal operations (supported by AMAN in the en-route) to reduce arrival delays, enable continuous descents and free up further airspace capacity

What does success look like for this activity?

Arrival management will absorb arrival delays in the en-route phase and stream inbound traffic flows so that aircraft arrive in the terminal environment on time and in an optimal order for landing – removing the need for stack holding in normal operations. Holding in some form may always be necessary to maintain high runway utilization rates (for example LAMP envisages the introduction of linear holds such as point merge) but this should average at around 1 to 2 minutes per delayed flight rather than 8 to 9 minutes today.

Synchronizing Traffic and Managing Queues cont.

How will success be measured?

An enhanced domestic queue management capability is expected to produce savings of:
Fuel: £72m - £85m[1];
CO_2: £14m - £17m[2]

Expanding the Queue Management capability across FAB boundaries is expected to produce savings of:
Fuel: £55m - £70m[1];
CO_2: £10m - £14m[2]

Refining the schedule, improving arrival punctuality and removing stack holding in normal operations is expected to produce fuel and CO_2 savings of:
Fuel: £55m - £81m[1];
CO_2: £11m - £16m[2]

Who is funding this work?

- CAA
- Industry

Which stakeholders are most directly affected by this activity?

- Airlines
- ANSPs

How can I find out more about the activity?

More information can be found on the CAA website.

Facilitating Renewable Energy Development Outside of Aviation

What high level outcome(s) does this activity relate to?

- CO_2

What type of activity does this relate to?

- Better information
- Cleaner technologies

What specific problem is this activity designed to address?

The Government's drive to enhance the supply of renewable energy (on and off shore wind turbines) has significant potential impact on radar, aircraft routeing and procedures. This activity is designed to address these identified impacts.

How would you describe the activity?

In order to support Government policy and regulation on climate change, sustainable development and renewable energy the CAA will:

- Support the Government's Spectrum Release Programme by establishing the feasibility of strategic windfarm mitigation in future non-cooperative surveillance infrastructure and implementation of a strategic solution;
- Facilitate resolution of the conflicts between Windfarm developments and aviation leading to the development of short-term mitigation techniques and a reduction in planning conflicts;
- Contribute to the review of Windfarm Formal Planning Requests.
- Provide best practice guidance for the assessment of renewable projects' impact on safety, ensuring a more evidence-based, consistent and efficient response to such developments.

What does success look like for this activity?

Strategic wind turbine mitigation solutions are in place allowing the expansion of renewable energy projects. The impact on radar, aircraft routeing and procedures is entirely mitigated significantly reducing the aviation related restrictions on renewable energy projects.

How will success be measured?

An annual measure detailing the number of megawatts of wind turbine development agreed and the number of megawatts released for development against aviation related objections.

Who is funding this work?

- UK Government

Which stakeholders are most directly affected by this activity?

- Airports
- Renewable energy developers

How can I find out more about the activity?

More information can be found on the CAA website.

Noise Modelling and Local Impacts

What high level outcome(s) does this activity relate to?

- Air Quality
- CO_2
- Noise

What type of activity does this relate to?

- Better information
- Operational improvements

What specific risk or opportunity is this activity designed to address?

Ensuring there is clear understanding in the sector of the correct prioritisation of noise and other pollutant is clear and that airspace regulation is aligned with this prioritisation.

How would you describe the activity?

Facilitate, advise and influence government development of Updated ANG, leading to an updated CAP 725 (the guidance for airspace changes), that will in turn facilitate a more efficient and robust airspace change process.

Government Policy on aviation and noise was set out in the March 2013 Aviation Policy Framework. This set out the need to modernise airspace to enable future growth and to facilitate environmental improvements (noise and CO_2 emissions).

Guidance to the CAA on prioritising different environmental impacts is set in the DfT's Air Navigation Guidance (ANG) to the CAA published in 2002. This Guidance forms the basis for the CAA's own guidance (CAP725) on the assessment and portrayal of environmental impacts to airspace change sponsors. NATS, as a major sponsor of ACPs, needs revised guidance from the CAA in order to develop far-reaching strategic airspace changes (e.g. LAMP) that are part of the delivery of FAS.

What does success look like for this activity?

Government publication of a revised Air Navigation Guidance to the CAA, followed by CAA publication of an ANG provides clear and consistent policy on the correct prioritisation of noise and other pollutants is clear and that airspace regulation is aligned with this prioritisation.

How will success be measured?

Uncertainty on the prioritisation of noise and other pollutants is no longer cited as a major obstacle by proposers of environmentally and operationally beneficial airspace change.

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Airports
- Air Navigation Service Providers (ANSP)

How can I find out more about the activity?

Further information on the airspace change process can be found on the CAA website.

Improved Noise Mapping

What high level outcome(s) does this activity relate to?

- Noise

What type of activity does this relate to?

- Better information

What specific risk or opportunity is this activity designed to address?

Mapping of airport noise in the European Union is regulated by Directive 2002/49. Noise maps produced under the current Directive may be generated using different methods giving an inconsistent understanding of the distribution of aircraft noise across Europe

How would you describe the activity?

UK CAA chairs the technical working group advising ECAC that is also influencing the European Commission. The technical working group will need to develop consensus based guidance for publication by ECAC and for incorporation into a revised EU Directive.

Publication of a revised ECAC Doc 29 3rd Edition Vol. 2, providing clearer guidance on the recommended method, ensuring more consistent application across EU Member States. Publication of a new volume to ECAC Doc. 29 providing reference calculations and a compliance framework so that models may be checked against the recommended method, again, ensuring improved mapping consistency across EU Member States.

What does success look like for this activity?

Improved noise mapping guidance facilitates a more accurate understanding of aircraft noise exposure which the supports the objective to limit and where possible reduce the number of people significantly affected by aircraft noise.

How will success be measured?

New guidance is incorporated into a revised EU Directive.

Who is funding this work?

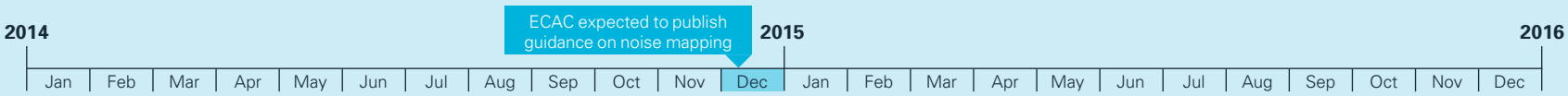
- UK Government

Which stakeholders are most directly affected by this activity?

- Airports
- Communities

How can I find out more about the activity?

Further information on the way noise is mapped across europe can be found on the European Commission website. Information on application in the UK can be found on the CAA website.



Impact of noise (technology)

What high level outcome(s) does this activity relate to?

- Noise

What type of activity does this relate to?

- Better information
- Cleaner technologies

What specific risk or opportunity is this activity designed to address?

ICAO engine standards and long-term goals contribute towards limiting the noise impacts of projected growth in the sector.

There is a need to ensure that standards and goals continue to remain relevant as significant new technology enters the market during the current decade. Secondly, whilst the focus historically has been on large transport aircraft, there is a need to consider helicopter and general aviation standards in the context of ongoing concerns with respect to helicopter and general aviation noise.

How would you describe the activity?

Monitor and Report on noise performance improvements, as demonstrated through the noise certification of new aircraft and the fleet take-up rate in the UK and internationally. For large transport aircraft compare trends against the latest ICAO standards and goals. For helicopters and general aviation identify the scope to tighten standards and input in the ICAO CAEP/10 work programme (February 2016).

What does success look like for this activity?

To ensure that standards continue to play a role in reducing the number of people exposed to noise and reflect best-available technology, and where possible identify scope for further improvements.

How will success be measured?

The level of influence exerted by the CAA's work in this area and how this is reflected in the ICAO CAEP/10 work programme as part of a European consensus position, in particular working with EASA and the Commission.

Who is funding this work?

UK Government

Which stakeholders are most directly affected by this activity?

- Airlines
- Airports
- Communities

How can I find out more about the activity?

More information can be found on the CAA's website.

Impact of noise (operations)

What high level outcome(s) does this activity relate to?

- Air Quality
- CO_2
- Noise

What type of activity does this relate to?

- Better information
- Regulatory controls
- Cleaner technologies
- Operational improvements

What specific risk or opportunity is this activity designed to address?

The way aircraft are operated has the potential to significantly affect the noise exposure of communities around airports. This work is designed to identify and promote quieter operational procedures.

How would you describe the activity?

In each of the following areas, the CAA has a role to play in providing independent evidence on opportunities to reduce noise:

1. Noise reduction through improved departure noise abatement procedures
2. Noise reduction through improved arrival noise abatement procedures
3. Respite from noise through redistribution of flights and flight-paths.

In each area, CAA has a role to play, providing independent evidence on opportunities to reduce noise, estimate benefits.

What does success look like for this activity?

New procedures are implemented reducing noise impacts and systems put in place to ensure compliance with new procedures.

How will success be measured?

CAA publishes evidence on the potential noise benefits and possible interdependencies with CO_2 and LAQ related to new procedures and/or techniques to provide noise respite.

Who is funding this work?

- UK Government

Which stakeholders are most directly affected by this activity?

- Airlines
- Airports
- Communities

How can I find out more about the activity?

Further information on operations and noise can be found on the CAA website.

Night Noise Restrictions

What high level outcome(s) does this activity relate to?

- Noise

What type of activity does this relate to?

- Better information
- Regulatory controls

What specific risk or opportunity is this activity designed to address?

There is an opportunity to ensure that any future restrictions placed on the operation of night flights at the UK's noise designated airports are based on a full and accurate understanding of the environmental impacts of such operations.

How would you describe the activity?

Provision of evidence and advice to assist the Government in the development of policy as it considers future operating restrictions at the UK's noise designated airports. Historically, regimes have been set on a five yearly basis, the current regime expired in Oct 2012.

What does success look like for this activity?

A new night flying restrictions regime is in place from October 2014 that reflects the best available evidence on the benefits and costs of night operations at the UK's designated airports.

How will success be measured?

The degree to which decisions on night flying restrictions reflect the underpinning evidence base.

Who is funding this work?

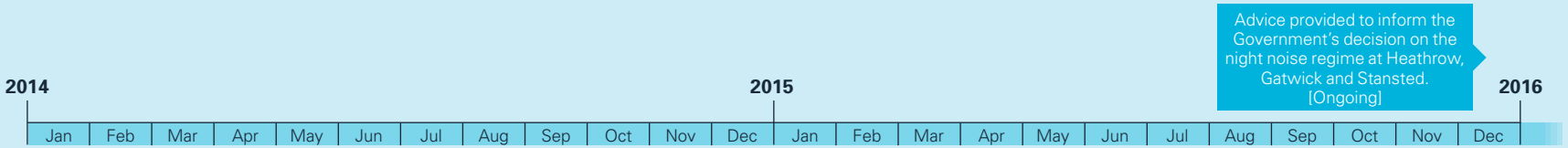
- UK Government

Which stakeholders are most directly affected by this activity?

- Airlines
- Airports
- Communities

How can I find out more about the activity?

More information on the Government's consultation can be found here.



Information Provision - Noise

What high level outcome(s) does this activity relate to?

- Noise

What type of activity does this relate to?

- FBetter information

What specific risk or opportunity is this activity designed to address?

Noise information made available by airports is sometimes difficult to find and inconsistent in format or presentation. Secondly, information is sometimes poorly understood by a non-expert audience. Consequently, the CAA has a new duty under Section 84 of the Act to ensure the provision of environmental information.

How would you describe the activity?

The preparation of guidance to better explain the information that is already available, following advice from a consultation exercise already undertaken.

What does success look like for this activity?

The general public and communities affected by noise have better access to information on aviation's noise performance.

How will success be measured?

Initially by the availability of clear, comprehensible information on aviation noise measured against criteria to be set out in the guidance. In due course, success will be qualitatively reviewed taking into account stakeholder feedback and the quality of debates on environmental issues.

Who is funding this work?

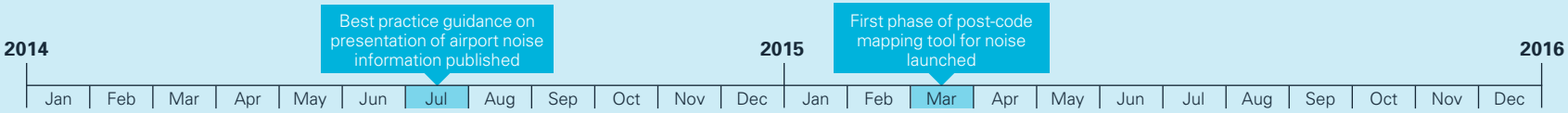
- CAA

Which stakeholders are most directly affected by this activity?

- Airports
- Communities

How can I find out more about the activity?

Further information on the information provision duty can be found on the CAA website.



Environmental Impacts of Spaceplanes

What high level outcome(s) does this activity relate to?

- Air quality
- CO_2
- Noise

What type of activity does this relate to?

- Better information

What specific risk or opportunity is this activity designed to address?

The creation of a space vehicle industry within the UK can only be achieved if its environmental impacts are understood and considered fully, and then steps are taken to mitigate these effects if necessary. UK Government has requested this work be undertaken within a very tight timescale.

How would you describe the activity?

The development of guidance on environmental certification requirements, site selection criteria and operational management/controls for spaceplane facilities in the UK.

What does success look like for this activity?

A clear understanding of the requirements for industry and of the impacts on the environment. Guidance provided on how the impacts can be mitigated, if necessary, whilst providing an emerging sector the opportunity to grow.

How will success be measured?

The level of Government and industry understanding of the environmental impacts and how best to address them.

Who is funding this work?

- UK Government

Which stakeholders are most directly affected by this activity?

- Communities

How can I find out more about the activity?

Further information on the UK's spaceplanes strategy can be found on the UK Department for Business, Innovation and Skills (BIS) website.

Support for the Airports Commission

What high level outcome(s) does this activity relate to?

- Air quality
- CO_2
- Noise

What type of activity does this relate to?

- Better information

What specific risk or opportunity is this activity designed to address?

A lack of airport capacity provision in south-east England is affecting growth, consumer choice and competition. The environment, especially noise and LAQ, is a key constraint towards expansion at the UK's hub airport, Heathrow. The environment will also be a key factor in the development of options, and the eventual solution, to meet future airport capacity demands as proposed by the Airports Commission.

How would you describe the activity?

Provision of technical advice to the Airports Commission on noise criteria and the assessment of proposals submitted to the Commission.

What does success look like for this activity?

The Airports Commission has a clear understanding of the impacts of different expansion options. Decision making of options to develop further and the development of a National Policy Statement for airports is informed and evidence-based.

How will success be measured?

The level of advice provided to the Airports Commission which enables it to make informed decisions.

Who is funding this work?

- The Airports Commission

Which stakeholders are most directly affected by this activity?

- Airports
- Communities

How can I find out more about the activity?

More information can be found on the Airports Commission website.

Health Effects of Aviation Noise

What high level outcome(s) does this activity relate to?

- Noise

What type of activity does this relate to?

- Better information

What specific risk or opportunity is this activity designed to address?

This is aimed at generating a better evidence base for assessing the health effects of aircraft noise in order to better inform policy development.

How would you describe the activity?

Research and subsequent publication of report that draws together existing evidence/findings and presents them in a format that will aid policy development.

What does success look like for this activity?

Health-related policy development and/or guidance material is underpinned by evidence as presented in the report. Health impacts are better understood and taken into account in impact assessment and cost-benefit analysis.

How will success be measured?

The extent to which guidance and assessment related to health impact is evidence-based.

Who is funding this work?

UK Government

Which stakeholders are most directly affected by this activity?

- Airports
- Communities

How can I find out more about the activity?

Click here for the CAA report on Aircraft Noise and Health Effects.

Click here for the CAA methodology for estimating the cost of sleep disturbance.

EU-ETS and future market based measures

What high level outcome(s) does this activity relate to?

- CO_2

What type of activity does this relate to?

- Better information
- Incentives
- Cleaner technologies
- Operational improvements

What specific risk or opportunity is this activity designed to address?

Aviation is an international industry with many complex and interrelated aspects that can make administering and developing financial tools difficult for national Governments. Seeking to ensure that progress in the design, implementation and ongoing development of market based measures for aviation at the local and global level is underpinned by a good understanding of the sector.

How would you describe the activity?

The provision of ad-hoc advice to the Government and other agencies, including:

- Provision of advice to the UK Government to aid the ongoing design and future implementation of the EU-ETS and future global market based measure.
- Provision of advice to the Environment Agency (the Government agency with responsibility for administering the EU-ETS) to aid implementation of the existing ETS scheme.

What does success look like for this activity?

The design, implementation and ongoing development of market based measures achieves a positive and significant contribution to reducing CO_2 emissions.

How will success be measured?

The EU-ETS scheme or any wider internationally agreed approach is consistent with the UK's policy objectives.

Who is funding this work?

- CAA
- Environment Agency
- UK Government

Which stakeholders are most directly affected by this activity?

- Airlines

How can I find out more about the activity?

Further information on the EU-ETS scheme can be found on the CAA website.

NERL flight efficiency regime

What high level outcome(s) does this activity relate to?

- CO_2

What type of activity does this relate to?

- Better information
- Incentives
- Operational improvements

How does this fit with the CAA's environmental strategy?

This activity is designed to provide NATS with an economic incentive to offer airlines more direct aircraft routings which burn less fuel and emit less CO_2 emissions.

What specific risk or opportunity is this activity designed to address?

This activity addresses the development and implementation of measures to incentivise direct flight paths provided by NATS e.g "NATS 3Di metric".

How would you describe the activity?

The CAA will work with NATS to further develop accurate metrics and regulatory incentives to encourage efficient flying consistent with European legislation in this area. The CAA will also continue to work with European partners to influence the future of regulatory incentives at the European level.

What does success look like for this activity?

The incentive has a positive effect on NATS' operations in terms of the efficiency of flight paths made available.

How will success be measured?

Monitoring shows positive trend in more direct flight paths made available by NATS.

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Airlines
- ANSPs

How can I find out more about the activity?

Click here for the CAA website.

Click here for the NATS website.

Information Provision Duty – Carbon

What high level outcome(s) does this activity relate to?

- CO_2

What type of activity does this relate to?

- Better information

What specific risk or opportunity is this activity designed to address?

It is currently very difficult for consumers to compare how efficient airlines are with most carbon calculators only based on averaged calculations. There is also very little standardisation of the way CO_2 is calculated among airlines. Addressing these shortcomings helps consumers to factor this in to their purchase decisions.

How would you describe the activity?

In the first instance the CAA is producing two pieces of guidance:

- Guidance targeted at consumers helping them to interpret CO_2 reporting and carbon calculators.
- A best practice guidance for airlines to consider when designing ways of imparting CO_2 information to consumers.

What does success look like for this activity?

Longer term success can be judged by how much consumers use CO_2 information is factored in to purchase decisions.

How will success be measured?

The CAA will measure success by monitoring the uptake of the guidance by consumers and the industry.

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Airlines
- Consumers

How can I find out more about the activity?

Further information on the CAA's information duties can be found here.

Information Provision Duty – Environmental Portal

What high level outcome(s) does this activity relate to?

- Air Quality
- CO_2
- Noise
- Other Local Impacts

What type of activity does this relate to?

- Better information

What specific risk or opportunity is this activity designed to address?

Currently there is large quantity of information currently available on the environmental effects of aviation. However, this is often technical and inconsistent and of varying quality. This means that it is difficult for people to ascertain the true picture of the environmental effects of aviation.

How would you describe the activity?

The CAA is developing an aviation environmental information portal that will make information more accessible to the general public. As a first phase, the portal will bring together information in a single location, helping to identify where there are gaps in information and whether the CAA needs to then request this information from the relevant bodies.

What does success look like for this activity?

Higher quality information on the environmental effects of aviation is made more accessible to the general public.

How will success be measured?

The CAA will measure success by monitoring how often the information is accessed and used.

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Communities
- Consumers

How can I find out more about the activity?

Further information on the CAA's information duties can be found here.

Environmental Landing Charges

What high level outcome(s) does this activity relate to?

- Air Quality
- Noise

What type of activity does this relate to?

- Better Information
- Cleaner technologies

What specific risk or opportunity is this activity designed to address?

Many airport operators have environmental elements (noise and local air quality) elements to their landing charges. There is potential to improve the structure of these charges to provide better incentives for the cleanest and quietest aircraft e.g having no noise charges for night flights.

How would you describe the activity?

The CAA has developed a best practice framework for airport operators to use when designing and structuring their landing charges. Going forward, we will provide advice to airport operators in implementing this framework when re-structuring environmental landing charges.

What does success look like for this activity?

A more common approach across airports in the way that environmental landing charges are structured; and an improvement in the use of incentives for environmental gain.

How will success be measured?

The number of airports implementing the CAA's framework and accessing advice from the CAA will be monitored to ascertain coverage across UK airport operators.

Who is funding this work?

- CAA

Which stakeholders are most directly affected by this activity?

- Airlines
- Airports
- Communities

How can I find out more about the activity?

Click here for CAA guidance.

Review of Aviation's Progress in Meeting Carbon Targets

What high level outcome(s) does this activity relate to?

CO2

What type of activity does this relate to?

Better information

What specific risk or opportunity is this activity designed to address?

Most targets to reduce the carbon impact of aviation are long term e.g up to 2050, and rely on both industry and government action in key areas such as future aircraft design, air traffic management, carbon trading and alternative sustainable fuels to help meet these long term targets. There is an opportunity to improve the understanding of whether industry is on course to meet its own carbon commitments.

How would you describe the activity?

The CAA will undertake an annual audit of industry's progress in meeting key industry and Government targets for carbon reduction. Examples include:

- UK aviation (Sustainable Aviation) have committed to performance in line with IATA's commitment:
  - to achieve a 1.5% average annual improvement in fuel efficiency from 2009 to 2020;
  - and a 50% absolute reduction in carbon emissions by 2050 based on 2005 levels
- ICAO have committed to achieve a global annual average fuel efficiency improvement of 2% per year out to 2050 (which is supported by UK Government who advocate the reduction of emissions from aviation at the international level)

Both ICAO and IATA also support an additional aspiration to achieve carbon neutral growth in aviation from 2020.

What does success look like for this activity?

The CAA will work with the Commission on Climate Change (CCC), the Department of Energy and Climate Change (DECC) to help provide an accurate picture of the progress made by the aviation sector in meeting the UK's carbon objectives.

How will success be measured?

Initially success will be measured by monitoring the level of debate around the industry's ability to meet its carbon targets. Longer term success will lead to this work informing stakeholders as to where action and resources are best directed to meet the carbon challenge faced by the sector.

Review of Aviation's Progress in Meeting Carbon Targets cont.

Who is funding this work?

CAA

Which stakeholders are most directly affected by this activity?

Airlines
ANSPs
Communities
Consumers
UK Government

How can I find out more about this activity?

Progress will be monitored and reported on the CAA website.

For further information about international targets for emissions reduction from aviation please visit the Sustainable Aviation site or ICAO

Engaging with the Programme

As the regulator, our ability to help deliver improvements is only as good as our understanding of the problem and our ability to influence others' to achieve change.

Where our activities are likely to impose significant costs on stakeholders, we are committed to consulting on these impacts before taking any final decision.

Engagement with stakeholders is therefore essential to delivering on our environment objective. Much of the engagement will take place in the context of the individual activities that comprise our programme.

Should you wish to contact us about any of these activities or the programme as a whole, drop us a line on the contact details below.

Contact us:

Please get in touch via our dedicated email if you want to find out more about anything we are doing or you have ideas about how we can better play our part in helping to address the sector's environmental impacts:

E-mail: environment@caa.co.uk

Alternatively, we plan to make updates to the programme available via our website:

Web: www.caa.co.uk/environment