

• Sustainability Update

2016 | 2017





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CHIEF EXECUTIVE'S FOREWORD

Combined passenger traffic at our daa's Irish airports reached record levels in 2016 and again in 2017. More than 30.1 million passengers were welcomed at Dublin and Cork airports during 2016, an 11% increase over the previous 12 months. This grew to 31.9 million combined passengers in 2017.

The scale of our business means we can make an important contribution to sustainable development. Passengers, airlines and our other stakeholders are increasingly aware of and concerned about sustainability. They expect and trust daa to be a responsible business, partner and neighbour. For us, corporate responsibility means sustainably managing our business to grow profitably and create long-term value. This long-term approach has, over the past 5 years, seen energy use fall by 5%, net carbon tonnes fall by 15%, net water use fall by 12% and recycling increase by 186%, against a backdrop of combined passenger growth of 42%.

This Sustainability Report details our environmental, social, workplace and economic performance during 2016 and 2017. Some of the highlights include the launch of our €10 million Dublin Airport Community Fund, becoming the first organisation in the country to achieve Excellence in Energy Efficient Design (EXCEED) certification, and LEED Platinum sustainability accreditation for the Dublin Airport Central development, raising €300,000 in both 2016 and 2017 for our charity partners and celebrating the 20th anniversary of daa's partnership with Junior Achievement Ireland.

daa continues to deliver sustainable value to all of our stakeholders, and we look forward to accelerating these efforts in the future.

Dalton Philips
Chief Executive

SUSTAINABILITY OVERVIEW

Sustainability is a key objective for daa. We are conscious of balancing the national necessity for airport infrastructure with minimising our impact on employees, neighbours, wider communities and the environment. We are mindful that economic growth must be delivered alongside exceptional environmental management and a continuing role as a good neighbour in our communities.

Throughout 2016, daa worked closely with our communities, supporting a range of programmes including mentoring programmes in local schools and sponsoring local sports clubs and community events. daa's Staff Charity scheme is a major platform for staff involvement in our local communities.

SUSTAINABILITY POLICY

We aim to be a responsible airport operator by minimising our impact on the environment and our immediate neighbours, whilst supporting economic growth and making a positive contribution to the society in which we operate. In operating Dublin and Cork airports, we will:

-  Contribute to Irish economic growth by developing our airports
-  Provide a safe environment and facilities for employees and visitors
-  Make a positive contribution to the community in which we operate
-  Reduce energy consumption and carbon emissions
-  Increase water conservation
-  Minimise waste and reuse and recycle as much waste as feasible
-  Increase use of environmentally and socially responsible products and services
-  Communicate and promote sustainable practices amongst all users of the airports and in the wider community
-  Incorporate sustainable planning, design, procurement and construction into projects
-  Prevent pollution, comply with relevant environmental legislation, and encourage best practice environmental management
-  Integrate sustainability into relevant policies, processes and agreements

ECONOMIC CONTRIBUTION

daa is an Irish state-owned airport management company, employing more than 3,000 staff with a group turnover of €855m in 2017. The company's Irish operations focus on the management and development of Dublin and Cork airports.

Dublin and Cork airports are two of the most important pieces of economic infrastructure in the State and their importance will increase even further in a post-Brexit environment. We are working hard to increase connectivity at both airports for the good of the Irish economy, to help generate more trade and investment, and to expand Ireland's growing tourism industry.

Overseas investments in airports and airport retailing are undertaken by ARI (Aer Rianta International). daa International provides international airport management and advisory services.

The airports are primary contributors to Ireland having one of the highest connectivity levels on the continent relative to the size of its economy.

This connectivity is critical to the economic development of Ireland, including trade, tourism, FDI and business location decisions.



CONNECTIVITY

Connectivity is essential in the international marketplace and it is fundamentally about access to markets and destinations. This is a particularly important consideration for Ireland as a small open economy positioned on the western tip of Europe. Air access is critical for Ireland's economic development. Dublin Airport's pre-eminent position in the Irish aviation sector delivers the critical mass required to attract the necessary services to key short and long-haul destinations for both business and leisure markets. Direct connections are essential for both expanding Irish export trade and growing foreign direct investment in Ireland. Dublin Airport is also a key gateway for Northern Ireland.

JOB CREATION

Dublin Airport is one of the most important sources of job creation in the State. The immediate vicinity of Dublin Airport has one of the highest employment densities in the country, with 19,200 people directly employed at the airport alone. When we take into account the 98,100 additional direct and indirect jobs generated by activities at Dublin Airport, the total employment figure comes to 117,300. The activities of Dublin Airport play a major part in the overall performance of the Irish economy. According to a study by economic consultants InterVISTAS, in 2016 it contributed €8.3 billion to Ireland's GDP. This represents an impressive 3.1% of total GDP, significantly higher than the contribution of many entire sectors of Irish industry.

SOCIAL CONTRIBUTION

We are committed to being a responsible airport operator and to being a good neighbour. We have a long standing track record of working and engaging with our local communities which we achieve through a variety of activities such as community sponsorship, educational and school programmes and dedicated engagement forums. Our approach is to promote positive development in education, literacy, sports and the arts in our local community.

Our business is deeply rooted in the areas in which we live and work so we are very involved with local schools and community groups and projects in the Fingal area including close associations with our neighbours in St Margaret's, Portmarnock, Swords, Malahide, Santry and Cloghran.

- Dublin Airport has been the main sponsor of St. Margaret's GAA Club and Naomh Mearnog GAA Club, Portmarnock for many years. We are also delighted to host family days in these clubs each year.
- Recognising the importance of introducing young children to sport at an early stage we are committed to supporting the nursery programmes in Fingallians and St. Finian's GAA Clubs in Swords and St. Sylvester's GAA Club in Malahide.
- Our support extends beyond sport and we have helped Woodlawn Residents Association in Santry with the installation of solar powered lighting in the green area of the estate. One of our airfield electricians is advising the group on this project.
- We have been partners with Dublin Community Games Athletics Finals since 2011. The ethos of Community Games aligns with the Dublin Airport culture. Dublin Community Games has 20,000 children in 60 community areas across the county. Many of these community areas are local to Dublin Airport. The athletics finals sees 3,000 competitors from all corners of the county compete across a full athletics programme.
- Each year we host visits to Dublin Airport for senior citizens from our local communities to celebrate Positive Ageing Week. Last year Age Action celebrated 14 years of Positive Ageing Week with both young and old coming out in force in towns and communities to celebrate ageing in a positive light.

Cork Airport's Social Contribution

Cork Airport sponsors a number of key events which bring in thousands of visitors to the region each year, namely the Cork St Patrick's Day Parade and Festival, Cork City Sports, Cork Airport Friendly Series with Cork City FC, Cork International Choral Festival and Cork Jazz Festival.

Our Community Outreach programme provides free exhibition space in the Terminal each year to photographers, artists, sculptors while our stage area hosts performances from choirs, soloists, bands and choristers throughout the year and especially in the run up to Christmas when we host multiple school choirs daily from early December to Christmas Eve.

EDUCATION PROGRAMME

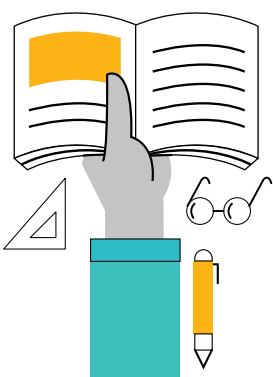
We work with Fingal Libraries in running 'The Battle of the Book', which is a reading programme designed for primary school children in an effort to get them reading, by using a multi-disciplinary interactive approach with drama, art, creative writing and an active competition element between the different schools and their local library. The programme is designed to encourage children to read, gain confidence, and discuss a common book, providing a shared experience and stimulating a reading for life culture.

The aim of our Education Programme is to inspire and prepare young people to stay in school, finish their education and gain a better understanding and interest in the business and aviation world. We work through our partnerships with Junior Achievement and Business in the Community (BITC) Schools Partnership.



SKILLS @ WORK PROGRAMME

In one of BITC's longest running partnerships we are twinned with St. Finian's Community College in Swords to provide the Skills @ Work Programme. Our employees have the opportunity to share their experiences of life, study and work with senior cycle students. They also have the opportunity to enhance and develop their presentation and communication skills, while adding diversity to the working day. The programme provides students with an insight into the world of work as well as assistance in considering career and study options available to them when they finish school. Sessions include site visits, 'A Day in the Life' talks, CV and interview preparation, mock interviews, company overviews, final wrap-up sessions and in some cases an optional session such as customer care, team work or business etiquette. In 2016, through our partnership with Business in the Community our staff volunteers delivered the programme to 40 LCVP students from St Finian's Community College in Swords with nearly 400 students participating in the programme over daa's ten year involvement.



JUNIOR ACHIEVEMENT IRELAND

2016 marked the 20th anniversary of daa's partnership with Junior Achievement Ireland (JAI) with a long-standing tradition of releasing staff to work in local classrooms to help students make the connection between their studies and their post-school futures. In those 20 years of partnership, over 200 daa volunteers have worked with more than 4,330 students from 50 schools helping to inspire the students to reach their full potential.

Volunteers guide their classes through fun and engaging topics such as "Our Community", "Our World" and "Our Universe" with a particular emphasis on the Science and Technology sector as well as the overall importance of receiving an education. A unique aspect to daa's involvement in Junior Achievement is the students' opportunity to visit the airport where they learn about the different roles and jobs at the airport as well as the operational aspect of our business.

The Security Operations team coordinates a transition year ("TY") programme which enables TY students from local schools to spend a week at Dublin Airport. During this time, the students meet members of the Security Senior Management team and visit areas of the business such as the Control Tower, and Canine Unit in Airport Police. The programme enables local students to get an insight into how the airport operates and the variety of the work that people do in the organisation.



daa STAFF CHARITY PROGRAMME

In 2016, it was announced that daa employees, supported by the company and members of the public, had raised €2 million for 18 Irish charities in the prior ten years. In 2016 alone, €300,000 was raised for the three daa staff nominated charities - Aoibheann's Pink Tie, ARC Cancer Support and Childline/ISPCC. In 2017 staff raised a total of €300,000 for that year's charity partners - MS Ireland, Merchant's Quay Ireland and My Canine Companion for Autism. Each charity was presented with a cheque for €100,000 from daa.

This is a huge testament to the fundraising efforts of staff. As this is a staff initiative, employees pick the charities, manage the programme, and generate the funds. A wide variety of fund-raising events took place, including an 80k cycle, the Women's Mini-Marathon, a back-to-the-shop-floor day for managers, a parachute jump, a Christmas jumper day as well as marathons, book sale and cake sales. The amount of money raised by staff is boosted by donations made by passengers and other visitors to Dublin Airport using the many charity boxes throughout Terminal 1 and Terminal 2. daa also makes a separate significant donation to the fund every year.



Cork Airport Charity Committee

Cork Airport Charity Committee supports a charity nominated and voted on by staff. In 2017, Cork Airport's Charity of the Year, voted for by staff, was the Kevin Bell Repatriation Fund. In excess of €21,000 euros was donated to the Kevin Bell Repatriation charity in total. In 2016, Cork Airport's Charity of the Year was the Cork City Hospital Children's Club, a local charity which organises trips to Disneyland Paris and creates a winter wonderland for children with special needs every year.

Cork Airport Charity Committee is made up of a cross section of airport employees and ran a number of events throughout 2016 and 2017 to raise funds. These included a fashion show with models from across the airport staff, as well as airlines and ground handling companies. It was held in the check-in area and is possibly the first event of its kind to be staged in an open airport terminal. The Charity Committee also organised a dinner dance, a spinathon and a number of cake sales throughout the year.

COMMUNITY FUND

Dublin Airport wants to make a positive contribution through economic, social and environmental activities in our local and regional communities. We are committed to working alongside communities to help them to thrive and grow, through investment and support for local projects and initiatives. In 2017 the work we do with our local communities was formalised through the establishment of the Dublin Airport Community Fund. The intention is to not only continue supporting community activities and promoting development in education, literacy, sports and the arts, but to significantly expand it. Through the Dublin Airport Community Fund we doubled our community spend to €400,000 per year for 25 years, making €10m available in total. Support is focused on areas such as environment and sustainability, sports and recreation, social inclusion and community development, health and wellbeing, and culture and heritage.

In 2017 a total of 60 community groups shared €400,000 from the first allocation from Dublin Airport's new €10 million Community Fund. The organisations being funded comprise 43 successful new applicants and 17 groups which were previously supported by Dublin Airport in a multi-year agreement and are now backed by the Fund as part of a transition arrangement. The Fund is also supporting up to 10 students per year from economically disadvantaged backgrounds to enable them to attend Dublin City University (DCU) via its Access Programme.

Applications were assessed by an independent Grant Making Panel. Among the projects being funded are new heaters for the 18th Santry Scout Group, refurbishment Portmarnock Youth Adventure Cub hall, new flooring for River Valley Community Centre and new pitch fencing for Innisfails GAA Club, Malahide.



WORKPLACE

daa's values are developed by daa staff for daa staff. Our Values were initially adopted in 2014. These Values act as our collective DNA, lying at the heart of all our actions and behaviours.

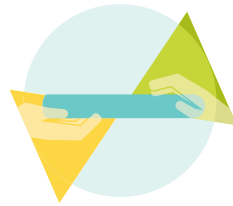
The four pillars of the company ethos are:



**RESPECTING
EACH OTHER'S
VALUE**



**BRILLIANT
AT THE
ESSENTIALS**



**PASSING THE
BATON, NOT
THE BUCK**



**ALWAYS
BETTER**

Our Values are embedded in the company through the appointment of Values Ambassadors, and the continuation of the quarterly Values Ambassadors Forum and the Values Awards.



Case Study 2016 Value Ambassadors

Nine staff from across the business joined the Values Ambassadors team in 2016, bringing our total number to 98. Their role is to keep the spotlight on the Values by being a positive force in daa, contributing to the culture and helping to drive cultural change where it is needed.

Three Values Ambassador Forums were held in 2016 and were attended by our Chief Executive. Those in attendance voted for the winners of the daa Values Awards, based on stories submitted by staff members which demonstrated daa's values in action.



EMPLOYEE DEVELOPMENT

To support continued professional development, our staff has access to a comprehensive suite of training and development programmes.

Some examples include:

- Customised Core Skills programmes
- Graduate and emerging talent development
- Performance management people leaders programme
- Leadership development programmes for all people leaders
- Further Education support

Case Study The Big Expedition

In 2016, the Big Expedition, our people leader development programme, was launched. This is a 15 month programme for people leaders in daa and is designed to bring about cultural change – in particular, how we connect, engage and motivate our people. The programme is structured as follows:

Pre-programme (getting ready): participants receive pre-work including a “Values in Action” questionnaire and a People Leadership Profile online questionnaire. They meet with their manager and identify three areas of focus for the duration of the programme.

The Expedition (the learning): this is a two-day interactive and activity based programme. It comprises 12 modules and topics include mastering challenging conversations, making connections, the power of influence and understanding motivation.

Post-Expedition (embedding the change): includes post-expedition meetings with managers, monthly check-ins, quarterly look-back and renew sessions, continuous development and final review.

DIVERSITY

daa recognises the importance of workplace diversity as a reflection of the diverse profile of modern day Ireland and the travelling public who use our airports and retail outlets. daa's Dignity & Mutual Respect at Work policy is founded on the principle that, to deliver the highest possible service to our customers, it is essential that each of us feels safe, respected and valued in work. We contribute our best when these basic expectations are fulfilled. The policy is reviewed and updated regularly, and comprehensive support mechanisms have been put in place. They include the training and development of internal investigators, designated contact persons and Dignity and Mutual Respect Instructors, who continue to roll out the company's core Dignity and Mutual Respect module to all new employees, and as part of refresher training programmes across the organisation. daa's Equality Coordinator is responsible for facilitating the implementation of the Dignity & Mutual Respect at Work policy and assisting in the resolution of related queries. The Equality Coordinator also acts as a point of contact for queries related to the policy.

HEALTH & SAFETY

As a world-class provider of airport management services, daa is committed to providing a safe environment and safe facilities, both for those who work at the airports and for all those who visit the airports. We ensure that all our activities uphold the highest level of safety performance and meet national and international standards.

Safety governance structures are in place, with regular reporting to the Board sub-committee on Health and Safety and the Executive Safety Review Group. daa's safety statement is reviewed on an annual basis, and is a clear roadmap of how occupational safety is managed within daa.

Airport Police in Cork developed and launched the ASAC (Airport Safe Aware Campaign) in 2017, which was rolled out to staff working at the airport aimed at building a security awareness culture.

WELLBEING

daa continued its partnership with VHI to provide expertise and services to employees as part of the Employee Assistance Programme. Should our employees experience any work-related or personal issue, they can avail of 24/7 – 365 confidential guidance, support and counselling.

There were also a number of wellness initiatives throughout 2016 and 2017, including:

- Health and nutrition talks about wellbeing for shift workers
- Onsite dental clinics at the airport providing consultations and teeth cleaning
- Free flu vaccines
- VHI provided 500 on campus health checks as part of its Livewell programme
- Health insurance discounts available to all staff
- National Workplace Wellbeing Day initiatives included walk-in mini health checks, mental health talks, apple tree planting, fruit delivered to all breakrooms

PASSENGER EXPERIENCE

daa strives to meet the diverse needs of the thousands of people travelling through our airports every day. daa's vision is to be airport industry leaders and to grow our business by delivering great service and value for airlines, passengers and business partners. One of our corporate goals is to consistently deliver the best experiences for our passengers, customers and partners.

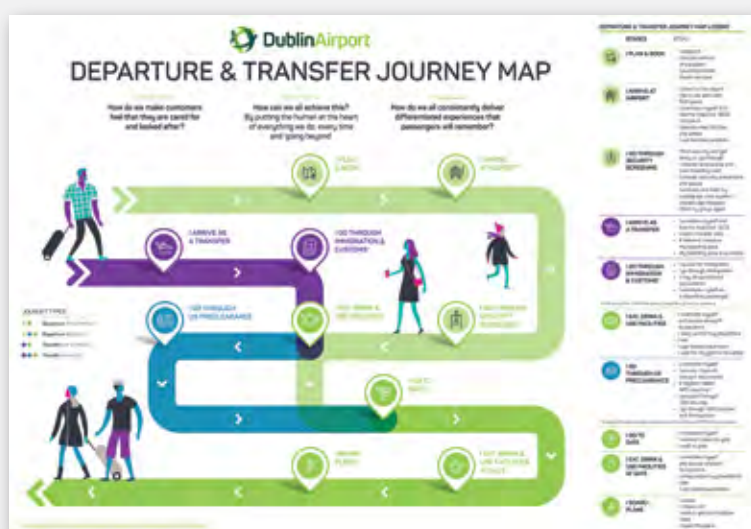
In order to meet this goal and achieve our vision, we gather data and monitor feedback from our customers. We have a dedicated Customer Experience department at Dublin Airport which responds to passenger feedback through various media including phone call, email and social media.

Our Insights & Planning team conducts more than 30,000 surveys annually as part of our Customer Service Monitoring and Passenger Tracking programmes, and have push button (Happy or Not) passenger satisfaction units in key locations throughout the airport. daa's performance is monitored by the Commission for Aviation Regulation (CAR) with regard to service quality measures as follows:

- ✓ Courtesy/helpfulness of security staff
- ✓ Ease of wayfinding through airport
- ✓ Flight information screens
- ✓ Courtesy/helpfulness of airport staff
- ✓ Internet access/WiFi
- ✓ Cleanliness of washrooms
- ✓ Comfort of wait/gate areas
- ✓ Cleanliness of airport terminal
- ✓ Feeling of being safe and secure
- ✓ Overall satisfaction

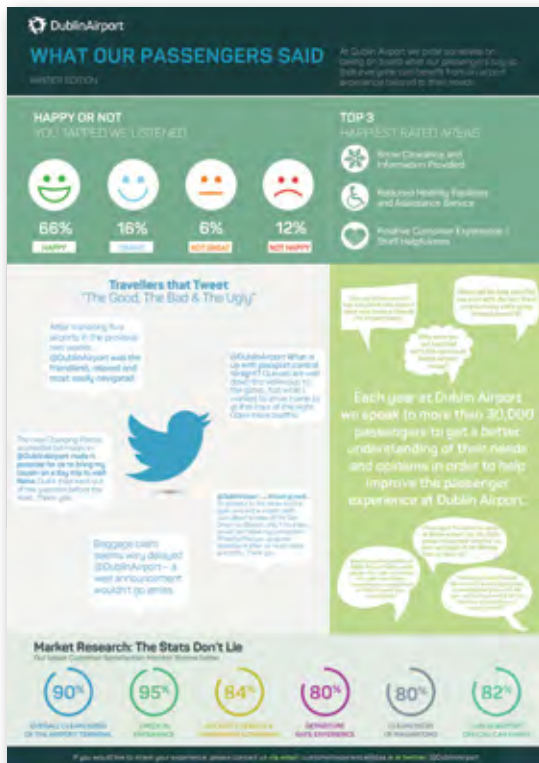
Dublin Airport's Service Quality Team audits the airport on a constant basis against the Commission for Aviation Regulation service quality targets and internal targets.

The Passenger Journey Improvement Programme at Dublin Airport drives action from our many sources of passenger information. This continuous improvement programme is led by a cross-functional team consisting of members of the Insights and Planning, Customer Experience and Quality Improvement teams. Combining passenger feedback information for each part of the passenger journey allows daa to focus on projects and initiatives to improve the passenger experience.



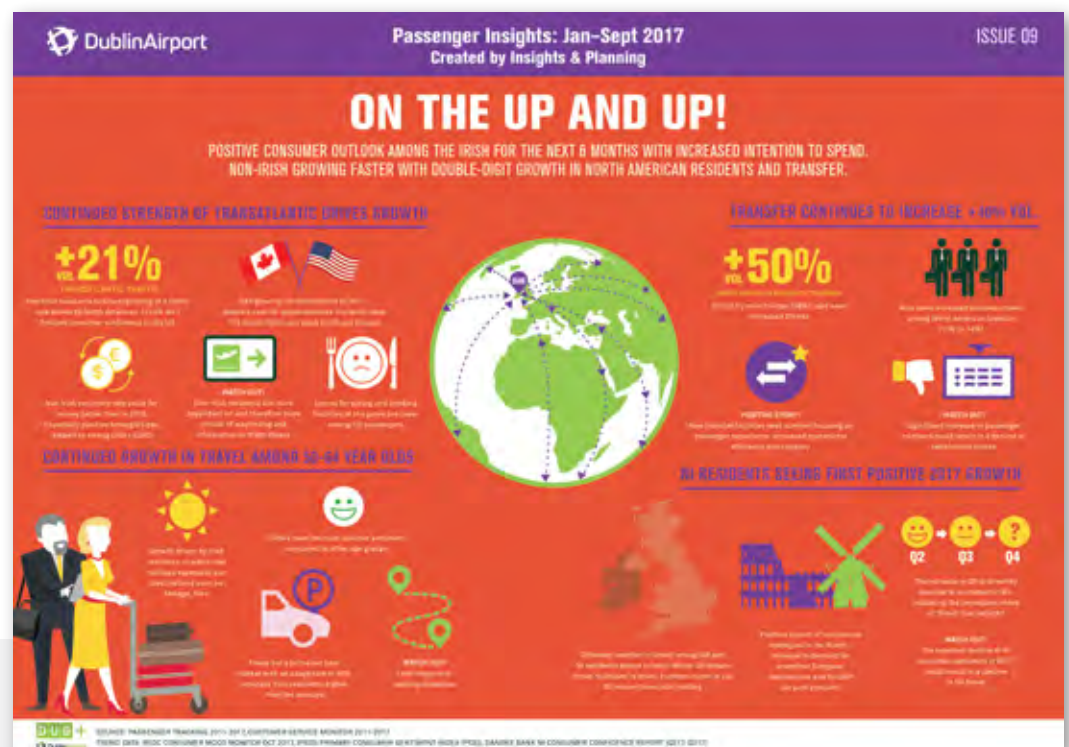
Journey map produced to get a greater understanding of the passenger journey to help us all understand the journey and use the same language when discussing it.

This will also be used to help improve passenger experience in conjunction with Voice of Process and Voice of Employee work being carried out.



CUSTOMER STORY

A review of Q117 passenger satisfaction levels – this is published on airpods in T1 and T2 arrivals.



ON THE UP & UP

A review of Q317 passenger insights – this is published on airpods in T1 and T2 arrivals.

IRISH LANGUAGE

daa launched its second Irish language scheme in January 2017. Its aim, through a number of measures, is to provide an improved level of information and service in Irish for customers and staff. The scheme, prepared in accordance with the provisions of the Official Languages Act 2003, will remain in force for three years.

Improved services include the provision of relevant information in Irish on our websites (www.dublinairport.com and www.corkairport.com) in addition to the issuing of press releases bilingually where appropriate.

Throughout the first scheme, which covered the period 2013-2016, staff from Dublin Airport, Cork Airport and Shared Services availed of both in-house and on-line Irish language training programmes and for the duration of the second scheme staff will continue to be facilitated to pursue an Irish language training course.

Staff can avail of and wear “Fainne” badges which displays their level of spoken Irish, this helps promote the use of Irish amongst customers and staff. Staff are also encouraged to use bilingual “out of office” notifications on their email and to volunteer their assistance with queries that require a verbal response in Irish.

Throughout Seachtain na Gaeilge each year (March 1 to March 17) daa provides some fun activities in the passenger terminals promoting the Irish language for both customers and staff.

To view the full scheme visit www.daa.ie and for more information on the Official Languages Act 2003 visit www.chg.gov.ie.



ENVIRONMENT

Energy

Dublin Airport is a large consumer of energy and in a period of increasing infrastructural demand and passenger growth, daa is aware of the importance of embedding the principles of energy efficiency and continuous improvement in the way we conduct our businesses.



Our Target:

Dublin Airport is committed to optimising its energy consumption and reducing its carbon emissions by annually reducing energy consumption by a minimum of 1.5% year on year to meet the National Energy Efficiency Plan.

Dublin Airport

In 2017, Dublin Airport ranked second in Ireland in its category (Public Bodies with Energy Consumption Greater than 50 GWh) as part of the SEAI Annual Public Energy Efficiency reporting. This acknowledges Dublin Airport's success in achieving 44.3% reduction in energy usage since baseline. This was an improvement on the 2016 ranking of third place.

Staff Engagement

Staff engagement throughout 2016 and 2017 continued with initiatives such as "Take the Stairs Week", "Lights Out Week", "Water Week" and "Reducing your Heat Week". The 2016 Smart Energy Exhibition organised by the Dublin Airport Energy team showcased energy efficient and renewable energy products. Staff also had the opportunity to test drive an electric car.



In 2016, Dublin Airport received formal recognition for the quality and high standards achieved in energy management and efficiency with the granting of ISO 50001 Certification, an International Energy Management Standard (EMS) that establishes systems and process necessary to improve energy performances, including energy efficiency, use and consumption. This was the culmination of two years of intensive work led by Asset Care and supported by many departments at Dublin Airport including Operations, and Procurement. Achieving this standard will support us on our journey towards achieving an energy improvement target of 33% by 2020 as part of the National Energy Efficiency Action Plan 2009 and Public Sector Energy Partnership Programme. The certification demonstrates exemplar performance and will keep us challenged for the future as part of a continuous improvement process.



CASE STUDY: EXEED

Dublin Airport is the first organisation in the country to have achieved Excellence in Energy Efficient Design (EXEED) Certification. The EXEED programme is administered by SEAI and enables organisations to establish a systematic approach to design, construction, and commissioning processes for new investments and upgrades to existing assets. The project comprised lighting and controls upgrades of Dublin Airport's car parks. Lighting for these car parks accounted for 45% of the airport's total car park lighting load. The new controls improve the ability to control the lighting in car parks and have reduced the power input to the lights while maintaining the required brightness. Dublin Airport has achieved 78% energy savings in surface car parks as a result of the project.

One of the greater benefits of completing the EXEED project has been the adoption and application of the EXEED process to other projects. Dublin Airport has since progressed a number of lighting projects applying the same methods and has seen greater savings than traditionally achieved using a challenge and analyses approach.



CASE STUDY: SMART METERING

A large scale smart metering project was rolled out across the Dublin Airport campus in 2016 and 2017. The Smart Metering Project comprised installation of a campus wide Energy Management System which also allows third Party tenant access. The smart metering project will facilitate the creation of an energy community within the wider airport as all tenants and concessionaires will have access to the system such that they can monitor their own energy profiles and assess trends. The aim of the project is to monitor energy usage and identify areas for improvement.



Dublin Airport
Aviation Sustainability & Environment Award
IAA Aviation Awards
2016



Dublin Airport Central (DAC)
Excellence in the Environment
Chambers Ireland Corporate Social Responsibility
2017

Dublin Airport Central

Dublin Airport became the first organisation in Ireland to achieve a LEED Platinum sustainability accreditation for the redevelopment of the former Head Office Building of Aer Lingus consisting of 7,500sqm of corporate accommodation over six floors. The prestigious LEED Platinum accreditation was granted in recognition of the implementation of both practical and measurable strategies and solutions intended to deliver the highest levels of sustainability performance across a range of areas including site development, water savings, energy efficiency, materials selection and internal environment quality.

The award-winning refurbishment project, which is now the headquarters building of ESB International, marked the beginning of the Dublin Airport Central development. The next phase of development, consisting of Grade A, LEED Gold targeted commercial office accommodation, and common collaborative parkland commenced in 2017.

Cork Airport

Cork Airport's energy efficiency success is representative of best practice energy management as a result of a continuous performance improvement strategy. A public sector target of 33% energy reduction was set to be achieved by 2020 by all public sector bodies. Cork Airport achieved this target in 2013, seven years ahead of schedule. In 2017, Cork Airport achieved 41.1% reduction in energy consumption compared to the baseline figure which is an average of the 2006 to 2008 usage. Reductions have been delivered by identifying significant energy users (SEUs) and by implementing measures to achieve reductions in energy consumption.

A number of projects have been successfully implemented at Cork Airport, including:

- Installation of motion and lux level sensors
- Installation of energy efficient lighting
- Installation of innovative windspeed and wind direction vane to control heating in the terminal
- Replacement of filters in AHU (Air Handling Unit) units
- Upgrade of demand monitoring
- Implementation of a procurement policy committing to energy efficient equipment purchase

The most significant energy use at Cork Airport is the HVAC (Heating Ventilation and Air Conditioning) system and as such it continues to be a key focus point for energy savings and operational control. Some key improvements included:

- Implementation of CO2 monitoring to regulate supply to various locations around the airport depending on the volume of CO2 (i.e. people) at any given time
- Training of key personnel on BMS (Building Management System) System
- Commissioning of VSD (Variable Speed Drive) motors and reduction of fan speeds across all AHU's
- Upgrade of chilled water (CHW) system controls to minimum requirement of 20%
- CHW System switched off for Winter period
- Boilers switched off for Summer period
- Optimisation of all AHU schedules to minimum requirements

CARBON MANAGEMENT

Both Dublin and Cork airports participate in the Airport Council International's Airport Carbon Accreditation (ACA) scheme, a voluntary scheme developed by airports to map and measure the impact of airport controlled activities in terms of greenhouse gas emissions.

Both airports are certified at Level 2 (Reduction) of the ACI ACA. Between 2011 and 2017, Dublin Airport's footprint decreased by 27% from a baseline of 36,917 tonnes CO₂ in 2011 to 27,018 tonnes CO₂ in 2016. Between 2011 and 2016, Cork Airport's footprint decreased by 24% from a baseline of 5,231 tonnes CO₂ in 2011 to 3,954 tonnes CO₂ in 2016.



AIRPORT CARBON ACCREDITATION SCHEME

Airports Council International launched the voluntary participation Airport Carbon Accreditation scheme in 2009. Dublin and Cork airports were amongst the first airports to join. The programme is specifically designed for airports, and provides a common framework for active carbon management. It covers the operational activities that contribute most to carbon emissions.

In 2015, the programme reached global status with the extension of the programme to the North American, Latin American and Caribbean regions. Currently, 125 airports in over 40 countries across the world have been certified under the programme.

At the COP21 climate change negotiations in Paris in December 2015, the United Nations Framework Convention on Climate Change (UNFCCC) and ACI signed a partnership to further promote climate action through Airport Carbon Accreditation.

WATER

daa has implemented wide-ranging water saving measures and initiatives to ensure continuous improvement and sustained performance in water management.

By specific targeting of infrastructural improvements, technical innovation and staff awareness, Dublin Airport has achieved exemplar performance and represents best practice water management.

Dublin Airport

Dublin Airport's Water Network consists of over 27 kilometres of water pipework providing water to over 160 buildings including the passenger terminals.

DISTRICT METER AREAS (DMA)

The establishment of DMAs has facilitated discrete management of the Campus Water Network and been the primary tool through which savings have been made. The ability to localise and view in real-time the campus water consumption allows early identification of significant users, leakage and unaccounted-for water.

Dublin Airport Water Conservation Initiatives have included:

- District Metering Areas
- Taps: sensors and timers fitted
- Toilet flush: Solenoid valves, sensors and timers fitted
- Staff training/courses
- Leak detection equipment
- Replacement/repair of underground pipework, valves and hydrants
- Auto SMS text alarm systems fitted throughout network to alert the asset care team of unusual demand
- Large scale meter installations
- Monthly reporting of water usage to board level of company
- Staff awareness exhibition and water week campaigns

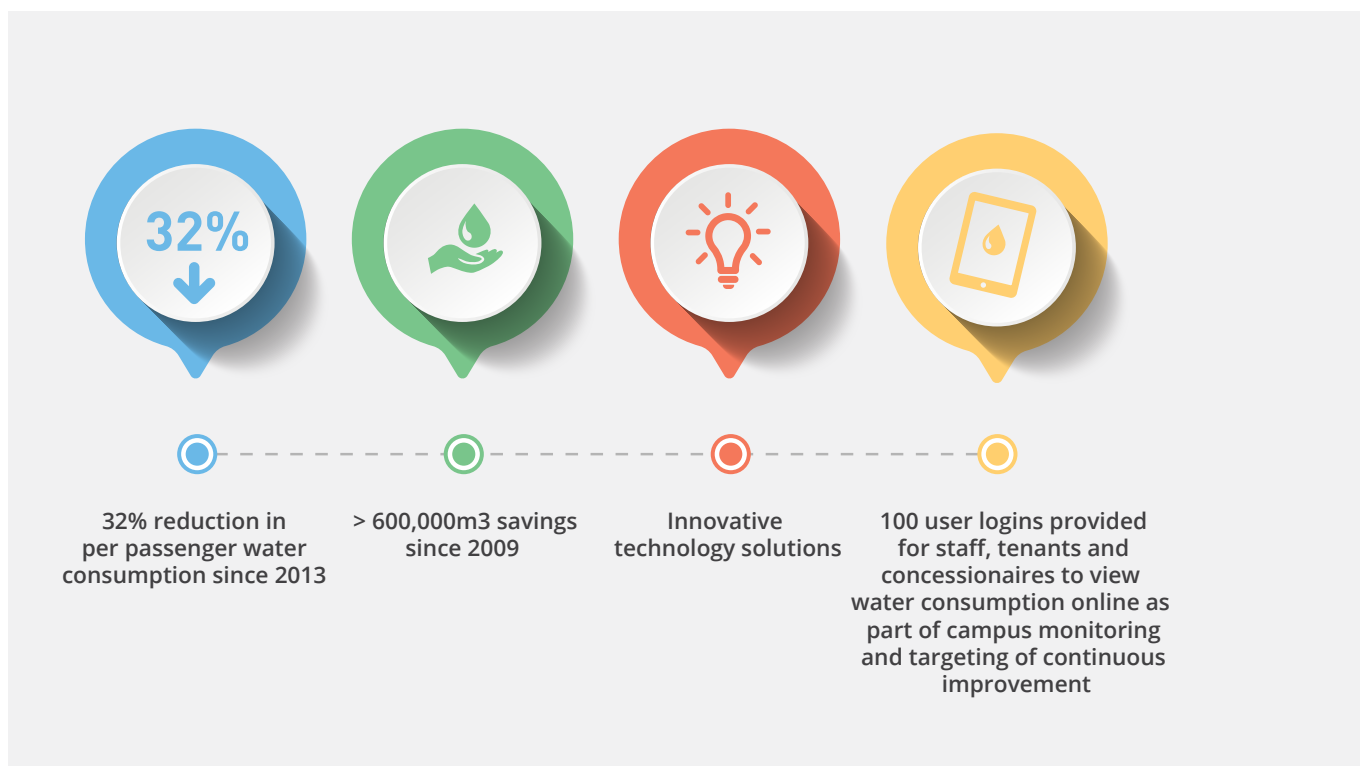


WATER CONSUMPTION PER PASSENGER

A unique opportunity to examine true baseline figures occurs on Christmas Day when operations and staff occupancy are considerably reduced for most of the day. Through targeted efforts, our Christmas Day consumption has reduced by over 66% since 2010.

Water consumption per passenger has reduced from 35 Litres/Passenger in 2012 to just over 19 Litres/Passenger in 2017. Our airport water consumption is amongst the lowest in Europe.

Dublin Airport Water Consumption Achievements



SURFACE WATER MANAGEMENT

Surface water quality around the airports is monitored on an ongoing basis. daa undertakes both biological and chemical monitoring of the watercourses within Cork and Dublin airports.

In Dublin Airport, an online, continuous water quality analyser monitors the quality of the Cuckoo Stream to facilitate a rapid response to any deterioration in water quality. We aim to minimise chemical spillages from aircraft operations through engagement with daa staff and third-party operators, education and awareness. We also operate and maintain an extensive network of pre-treatment infrastructure such as fuel interceptors to capture contaminants in the event of a spill.

WASTE

Growth in passenger numbers inevitably brings an increase in the amount of waste generated at the airport. From 2013 to 2017, passenger numbers increased from 20.17 million to 29.6 million. Waste generated at Dublin Airport increased from 3,220 tonnes to 4,609 tonnes. In 2013, Dublin Airport set a target of achieving zero waste to landfill and in November 2015, that goal was achieved. 2016 was the first full year of sending **Zero Waste to Landfill**. Maintaining our 'Zero waste Waste to Landfill' certification is a key part of the waste management policy at Dublin Airport. Dublin Airport's recycling figures have increased substantially from 11% in 2013 to 40% in 2017 due to the sustained efforts of Dublin Airport's Quality Improvement Team.

Some key activities which have led to the achievement of Zero Waste to Landfill include:

- Design of specific Waste Stream Guidance Manuals for food and beverage concessionaires at the airport
- Training on waste segregation for staff in food and beverage outlets as well as daa's Executive Lounges
- Expansion of the range of bins available to nine different waste stream bins
- Provision of a centralised recycling centre to allow segregation of waste in one dedicated location
- Engagement with suppliers to reduce packaging and procuring recyclable materials as far as possible
- Quarterly green committee meetings, attended by concessionaires, with the purpose of generating innovative ideas on how to reduce waste and costs
- Monthly league tables: each month food and beverage outlets are ranked against one another based on their recycling figures and the results are announced via email and reviewed quarterly at the a quarterly green committee meetings with which is attended by concessionaires

SINCE THE ROLL OUT OF THE TRAINING PACK AND THE LEAGUE TABLES, ONE OF OUR TOP FOOD AND BEVERAGE CONCESSIONAIRES HAS REDUCED ITS GENERAL WASTE OUTPUT BY 25%.

All waste is continuously monitored to ensure that it is segregated into the correct waste stream for either recovery, recycling or reuse. Dublin Airport operates a 'producer pays' model. To incentivise operators to recycle, the disposal of general waste is more expensive.

New Terminal Bins Project

In 2016, Dublin Airport launched new terminal recycling stations in passenger areas of the terminals. The aim is to boost recycling levels for passenger waste. The 90 recycling stations replaced 420 bins which were located throughout the airport.

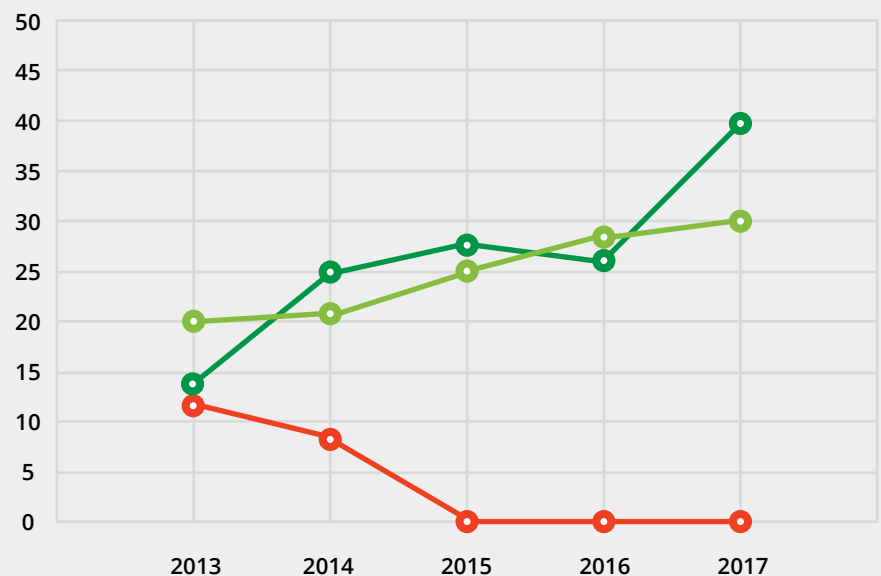
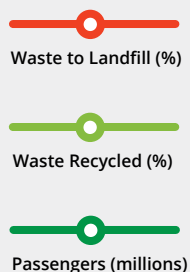
The stations have three waste streams: paper, dry mixed recycling and general waste. In addition to the reduction in waste, the new bin systems are completely bag-less.

Food Waste

Dublin Airport's food waste comes full circle. The food waste generated by Dublin Airport is processed into compost and sent back to the airport's gardening team for use in landscaping.

Since September 2016, we have also donated our compost to community gardens and schools.

Waste Trends 2013 - 2017
Dublin Airport



Cork Airport

Cork Airport continues to focus on increasing recycling by providing staff and passengers with increased opportunities to separate waste at the airport.

Some initiatives include:

- Large recycling stations installed in the passenger pre-screening area
- Additional skips installed in the centralised recycling area
- On-going engagement with stakeholders to generate awareness

Through awareness training campaigns as well as the provision of appropriate waste segregation infrastructure, Cork Airport has been successful in increasing recycling rates. Recycling rates increased to 24% in 2017, an improvement from 20% in 2016 and 19% in 2015.

TRANSPORT

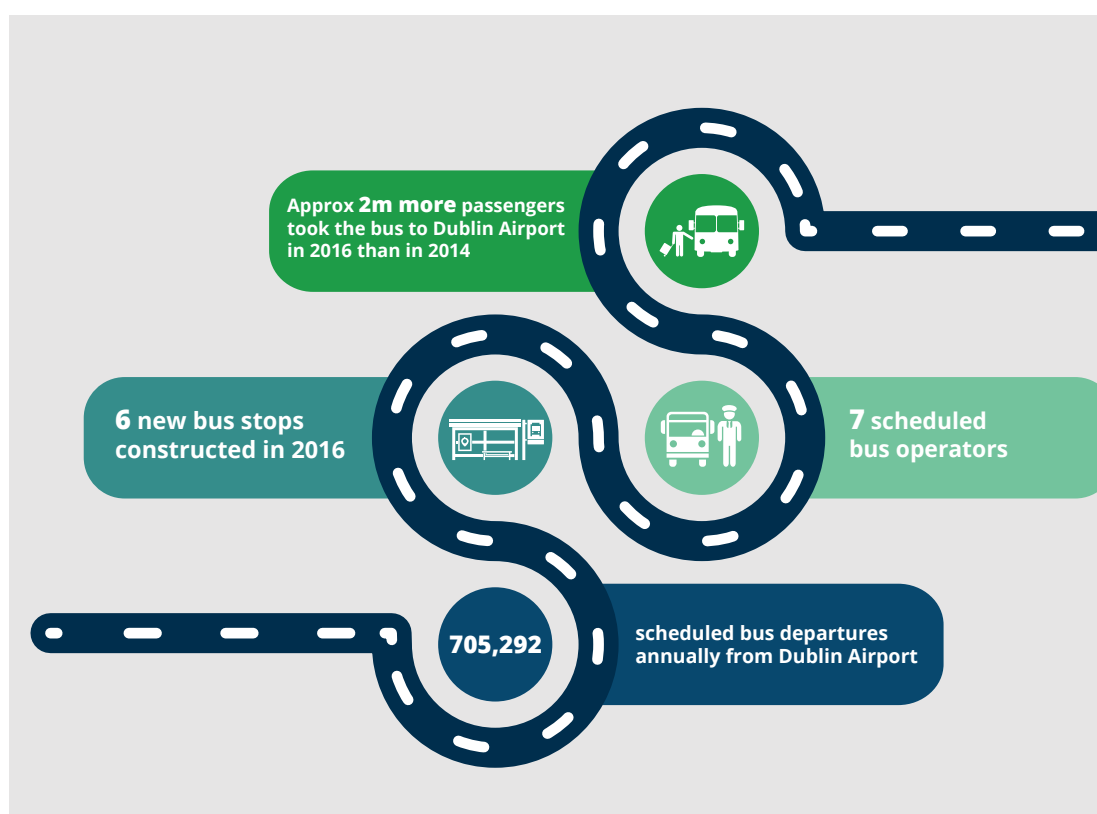
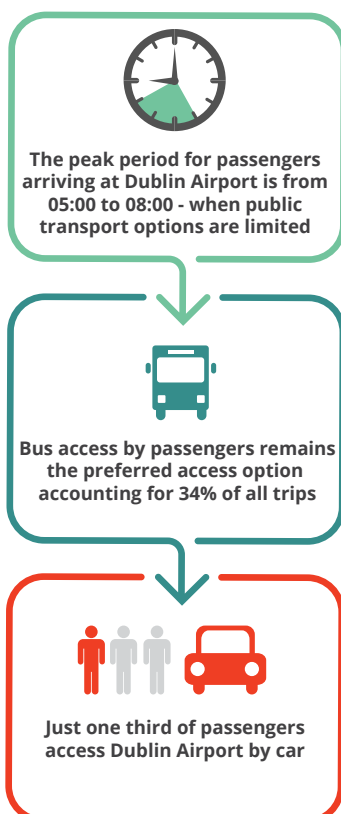
Good surface access is a key priority for daa and we support and encourage uptake of public transport by employees and passengers alike. Through incentives, promotion and improvements to the range of transport choices, we hope to positively influence how people arrive at and depart from our airports – encouraging more sustainable travel choices, reducing congestion and lowering emissions. daa works closely with the National Transport Authority, local authorities and the Department of Transport, Tourism and Sport on all aspects of sustainability in travel and transport.

daa has implemented a variety of measures to achieve sustainable travel choices by employees and passengers. These have included investments in coach parking, bus and cycle lanes and bicycle shelters. daa has actively promoted sustainable transport methods amongst employees by holding promotional events highlighting the benefits of sustainable travel not only for the individual but also for the environment. We seek to influence airline passengers by locating the most popular bus services directly outside the terminal buildings and facilitating real-time information at bus stops.

Influencing modal shift requires a combination of soft and hard measures, including investment. Dublin Airport supports Government plans to deliver a new Metro service as part of a suite of transport measures.

The Dublin Airport Mobility Management Update (MMU) 2017 is a biennial update of Dublin Airport's sustainable surface access plan for passengers and employees. It presents the most recent information on travel patterns to and from the airport and details mobility management initiatives being used in support of sustainable travel patterns. To put the challenge of surface access in context, on the busiest day of 2016, Dublin Airport processed over 100,000 passengers – the equivalent of two Aviva Stadiums (capacity: 51,700).

Some key transport facts about Dublin Airport



Bus Taxsaver Scheme

The Commuter Taxsaver Scheme was introduced in December 2007 for all daa employees. Staff can save up to 52% of the cost of travelling to and from the airport by bus.

Cycle To Work

Over 6km of cycle lanes and 200 bicycle parking spaces have been provided at Dublin Airport for staff and general public use. The Cycle to Work Scheme allows staff members to avail of a reduction of up to 52% on the price of a bike which they use to travel to and from Dublin Airport.

Mobility Week

Dublin Airport marks European Mobility Week annually in mid-September by hosting an event for transport companies which operate at Dublin Airport to promote sustainable transportation. In October 2016, daa's Surface Transport team sponsored a transport conundrum at 'Climathon', a global 24-hour climate change hackathon which takes place simultaneously in major cities around the world. It brings together the challenges of the world's cities with the people who have the passion and ability to solve them. Sustainable Nation Ireland, in partnership with Smart Dublin and daa identified a number of priority climate challenges facing the Dublin Region. The daa-sponsored conundrum centered around Transport/Mobility: How do we support employees to take more sustainable transport options to and from work. Smarter options will be equally applicable to any organisation in Dublin.

Log-On Hop-On

Given the 24-hour nature of Dublin Airport, many employees work outside normal business hours when public transport services are not available. Log-on- Hop-on is shared transport service available to shift workers, running nightly between 10pm and 6am. It operates within a 15km radius of Dublin Airport, with plans for further expanding the service in future. Employees who have purchased tickets, can pre-book the service on the Log-on-Hop-on website, and book a bus to collect them at home or at a local pick up point, and transfer them to Dublin Airport. A similar arrangement is in place for the return journey home.

GOCar

Dublin Airport has partnered with GOCar to provide an employee car sharing service for employees who may need occasional access to cars while in work. It is hoped that this will facilitate employees wishing to commute to the airport by either active commuting or by public transport, but who may require a car during the day for meetings. The initiative allows employees to book a car for set periods, and includes all insurance, fuel, and tax costs, as well as being able to avail of free parking in Dublin City Centre. Currently, there are four GOCar spaces available.

AIR QUALITY

At daa, we are committed to monitoring and reducing our impact on Air Quality. Both Dublin and Cork airports undertake voluntary ambient air quality monitoring programmes. At Dublin Airport, we operate an on-site air quality monitoring station. The equipment measures a range of parameters on a continuous basis. Monthly monitoring is also undertaken at 10 locations in communities surrounding the airport.

Dublin Airport publishes quarterly reports on air quality monitoring to keep our local communities informed. More information on air quality monitoring at Dublin Airport can be found on the Dublin Airport website [here](#).

Monthly air quality monitoring is undertaken at 4 locations within the Cork Airport site. Results from air quality monitoring at both airports indicate good air quality with concentrations of the main transport related parameters well below the national ambient air quality standards requirements (Air Quality Standards Regulations 2011).

daa continues to implement initiatives to further reduce our impact on air quality whilst also improving resource efficiency on site. This includes the use of electric vehicles, fixed electrical ground power, fuel hydrant systems, improved efficiency of boilers and regularly updating and implementing the Mobility Management Plan.



NOISE

Strict rules govern all aspects of aircraft movements in the air and on the ground. The Irish Aviation Authority (IAA) is responsible for all aspects of flight movements and ensuring the highest levels of safety are achieved at Irish airports. daa works closely with the IAA and airlines to constantly heighten awareness of noise abatement procedures in force at Dublin Airport. The Noise Abatement Procedures include the mandatory use of Noise Preferential Routes, which are designed to minimise noise over populated areas where possible. Operational procedures are in place for the use of the cross-wind runway and for engine testing on the ground.

The International Civil Aviation Organisation (ICAO) has endorsed the EU Directive 2002/30/EC concept of a “balanced approach” to aircraft noise management.

This approach incorporates four key elements to the mitigation of noise levels at airports:

- The reduction of noise at source (quieter aircraft)
- Use of land planning and management
- Noise abatement operational procedures
- Operating restrictions

Aircraft noise is measured in decibels (dB). Modern subsonic jets are about 30 dB quieter than their first generation, similar sized counterparts. A sound reduction of 10 dB is roughly equal to a halving of noise volume perceived, this represents about a 90% reduction in perceived noise. All aircraft operating at Dublin Airport conform to ICAO standards with respect to noise, and as older aircraft continue to be phased out, this situation will continue to improve.

daa’s dedicated Noise and Flight Track Analyst carries out detailed monthly analyses of aircraft noise complaints received and provides information on aircraft flight tracking and any noise issues to the local community. Flight track is monitored through a complex computer system capable of tracking all aircraft movements and identifying all aircraft flying ‘on’ or ‘off’ the designated flight tracks. We will continue to assess how best to utilise our systems and procedures to ensure that noise in the community is minimised or avoided where possible. The number of noise complaints rose from 255 in 2015 to 1,003 in 2016 and 1,194 in 2017. The number of individuals complaining rose from 118 in 2015 to 303 in 2016 and 423 in 2017. The increase in the level of complaints in 2016 and 2017 can be attributed to arrivals on Runway 34 which were mainly due to night work on the Runway 10/28 Overlay Project and its resulting non-availability for flight operations.

Aircraft track keeping monitoring in 2017 showed that over 99.3% of all category C/D aircraft flew on track. This figure is improving as airlines introduce more modern aircraft into their fleets with more advanced navigational equipment. On occasion aircraft must be turned out of the environmental corridors for safety and weather reasons, thus it is unlikely that this figure would reach 100%.

DESIGN & CONSTRUCTION

In line with the commitments outlined in our Sustainability Policy, daa is making continued efforts toward the integration of sustainability considerations in the planning, design, procurement and construction of buildings and civil infrastructure. daa implements best practice guidance in the design and operation of Dublin and Cork airport facilities and functions, and where appropriate those of tenants.

Apron 5G

A project to provide much needed additional capacity at Dublin Airport was completed in 2016 with the construction of ten new aircraft parking spaces and three new aircraft taxiing lanes. The project is the largest single capital investment at the airport since the opening of Terminal 2 in 2010. The new apron area, known as Apron 5G, covers 67,500m², equivalent to 15 football pitches. The parking stand project also includes the replacement and upgrading of drainage infrastructure, provision of underground surface water attenuation and storage. These environmental measures will ensure that all surface water run-off from the new parking stands will be collected and released in a controlled and carefully managed way back into the local water system.

Runway Overlay Project

A major overlay to the airport's main runway, which is over 26 years old, also commenced in 2016 to ensure that the runway remains safe for future aircraft operations.

This is a sizeable project which requires a substantial amount of pre-planning and is particularly challenging as the work – which is weather dependent – must take place at night and during a short timeframe to ensure the runway can be reopened for its first wave of airport operations the following morning. The work commenced November 2016 and is due for completion in 2018.

North Runway

The first stages of site works for the new North Runway got underway shortly before the end of 2016. The first package of works includes site clearance, earthworks and a number of road diversions required to build the runway. Consultants InterVISTAS calculate that the North Runway will support the creation of 31,200 new Irish jobs and €2.2 billion in additional economic activity by 2043.







Maintenance and Rehabilitation

Dublin Airport is undertaking works to significantly extend the life of some existing pavement areas. This work, which will run on a phased basis until 2019, will be undertaken so as to minimise waste and ensure resources are used as efficiently as possible. We will be looking at the various recycling options for materials, as this reduces the quantity to be taken off site, increasing the burden on landfills.

Cork Airport

2016 saw the start of a programme of investment in Cork Airport's infrastructure with the installation of a second airbridge, an upgrade of the airport's car parking systems, and the addition of a new state-of-the-art vehicle to the airport's existing fire-fighting fleet.

During 2016, work commenced to significantly improve Food and Beverage offerings for customers with a complete revamp of the food and beverage concessions at the airport. The main food court area has been moved from landside to airside to provide customers with a better range of locally sourced produce in a modern setting. These improvements will enhance the overall customer experience at Cork Airport.

	Airport	2013	2014	2015	2016	2017	Trend 2016 v 2017
	Passengers (millions)						
	Dublin	20.17	21.7	25	27.9	29.6	↑
	Cork	2.26	2.1	2.07	2.23	2.31	↑
	Aircraft Movements						
	Dublin	163,703	174,961	191,234	207,517	215,828	↑
	Cork	20,800	20,005	18,153	19,588	19,490	↓
	Primary Energy (GWh)						
	Dublin	163.4	158.8	156	151	156	↑
	Cork	12.54	11.31	11.7	11.8	12.1	↑
	Total Net Carbon (Tonnes CO₂)¹						
	Dublin	32,467	30,670	30,068	29,483	27,322	↓
	Cork	4,873	4,512	4,806	4,307	4,261	↓
	Total Net Water (m³)						
	Dublin	417,672	286,269	337,225	361,340	369,469	↑
	Cork	54,783	52,110	43,251	49,306	47,290	↓
	Waste (grams per Pax)						
	Dublin	159	149	151	153	156	↑
	Cork	97	102	97	91	90.5	↓
	Recycling						
	Dublin	14	25	28	26	40	↑
	Cork	-	-	19	20	24	↑
	Noise Events						
	Dublin	694	147	277	1003*	1194	↑

1. Figures from the SEAI Measuring and Reporting System

2. Increase due to large number of arrivals on runway 34 due to runway 10/28 overlay works, due to be completed in 2018

