

# RYANAIR GROUP



## AVIATION WITH PURPOSE

### 2023 SUSTAINABILITY REPORT



# Aviation with Purpose

## ENVIRONMENT

### PATHWAY TO



## NET ZERO

 Trinity College Dublin  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin



## PARTNERSHIP



## CUSTOMERS



## SOCIAL



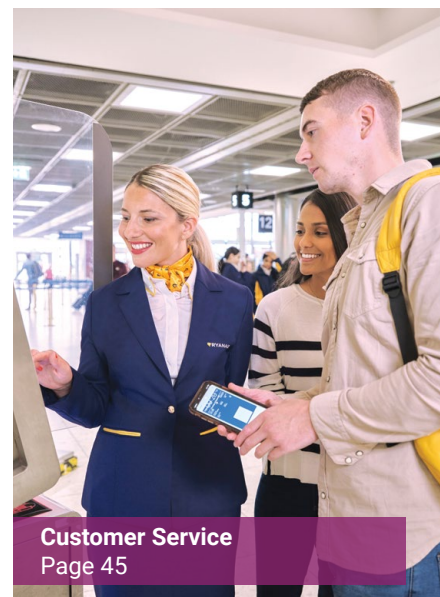
## TRAINING & DEVELOPMENT



## ACCESSIBLE TRANSPORT



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# OUR APPROACH TO SUSTAINABILITY

We support the 2015 Paris Agreement, Destination 2050, the United Nations Global Compact and the 17 UN Sustainable Development Goals. Our 2023 Sustainability Report, *Aviation With Purpose*, communicates updates on our goals, targets and initiatives which support these agendas. This report aligns with our [FY23 Annual Report](#) and should be read in conjunction with it. For more detail on our sustainability strategy, please see the Sustainability section of our [Group Website](#).



# A MESSAGE FROM OUR GROUP CEO



“  
THE MOST SIGNIFICANT ENVIRONMENTAL INITIATIVE RYANAIR CAN DELIVER IS TO PRESS FOR URGENT REFORM OF EUROPE'S LAMENTABLY INEFFICIENT ATC SYSTEM.  
”

Michael O'Leary,  
Group CEO

The past year was another turbulent one. After 2 years during which our business was devastated by the Covid-19 pandemic, our recovery was badly disrupted by Russia's invasion of Ukraine.

Ryanair Group airlines were, almost uniquely, fully staffed for last Summer season, but our on-time performance suffered as security and handling staff shortages at many EU airports caused considerable flight disruptions.

However, taking advantage of our favourable fuel hedges and our capacity growth, Ryanair airlines won significant market share gains by keeping air fares low, while opening 300 new routes and 5 new bases in FY23.

## FY23 HIGHLIGHTS

- In May 2023, Ryanair signed an agreement with Boeing to order [300 new Boeing 737-MAX-10](#);
- We continue to receive delivery of our [Boeing 737-8200 order](#), with this fleet rising to 98 at year end;
- We extended leases on 24 Lauda A320 from 2024 to 2028, realising substantial savings;
- We signed multi-year [SAF agreements](#) with Neste, OMV, Repsol and Shell;
- We continue to work closely with TCD supporting their [Sustainable Aviation Research Centre](#);
- We submitted a [petition to the EU Commission](#), signed by over 1 million of our customers, calling on the EU to protect “overflights” during national ATC strikes;

- We reached an [agreement with most of our people](#), and our trade union partners, to restore agreed Covid pay cuts up to 28 months earlier;
- We [recruited over 3,000 new team members](#) taking year end headcount within the Ryanair Group to over 22,000 aviation professionals;
- We have finalised plans to develop 2 skills centres in Krakow and Madrid.

## CHALLENGES

French ATC strikes continue to bedevil European air travel and the freedom of movement of all EU citizens. It is unacceptable that in the first 6 months of 2023, Europe has suffered 60 days of French ATC strikes without taking action to protect overflights and EU citizens. While we respect their right to strike, it is unfair and unacceptable that France uses minimum service legislation to protect its local and domestic flights, while disproportionately impacting flight cancellations of overflights. The other significant challenge we face is the higher cost of fuel. We were successfully hedged at approx. US\$64bbl in FY23, but our FY24 hedges are over 20% higher at US\$79bbl. We expect our fuel bill (with fleet growth) to jump from less than €4bn in FY23 to over €5bn in FY24.

## OUTLOOK

Ryanair's remaining Boeing 737-8200 deliveries over the next 3 summers, and our new order for 300 Boeing 737-Max-10 aircraft from 2027 to 2033, will ensure that short haul capacity across Europe returns to growth, and the citizens of Europe can look forward to lower fares.

# 300 BOEING 737-MAX-10 AIRCRAFT



In May 2023 Ryanair announced a 300 Boeing 737-MAX-10 aircraft order (150 firm and 150 options) for delivery between 2027 to 2033. This deal is valued at over \$40bn at current list prices and is the largest order ever placed by an Irish Company for US manufactured goods. Given the size and scale of the transaction, it is subject to shareholder approval at Ryanair's 2023 AGM.

The new Boeing 737-MAX-10 aircraft have 228 seats (21% more than the Boeing 737-800NG). This order supports our environmental agenda with the Boeing 737-MAX-10 being 20% more fuel efficient and 50% quieter than the Boeing 737-800NGs. The introduction of these aircraft, coupled with the Boeing 737-8200 "Gamechanger" order, will create more than 10,000 high-paid jobs for aviation professionals including pilots, cabin crew and engineers over the next decade.

Up to 50% of these deliveries will replace older Boeing 737-800NGs, which will allow Ryanair to continue to operate one of Europe's youngest, most fuel efficient, and environmentally sustainable aircraft fleets.



## 20%

more fuel efficient than the Boeing 737-NGs



## 50%

quieter than the Boeing 737-NGs



“

THE BOEING-RYANAIR PARTNERSHIP IS ONE OF THE MOST PRODUCTIVE IN COMMERCIAL AVIATION HISTORY, ENABLING BOTH COMPANIES TO SUCCEED AND EXPAND AFFORDABLE TRAVEL TO HUNDREDS OF MILLIONS OF PEOPLE. NEARLY A QUARTER CENTURY AFTER OUR COMPANIES SIGNED OUR FIRST DIRECT AIRPLANE PURCHASE, THIS LANDMARK DEAL WILL FURTHER STRENGTHEN OUR PARTNERSHIP.”

”

Dave Calhoun,  
Boeing President & CEO



# A MESSAGE FROM OUR DIRECTOR OF SUSTAINABILITY



“

FY23 SAW MEANINGFUL ADVANCES ON OUR PATHWAY TO NET ZERO WHICH IS UNDERPINNED BY THE USE OF SAF AND THE LATEST AIRCRAFT TECHNOLOGY AND ENGINES.

”

Thomas Fowler,  
Director of Sustainability & Finance

We're pleased to present our FY23 Sustainability Report, including our significant ESG achievements and our plans for the future.

In FY23, Ryanair continued to focus on environmental efficiency resulting in our [CO<sub>2</sub> per passenger km](#) dropping to pre-Covid levels despite a summer of ongoing Air Traffic Control (ATC) disruption and lower load factors.

## NEW TECHNOLOGY

We took delivery of a further [37 Boeing 737-8200 "Gamechanger" aircraft](#) which are 16% more fuel efficient, reduce noise by 40% and have 4% more seats. By the end of March, we had 98 of these aircraft in our fleet, and today this stands at over 120.

In May 2023, Ryanair signed a record aircraft order for up to [300 Boeing 737-MAX-10s](#). These fuel efficient, new technology aircraft offer 21% more seats, burn 20% less fuel and are 50% quieter than our Boeing 737-800NGs. This order, coupled with our remaining Boeing 737-8200 deliveries, will create 10,000 new jobs for highly paid aviation professionals over the next decade, and these jobs will be located across all of Europe's main economies where Ryanair is currently the No.1 or No.2 airline.

In H1 FY23, we signed an agreement with Aviation Partners Boeing (APB) to retrofit our 409 Boeing 737-800NG fleet with [split scimitar winglet technology](#). This further reduces carbon emissions and fuel burn by approximately 1.5%, while lowering take off noise by 6.5% and decreasing NOx emissions by 8%.

## SUSTAINABLE AVIATION FUEL (SAF)

Significant progress was made towards reaching our ambitious 2030 goal of powering [12.5% of Ryanair flights with SAF](#). We have recently expanded our SAF partnerships with Neste (Schiphol), OMV (Austria, Germany and CEE) and Shell (in London and Dublin) by announcing a multi-year MOU with Repsol to supply Ryanair bases in Spain.

## ON THE GROUND

On the social side, Ryanair [continues to create and maintain well paid, secured, employment](#). Following a strong H1 performance, Ryanair fully restored pay (some 28 months early) by agreement with our unions for crew on new long-term multi-year pay agreements. Ryanair continues to invest in our people, with 3,500 people recruited across the Group in the past 12 months. [Ryanair Labs](#) is expanding and recently launched a recruitment drive to hire an additional 150 people.

In recognition of these achievements, we have seen our ESG ratings with Sustainalytics, MSCI and S&P Global improve, while maintaining our strong B rating with CDP. Please see [page 7](#) for more details.


I would like to thank all of my colleagues across the Ryanair Group for their enthusiasm and determination in ensuring that we deliver our ambitious ESG targets. I look forward to continuing the hard work during FY24.



# ESG RATINGS & MEMBERSHIPS



We recognise the importance of being active in key forums to drive enhancements in corporate sustainability. Ryanair’s commitment to ESG is reflected in our strong performance on key external indices/rankings.

	2023	2022	2021
 	<b>23.4</b>	<b>23.8</b>	<b>29.6</b>
Scoring/Ranking: Sustainalytics use a 100 – 0 scale, with lower score being better.			
	<b>BBB</b>	<b>B</b>	<b>B</b>
Scoring/Ranking: MSCI use a CCC – AAA scale.			
	<b>44</b>	<b>21</b>	<b>17</b>
Scoring/Ranking: S&P use 0 – 100 scale, with higher score being better.			
	<b>B</b>	<b>B</b>	<b>B-</b>
Scoring/Ranking: CDP use a F – A scale.			

As at 31 March 2023

Members of:



Committed to:



# GOVERNANCE HIGHLIGHTS



## GROUP CEO CONTRACT EXTENSION

During FY23, Michael O'Leary agreed a contract extension as Group CEO which secures his services for our Group until at least July 2028 (was July 2024).

## RYANAIR BOARD COMPOSITION

Julie O'Neill retired from the Board in September 2022. In recent months, 3 new NEDs (Eamonn Brennan, Elisabeth Köstinger and Anne Nolan) joined the Ryanair Board. 38% of the Board are women, above our target of 33%. Dick Milliken, having successfully overseen the rotation of external auditors (from KPMG to PWC) during FY23, has chosen not to seek reelection at the 2023 AGM

## RYANAIR COMMITTEE COMPOSITION

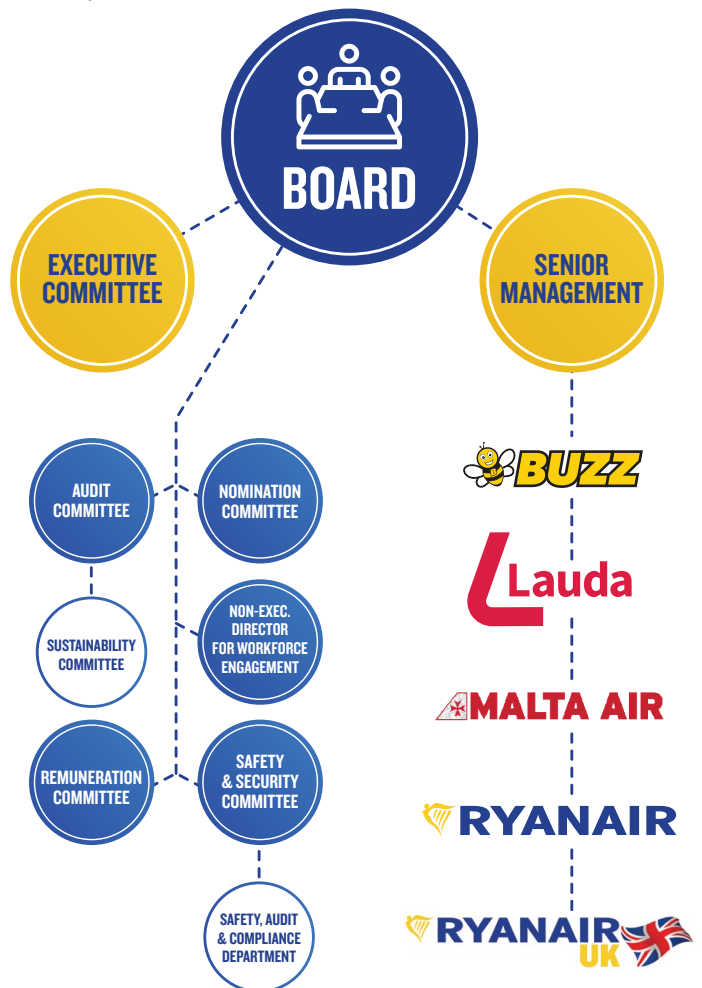
Following the retirement and addition of new Board members, the Chairman recently refreshed the Board's committees. Róisín Brennan was appointed Chair of Remco in September 2022. Geoff Doherty will assume the role of Audit Chair Committee in September, following Dick Milliken's retirement.

Anne Nolan and Elisabeth Köstinger have been appointed to the Nomination Committee. Eamonn Brennan, who has been appointed to Remco and the Safety & Security Committee, also becomes the NED responsible for Workforce Engagement, a role previously filled by Róisín Brennan.

## POLICIES

During the year, Ryanair's Board approved an updated [Code of Business Conduct & Ethics](#) and [Anti-Bribery & Anti Bribery Corruption](#) Policies. These updates reflect changes to EU legislation on whistleblowing protection and data protection.

During the coming financial year, the Board will be presented with the draft Ryanair Supplier Code of Conduct for review and approval. The purpose of the Code is to set the expectations that we have for all Ryanair's suppliers on issues such as environment and energy management, human rights and bribery & corruption.



\* For the Full governance update please see Chairman's Report on [page 2](#) of the Annual Report.

# RYANAIR'S BOARD OF DIRECTORS



Independent: Yes  
Board Tenure: 6 years  
Citizenship: Irish/US  
Committee:  
**E** Executive  
**N** Nomination (Chair)

**STAN MCCARTHY** (NON-EXEC CHAIRMAN)



Independent: Yes  
Board Tenure: 10 years  
Citizenship: Irish  
Committee:  
**E** Executive (Chair)  
**N** Nomination

**LOUISE PHELAN** (NON-EXEC-SID)



Independent: Yes  
Board Tenure: <1 year  
Citizenship: Irish  
Committee:  
**R** Remuneration  
**S** Safety & Security

**EAMONN BRENNAN** (NON-EXEC)



Independent: Yes  
Board Tenure: 5 years  
Citizenship: Irish  
Committee:  
**A** Audit  
**R** Remuneration (Chair)

**RÓISÍN BRENNAN** (NON-EXEC)



Independent: Yes  
Board Tenure: 9 years  
Citizenship: Irish  
Committee:  
**E** Executive  
**R** Remuneration

**MICHAEL CAWLEY** (NON-EXEC)



Independent: Yes  
Board Tenure: 5 years  
Citizenship: Irish  
Committee:  
**A** Audit

**EMER DALY** (NON-EXEC)



Independent: Yes  
Board Tenure: 2 years  
Citizenship: Irish  
Committee:  
**A** Audit

**GEOFF DOHERTY** (NON-EXEC)



Independent: Yes  
Board Tenure: <1 year  
Citizenship: Austrian  
Committee:  
**N** Nomination

**ELISABETH KÖSTINGER** (NON-EXEC)



Independent: Yes  
Board Tenure: 8 years  
Citizenship: Irish  
Committee:  
**E** Executive  
**N** Nomination

**HOWARD MILLAR** (NON-EXEC)



Independent: Yes  
Board Tenure: 10 years  
Citizenship: UK  
Committee:  
**A** Audit (Chair)

**DICK MILLIKEN** (NON-EXEC)



Independent: Yes  
Board Tenure: <1 year  
Citizenship: Irish  
Committee:  
**N** Nomination

**ANNE NOLAN** (NON-EXEC)



Independent: Yes  
Board Tenure: 7 years  
Citizenship: Irish  
Committee:  
**S** Safety & Security (Co-Chair)

**MIKE O'BRIEN** (NON-EXEC)



Independent: No  
Board Tenure: 27 years  
Citizenship: Irish  
Committee:  
**E** Executive

**MICHAEL O'LEARY** (EXEC - GROUP CEO)



Years: 14  
Citizenship: Polish

**JULIUSZ KOMOREK** (COMPANY SECRETARY)

# SUMMARY OF DIRECTOR COMPETENCIES



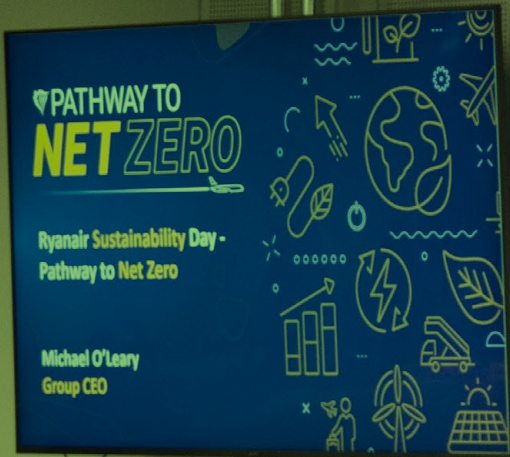
	Aviation & Transport (1)	Accounting, Internal Control & Financial Expertise <sup>(2)</sup>	Safety & Sustainability (incl. climate) (3)	Talent Mgt. <sup>(4)</sup>	Consumer <sup>(5)</sup>	Gov. & Reg. Relations <sup>(6)</sup>	Governance <sup>(7)</sup>	Supply Chain Mgt. <sup>(8)</sup>	IT/Data/ Cyber/ Digital Marketing
<b>Stan McCarthy</b>		▲		▲	▲		▲	▲	
<b>Louise Phelan</b>			▲	▲	▲	▲	▲	▲	▲
<b>Eamonn Brennan</b>	▲	▲	▲	▲		▲	▲		
<b>Róisín Brennan</b>		▲	▲	▲	▲	▲	▲		
<b>Michael Cawley</b>	▲	▲	▲	▲	▲	▲	▲	▲	▲
<b>Emer Daly</b>		▲		▲	▲	▲	▲		
<b>Geoff Doherty</b>		▲	▲	▲	▲		▲	▲	▲
<b>Elisabeth Köstinger</b>	▲		▲	▲		▲	▲		▲
<b>Howard Millar</b>	▲	▲	▲	▲	▲	▲	▲	▲	▲
<b>Dick Milliken</b>		▲		▲	▲	▲	▲		▲
<b>Anne Nolan</b>	▲		▲	▲		▲	▲		
<b>Mike O'Brien</b>	▲		▲	▲		▲	▲		
<b>Michael O'Leary</b>	▲	▲	▲	▲	▲	▲	▲	▲	▲

- 1 Current/previous experience in the aviation or the wider transport industry
- 2 Qualified Accountant or extensive financial and audit experience
- 3 Understanding of the risks, impacts and opportunities of climate change and aviation operational safety & security
- 4 Experience of industrial relations, employment law, talent attraction & retention or other staff issues
- 5 Experience of working in a consumer facing business and/or developing products or services for consumers
- 6 Experience of regulatory affairs and public policy
- 7 Experience of working in and managing an entity in a highly regulated industry
- 8 Experience of sourcing, logistics and procurement



# RYANAIR CLIMATE TRANSITION PLAN

In FY23, we continued to lead sustainable aviation as we progressed on our Pathway to Net Zero.



# PURPOSE

As Europe's largest airline group, Ryanair has an important role in shaping the future of sustainable aviation. We are committed to ensuring that our operations align with global efforts to mitigate the impacts of climate change. To this end, we have developed a comprehensive Climate Transition Plan ("the Plan") that encompasses our approach to reducing carbon emissions through fleet renewal and new technologies, promoting the scaling and use of sustainable aviation fuels, and prioritizing action on climate change across our business.

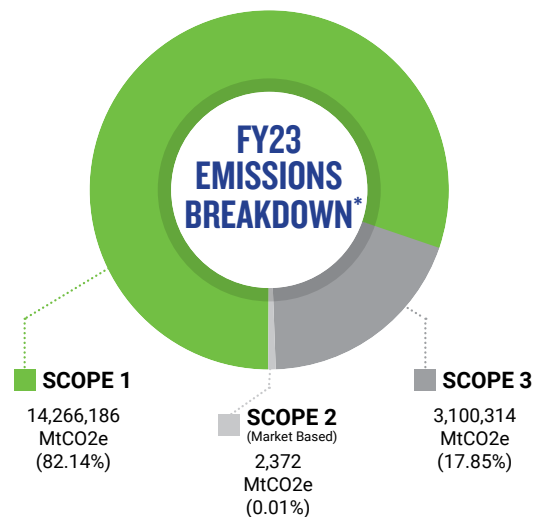
In FY22, Ryanair announced our long-term target of achieving [Net Zero emissions by 2050](#). Ryanair's Net Zero strategy aligns with a transition to a 1.5°C world scenario (global average temperature is limited to 1.5°C above pre-industrial levels) and covers Scope 1, 2 and 3 emissions. On our roadmap to our 2050 goal, the Group has additionally set near-term carbon intensity targets (FY26 and FY31) to ensure progress towards our absolute net zero goal is on track.

The objective of the Plan is to set out the actions Ryanair is taking now and will take in the future so that we can continue to enable people from across Europe to travel for work, leisure and visit friends and relatives while ensuring this takes place in a world where we decarbonise our operations at a pace needed to align with a 1.5°C world. In developing the Plan, the Group will build on our experience in achieving innovative efficiency measures in the past.

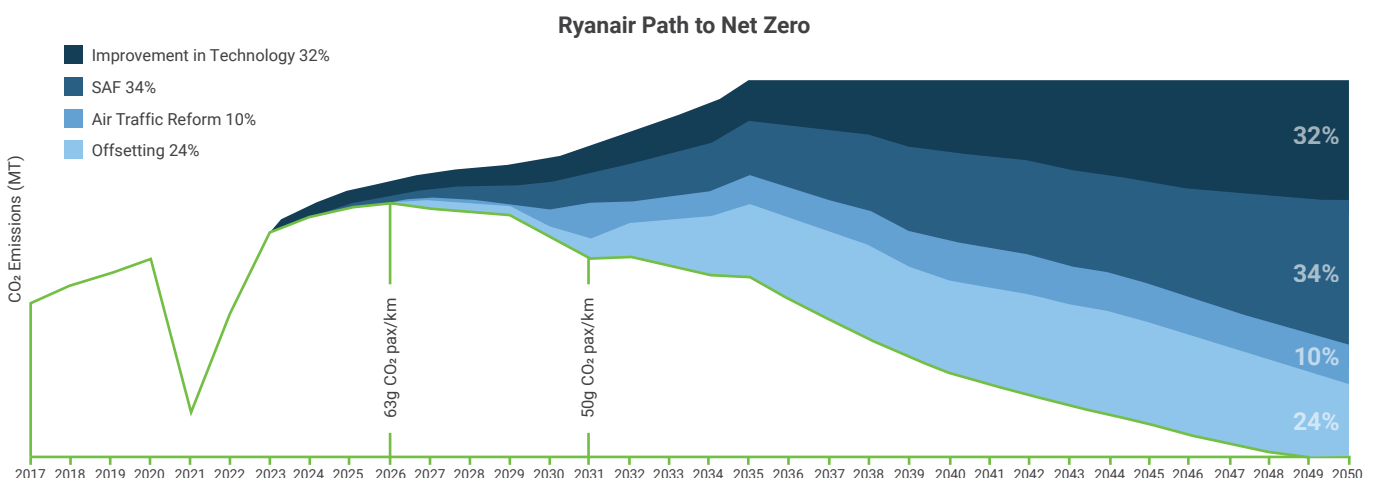
## The Plan aligns with new and existing frameworks which support decarbonisation in aviation:

- The [Fit for 55 European Commission Proposals](#) including Emission Trading System reform and the introduction of EU wide SAF blending mandates;
- The recommendations of the [Task Force on Climate-related Financial Disclosures \(TCFD\)](#);
- EU Taxonomy disclosures;
- [Destination 2050](#) - A route to net zero European aviation.

## RYANAIR'S FY23 ENVIRONMENTAL FOOTPRINT



\* For full emissions breakdown, please see [page 58](#) of this report.



## WHAT IS NET ZERO?

As per the Climate Disclosure Project ("CDP"), "Net zero" refers to the concept of balancing the emission and absorption of carbon in the atmosphere. The outcome of limiting catastrophic climate change requires companies and countries to become net-zero. Ryanair's target is to be Net Zero by 2050.

\*see page 58 for more information

# RYANAIR PATHWAY TO NET ZERO

## SCOPE 1

Ryanair's scope 1 emissions are generated from the use of jet fuel through our flight operations.

# PATHWAY TO NET ZERO

**BUILDING A SAFE AND EFFICIENT FLYING EXPERIENCE TOGETHER**

### OBJECTIVE AND TARGETS

Ryanair's objective is to lead sustainable aviation by improving our emission intensity. In aviation, emission intensity is measured by CO<sub>2</sub> per passenger (pax)/km.

In FY23, our carbon intensity improved to 66g CO<sub>2</sub> pax/km (76g CO<sub>2</sub> pax/km in FY22). A key driver in the improvement in carbon intensity, relates to the addition of 37 new Boeing 737-8200s into the fleet, bringing the total Boeing 737-8200s to 98 at year end. The Boeing 737-8200 aircraft has 4% more seats and uses the latest engine technology (CFM Leap-1B engines) which are 16% more fuel efficient than the previous generation.

The Group is refining our near-term emission intensity target to reflect the ambition needed to meet the transition to a 1.5°C world. Using FY23 as the base year, the Group is targeting a reduction in CO<sub>2</sub> intensity of 25% by the end of FY31 (i.e. c.50g CO<sub>2</sub> pax/km), from a previous target of 10% reduction (i.e. 60g CO<sub>2</sub> pax/km). Additionally, the Group is introducing a new near-term efficiency target to reduce CO<sub>2</sub> per pax/km to 63g by FY26 (5% reduction).

Our long-term target of net zero emissions by 2050 remains unchanged.

### STRATEGY FOR REDUCING SCOPE 1 EMISSIONS

Underpinning our confidence in achieving these goals, is the progress made in increasing our access to significant quantities of SAF over the medium term and our Group's agreement with Boeing for 210 new Boeing 737-8200 aircraft in the period from FY22 to FY25 and 300 new Boeing 737-MAX-10 aircraft from FY27 to FY34.



**AT 31 MARCH 2023, RYANAIR HAD 98 BOEING 737-8200S IN THE FLEET.**

#### Fleet Renewal – Implementing Emissions Reduction Initiatives

Ryanair is renewing its fleet through the future delivery of the Boeing 737-8200 and 737-MAX-10 aircraft (collectively Boeing 737s).

The new Boeing 737s deliver enhanced efficiency, improved environmental performance incorporating advanced technology winglets and efficient engines. They reduce fuel use and emissions by up to 20% while producing a 50% smaller noise footprint than the aircraft they replace.



**WE OPERATE ONE OF THE YOUNGEST FLEETS OF ANY MAJOR EUROPEAN AIRLINE (AVERAGE AGE UNDER 9 YEARS).**



**26%**

**The Group is targeting a 26% reduction in CO<sub>2</sub> intensity by the end of FY31**



## NON-CO<sub>2</sub> EMISSIONS

Estimating aviation’s non-CO<sub>2</sub> effects is a complex challenge. It is difficult to calculate the contributions caused by a range of atmospheric physical processes, including air movement patterns, chemical transformations, radiation, and transport. As a result, non-CO<sub>2</sub> emissions’ precise impact under specific conditions needs to be studied further.

Nevertheless, some of the actions taken by Ryanair, including SAF uptake and use of winglets, are already reducing our non-CO<sub>2</sub> emissions. However, more can be done at regulatory level including the introduction of Single European Skies to identify flight trajectories that minimise the environmental impact of additional fuel consumption against the avoidance of Ice Super Saturated Regions where contrails are formed.



# 66g CO<sub>2</sub>

Carbon intensity improved to 66g CO<sub>2</sub> pax/km



## SCIMITAR WINGLETS

In H1 FY23, Ryanair signed an agreement with APB to retrofit our fleet of 409 Boeing 737-800NGs with split Scimitar Winglets. These Winglets are designed to be as light as possible and reduce drag.



Scimitar winglets improve fuel efficiency by up to 1.5% and reduce take off noise by 6.5% and NO<sub>x</sub> by as much as 8%. At year end FY23, 18 of our aircraft had been retrofitted with these split winglets. The Group is ambitious in the rollout of this innovative technology and is targeting 70+ installations over the coming year.



## RYANAIR - DRIVING THE INCREASED USE OF SAF

Ryanair believes that the use of sustainable aviation fuels (SAFs) is the most realistic and effective method for aviation to reduce emissions in the coming decades. Ryanair expects c.34% of our 2050 net zero target to be achieved through the use of SAF. In order for this to become a reality, barriers to the production of significant quantities of SAF need to be overcome. Ryanair is leading the drive to increase the usage of SAF across Europe. Since we published our 2022 Sustainability Report, Ryanair has signed MOU's for the supply of up to 675,000 mt of SAF (equivalent to approximately 70% of our 2030 target) to be delivered across our key European locations. Multiple production pathways are being explored as part of these agreements, including Co-Processing, HEFA, Alcohol to Jet and Power to Liquid.



# 675,000 mt

Access to 675,000 tonnes of SAF



From Left to Right: Ryanair's Director of Sustainability & Finance, Thomas Fowler, and Group CEO, Michael O'Leary, with Shell's President of Aviation, Jan Toschka and General Manager, Aviation Europe & Africa, Ashleigh McDougall.

### Barriers

#### Limited feedstock availability

Aviation is required to compete for a limited feedstock base with other modes of transport. Biodiesel and renewable diesel will be used to decarbonise road and marine transports.

#### Pricing is uncompetitive

SAF is being commercially produced today (in limited volumes), however, in order to scale more advanced types of SAF, the price gap between SAF and jet kerosene needs to reduce further.

#### Lengthy Certification process

The commercialisation of SAF takes several years to reach the aviation market with high investment costs involved.

### Ryanair actions/view to remove production barrier

Ryanair believes that aviation needs to focus on feedstocks which are proven to be truly sustainable. The research being performed in the Ryanair Sustainable Aviation Research Centre at Trinity College Dublin identifies the greenhouse gas emission savings of different feedstocks used in the production of SAF. See [page 22](#) for further information.

While Ryanair welcomed the release of the draft amendments to Annex IX of the Renewable Energy Directive II as a means to encouraging investment in the deployment of SAFs. SAF production cannot occur at the expense of food supplies or result in deforestation. Ryanair has advocated for the exclusion of palm fatty acid distillates (PFAD) from the list of eligible feedstock under ReFuel EU.

By setting the most ambitious industry target of 12.5% SAF use by 2030, a clear signal has been provided to fuel producers that there is robust demand for SAF from Ryanair.

Ryanair is advocating for financial measures to reduce the price differential with jet fuel through:

- financial support for research and innovation into SAF production
- the use of ETS auction revenue to provide a financial incentive for airlines to uplift SAF (where appropriately funded)
- the use of contracts for difference (where funded fairly) to support the commercialisation of SAF and create price certainty to incentivise further investment

Ryanair is supporting research which seeks to devise pre-screening tools to accelerate certification of early SAF candidates, potentially reducing regulatory barriers (see [page 22](#) for further details).

# POLICY ENGAGEMENT

The Ryanair Group policy positions are aligned with the ambitious 1.5°C environmental targets.



## SCALE UP OF SAF

Ryanair is actively working with the European Commission, national Governments, the Fuelling Flight Project and fuel suppliers to encourage government support of investment in SAF and to incentivise its use. We support, and have signed up to, the Fuelling Flight Project and want to see the introduction of policies which promote sustainable fuels and therefore reduce aviation's climate impact, helping us to reach our net-zero carbon emissions target by 2050.

The Group welcomes the SAF blending mandates as outlined in the EU Fit for 55 proposal, and has encouraged decision makers to ensure that only truly sustainable SAFs will be distributed in the EU.

## AIR TRAFFIC MANAGEMENT REFORM

Ryanair has been a long-time advocate of the "Single European Sky" project. The much needed and overdue reform of ATM in Europe can dramatically reduce CO<sub>2</sub> and non-CO<sub>2</sub> emissions from aviation. A more efficient ATM network would result in a 10% reduction in carbon emissions and bring us closer to our goal of net-zero carbon emissions by 2050.

In FY23, Ryanair launched a petition seeking support from EU citizens for EU legislation aimed at protecting 100% of 'overflights' during times of national ATC strikes, modelled on national laws protecting overflights in Spain, Italy and Greece. An overflight is a flight over a particular airspace, which does not take off from or land at any airport within that airspace.

By enabling overflights during strike action, additional emissions could be eliminated where currently aircraft are forced to fly longer to avoid the closed airspace.

Well over 1m people had signed and supported our "PROTECT PASSENGERS – KEEP EU SKIES OPEN" petition when we presented the petition to the European Commission in May 2023. We called for legislation based on the following principles:

- Respect the strike rights of ATC unions, but;
- Protect 100% of overflights during national ATC strikes;
- If ATC strikes require cancellations, then allocate these to domestic/short-haul flights to/from the affected State;
- Enforce binding arbitration for ATC disputes before strike action;
- Require a 21-day notice of strike action;
- Require a 72 hour notice of employee participation in ATC strikes to minimise passenger disruption.

## ETS REFORM

Ryanair is active in highlighting the climate-negative impacts of the European Commission's proposal to continue the unjustified exemption of long-haul flights from EU Emissions Trading System (ETS) beyond 2026. Continuing with the limited scope of the ETS (i.e., covering intra-EU flights only) means that over 50% of European aviation emissions - generated by just 6% of flights (long-haul) - are not accounted or paid for under the scheme. Together with the environment NGO Transport & Environment, Ryanair continues to promote the extension of the EU ETS to all flights departing from an EEA airport.



# SCOPE 2

Ryanair's Scope 2 emissions relate to the energy use in office buildings in Ireland, Malta, Poland and Spain.

These emissions also include our hangars in Austria, Germany, Ireland, Italy, Lithuania, Poland, Spain and the UK. In FY23, we announced new engineering facilities in Ireland, Italy, Lithuania and Malta.

## OBJECTIVE AND TARGETS

Our near-term targets are to reduce Scope 2 absolute emission by 35% by 2030 and 100% by 2040.

<b>WE SAID:</b>	 <p><b>35%</b> IN FY22, WE ESTABLISHED AN ABSOLUTE SCOPE 2 EMISSIONS REDUCTION TARGET OF 35% BY 2030.</p>
<b>IN FY23:</b>	 <p>WE USED GREEN CERTIFIED ELECTRICITY IN ALL OUR DUBLIN BUILDINGS AND OUR HANGARS IN SEVILLE, STANSTED AND VIENNA.</p>

## STRATEGY FOR REDUCING SCOPE 2 EMISSIONS

The Group ensures that support buildings are as energy efficient as possible. The management of our Dublin campus and supporting buildings maintained their certification with ISO 14001, 45001 and 9001 standards.



Announcement of a new €40m aircraft maintenance facility in Dublin.

# SCOPE 3 VALUE CHAIN

The largest component (95%) of scope 3 emissions is the transport and extraction (well to tank) of jet fuel. Additionally, aircraft manufacturing, airport emissions (including handling) and retail products sold on board constitute the majority of the Group's scope 3 emissions.

## OBJECTIVE AND TARGETS

Our near-term target is to reduce non-fuel scope 3 absolute emission by 50% by 2030. In the long term, our target is to reduce all scope 3 emissions to zero.

WE SAID:

50%

IN FY22, WE ESTABLISHED AN ABSOLUTE NON-FUEL SCOPE 3 EMISSIONS REDUCTION TARGET OF 50% BY 2030, TO ENCOURAGE OUR SUPPLIERS ON THEIR PATHWAY TO ACHIEVE NET ZERO EMISSIONS.

IN FY23:



40% OF DIESEL GROUND HANDLING EQUIPMENT USED BY RYANAIR HAS BEEN REPLACED WITH ELECTRIC ALTERNATIVES

## STRATEGY FOR REDUCING SCOPE 3 EMISSIONS – VALUE CHAIN ENGAGEMENT

Ryanair's draft Supplier Code of Conduct outlines the expectation that our suppliers have a net zero carbon reduction strategy and associated climate targets. Ryanair management has ongoing engagement with our suppliers, ensuring environmental considerations are factored into long term strategies.

### Fuel Extraction and Transport

By setting ambitious targets for SAF usage, well in excess of regulatory mandates, Ryanair has signalled to our key fuel suppliers that a market demand exists to invest in new refining infrastructure and technologies required to scale up SAF production.

Our near-term FY31 emission intensity target is related to jet-fuel usage and includes Scope 3 Well to tank emissions. We are targeting a 25% reduction.

### Airports

Over 70% of our flights are to airports that have set a net zero goal. We engage with our airport partners to ensure future aviation infrastructure demands will be met. More and more of the airports that Ryanair flies to are increasing their use of electric ground handling with 40% of the diesel ground handling equipment in Ryanair's Spanish locations being upgraded with electric alternatives.

### Customer Engagement

In April 2023, we conducted a customer survey which found that 35% of Ryanair's Irish and UK customers are aware of our environmental sustainability initiatives. We will track this on an annual basis with the aim of increasing awareness amongst our customers by a further 2% in FY24 (Goal: 37% awareness).



70%

Over 70% of our flights are to airports that have set a net zero goal

# ACTION PLAN TO REDUCE EMISSIONS

## Scope 1

Pathway	% 2050 Target	Field	Objective	Indicator	Metrics/Actions in FY23
Technological Improvements	32%	Fleet renewal	210 Boeing 737-8200s in the fleet by FY25 and 300 Boeing 737-MAX-10s in the fleet by FY34 while retiring older aircraft	# of latest generation aircraft in the fleet	Took delivery of 37 Boeing 737-8200s (98 total delivered)
		New Technologies	Fit scimitar winglets on Boeing 737-800NG fleet by 2026	% fuel reduction (Fuel efficiency relative to pre fitting)	Signed an agreement to retrofit 409 Boeing 737-800NGs with Scimitar winglets saving up to 1.5% fuel
		LTO cycle efficiency	Continue to operate Single Engine Taxi In (SETI) at 100% of airports where taxi time permits	% of SETI flights	Operated 77% of flights on SETI
			Use Continuous Descent Approach on all flights where air traffic management allows	% of CDA flights	Used Continuous Descent Approach on c. 80% of flights
Sustainable Aviation Fuel	34%	Use of alternative fuels (low carbon product)	Power 12.5% of flights using SAF by 2030	% of SAF used	Increased access to SAF in future periods through MOU's with Shell, Repsol and OMV
			Obtain sufficient SAF quantities in line with EU mandates post 2030		Powered 100% of flights from Amsterdam with Neste SAF from April 2023 (40% blend)
			Help scale SAF production through the funding of research into feedstocks and certification		
			Support the the Ryanair Sustainable Aviation Research Centre at Trinity College Dublin in its research into sustainable aviation. See <a href="#">page 22</a> for more information		

## Scope 1

Pathway	% 2050 Target	Field	Objective	Indicator	Metrics/Actions in FY23
Single European Sky Initiative	10%	In-flight efficiency	Successfully lobby the European Commission and European countries to liberalise airspace to facilitate a Single European Sky	NA	<p>Launched an EU wide petition calling on the EU to protect overflights in the event of ATC strike action</p> <p>Hosted 'Europe's Journey to Sustainable Aviation' in the European Parliament with Boeing and ENAV</p>
Carbon Removals	24%	Removal projects	Achieve net zero emissions by 2050 through progressive offsetting and removal projects	% emissions offset	Extended partnership with Portuguese reforestation partner (Renature Monchique)
<b>Total</b>	<b>100%</b>				

## Scope 2

Pathway	% 2050 Target	Field	Objective	Indicator	Metrics/Actions in FY23
Energy Efficiency	100%	Renewable Energy	Scope 2 absolute emission reduction of 35% by 2030	% of green energy used	Certified Green electricity used in our Dublin buildings our hangars in Seville, Stansted and Vienna

## Scope 3

Pathway	% 2050 Target	Field	Objective	Indicator	Metrics/Actions in FY23
Supply Chain Engagement	100%	Vehicle Electrification	Non-fuel scope 3 absolute emission reduction of 50% by 2030	# of e-turnarounds	Handling partners increasing their use of electric vehicles as part of turnaround
		Fuel (Well to tank) emissions	In line with scope 1 targets	% of SAF used	<p>Increased access to SAF in future periods through MOU's with Shell, Repsol and OMV</p> <p>Powered 100% of flights from Amsterdam with Neste SAF from April 2023 (40% blend)</p>

# RYANAIR SUSTAINABLE AVIATION RESEARCH CENTRE, TRINITY COLLEGE DUBLIN (TCD)

In December, Ryanair hosted its first Sustainability Day in TCD to showcase the work we are supporting through the Ryanair Sustainable Aviation Research Centre. We also used the day to share our Pathway to Net Zero.

Over 100 attendees (including investors, financiers, regulators, politicians and academics) heard from Ryanair; fuel supplier, Shell; engine manufacturer, Safran; Aircraft manufacturer Boeing; airport partner, Manchester Airport Group and TCD thought leaders about what needs to be done to make aviation more sustainable.



## RESEARCH UPDATE

### SAF embodied CO<sub>2</sub> life cycle analysis

The results show that the feedstock saves c. 73% - 82% CO<sub>2</sub>, relative to use of conventional Jet-A1 regardless of the location in which the used cooking oil was sourced. However, the location of where the used cooking oil feedstock is sourced is important as it can impact the CO<sub>2</sub> savings by as much 20%. The TCD team recommend sourcing the SAF feedstock as close to point of use as is possible. These findings were presented at the American Chemical Society's meeting in March 2023.

### SAF pre-screening tools

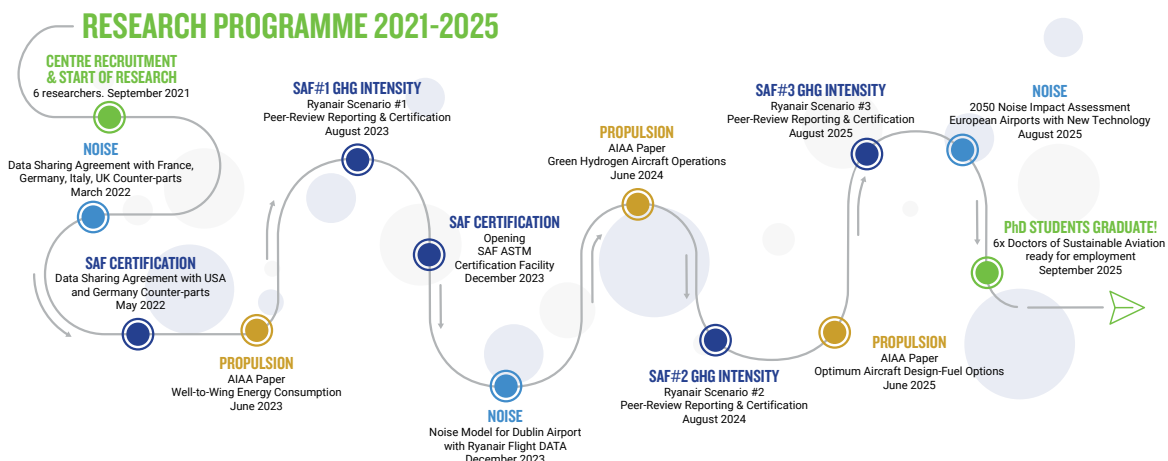
The results of the first pre-screening tool for accurate prediction of SAF certification show that the viscosity of SAF candidates can be accurately predicted on the basis of nuclear magnetic resonance scanning at the <1g scale. This compares favourably to the current necessity to use several litres of SAF for conventional viscosity measurements as producing large volumes of SAF is barrier to market entry.

### Propulsion

A preliminary validation of the aircraft design environment aircraft model, SUAVE, comparing fuel burn predictions against the actual data from commercial flights has been completed. An improvement of this model has been implemented by integrating the Numerical Propulsion System Simulation (NPSS) aeroengine modelling system into the overall aircraft model, improving the accuracy to within 4%. The results of this work have been submitted for publication as a research paper at the AIAA Aviation Forum.

### Noise

A model of Dublin Airport has been developed to simulate aircraft movements and predict future scenarios. The model includes the impact of the new North runway and can estimate population exposure to noise. Using this model, fleet makeup can be manipulated to display potential situations and improvements. The airport's noise footprint, and thus the area and population affected by aircraft noise, is modelled. The work has been presented at the leading international noise control conference, Internoise, in both 2022 and 2023.





# CLIMATE GOVERNANCE



## BOARD & AUDIT COMMITTEE

Ryanair's Board has ultimate oversight and responsibility for the Group's climate transition plan, strategy in achieving sustainability goals and climate-related risks and opportunities. The Board and Audit Committee receive quarterly updates on Ryanair's climate related risks and performance from our Director of Sustainability & Finance and Group CFO.

Ryanair's Group CEO is a member of the Board. He has responsibility for all climate-related issues because his position oversees the strategy, objectives, opportunities and long-term planning of the Group. This ensures climate related considerations are truly integrated into business governance and strategy.

The Board self-assess their skills set against key requirements including climate change. As part of this process, they state whether they have the competence "understanding of the risks, impacts and opportunities of climate change". 10 members of the Board are deemed to have competence on climate-related issues. (See [page 10](#) more information).

## SUSTAINABILITY COMMITTEE

The Sustainability Committee is an Executive/ Management level committee that meets monthly. The Sustainability Committee is chaired by the Director of Sustainability and it is responsible for the day-to-day identification, assessment and management of climate-related risks and opportunities.

The Sustainability Committee covers all airlines within the Ryanair Group and includes members from multiple areas within the organisations including Finance, Operations, Engineering, IT and Sustainability. The Sustainability Committee was first established in 2010 and has delivered meaningful emission reductive projects such as the implementation of the single engine taxi in policy and introduction of dynamic flight plans.

Together, Committee members integrate Ryanair's sustainability goals with our business' and regulatory demands. These initiatives are then rolled out to the wider Group. The Sustainability Committee maintains an effective and continual dialogue with the Board and stakeholders (via the Group CFO and the Director of Sustainability & Finance).

## SUSTAINABILITY TEAM

Ryanair's Sustainability Team is responsible for the day-to-day management and delivery of the Group's sustainability strategy and targets. The team reports to the Group CFO with a dotted line to the Board and Audit Committee. The Sustainability Team are members of the Sustainability Committee and provide weekly and monthly emission intensity analysis to executives and senior management. The team is also responsible for procuring SAF blends in line with the targets set by the Board and executive management team. The Sustainability Team ensure compliance with carbon trading schemes, most notably, the EU & UK Emission Trading System and CORSIA. Monitoring of emission savings of new projects implemented by the Sustainability Committee is performed by the Sustainability Team with regular updates provided to the Committee.

## ENTERPRISE RISK REGISTER

Key risks, including climate related risks, are analysed as part of a semi-annual review of the Group Enterprise Risk Register (ERM). Climate-related risks, along with associated plans to mitigate such risk, are assessed, scored and highlighted to the Audit Committee and the Board. Climate related risks are identified through scenario analysis, horizon scanning and ongoing industry scrutiny.

# ACCOUNTABILITY

## CORPORATE SUSTAINABILITY REPORTING DIRECTIVE ("CSRD")

The Group's transition plan is subject to robust monitoring and reporting with the Audit Committee and Board receiving at least quarterly updates on progress towards carbon intensity targets from the Director of Sustainability. In FY25, the Group will be required to comply with the CSRD. Through this regulation, enhanced reporting and monitoring of progress towards climate change targets as well as the policies and actions to support the transition will be required.

## SENIOR MANAGEMENT REMUNERATION

Senior management's short and long-term variable pay is linked to the Group's ESG performance. The current KPIs includes key environmental targets (such as the achievement of a CDP 'A' rating).

## INVESTOR FEEDBACK

Direct feedback from shareholders on Ryanair's Climate Transition Plan (CTP) is received as part of ongoing shareholder engagement including:

- Ryanair holds an annual Corporate Governance Forum for shareholders. The Forum is led by our Senior Independent Director (SID) and includes a formal update from the Director of Sustainability & Finance on progress towards our CTP.
- In December 2022, Ryanair hosted its first Sustainability Day in Trinity College Dublin. The session was interactive with attendees engaging and challenging panel members. See [page 22](#) for more information.
- Ryanair senior management undertake at least two extensive investor roadshows annually. In addition to financial updates, sustainability matters are discussed including progress towards procuring sufficient quantities of SAF and investment in latest technology aircraft to meet our climate transition ambitions.
- There is an annual investor meeting with our Chairman and SID, attended by Ryanair's Director of Sustainability & Finance, post the Group AGM.

# STRATEGY

The Ryanair Group's long-term strategy identifies climate change as a key area that will impact the business going forward. Short and medium-term risks and opportunities are addressed on an ongoing basis by the Ryanair Sustainability Committee and Sustainability Team who ultimately report to the Audit Committee and Board.

In FY22, the Ryanair Group published its Pathway to Net Zero – a detailed plan on where it aims to achieve its emissions reductions. This pathway forms a key pillar of our ongoing Group strategy. Emission reductions will come from:

- 32% technological and operational improvements;
- 34% Sustainable Aviation Fuel (SAF);
- 10% Single European Sky initiative; and
- 24% carbon offsetting.

Ryanair's Net Zero strategy aligns with a transition to a 1.5°C world (global average temperature is allowed to rise by no more than 1.5°C above pre-industrial levels) and covers Scope 1, 2 and 3 emissions.

The aviation industry conducted a feasibility study\* "Destination 2050" of reaching Net Zero emissions by 2050. This study demonstrates that reaching net zero emissions in aviation is possible. Key challenges are recognised in reaching these long-term goals (as outlined in the below 'Transition Risk: Market' section) most notably around the inability to obtain sufficient quantity of SAF.

Within the disclosures ([page 27](#)), Ryanair recognised that transition risk costs will arise. The Group has a strong history in maintaining a young, fuel efficient fleet. Any breakthrough in new technology engines, will be procured as part of ongoing fleet renewal. This is not expected to be outside the normal course of fleet renewal. Additionally, while sustainable aviation fuels currently trade at a premium of 2x - 4x compared to normal jet kerosene, the long-term outlook is for price convergence. There are a number of policies under review which reduces the existing price divergence (e.g. as part of the Emission Trading System reforms, airlines will be awarded free ETS allowances where SAF has been uplifted). Any and all firm commitments regarding climate change transition are recognised within respective Going concern or impairment assessments.

\*[https://www.destination2050.eu/wp-content/uploads/2021/03/Destination2050\\_Report.pdf](https://www.destination2050.eu/wp-content/uploads/2021/03/Destination2050_Report.pdf)

## APPLYING CARBON PRICING

As part of the Group's forecasting and budgetary processes, carbon pricing is a key consideration in determining the merits of new fuel efficiency projects, recent examples include:

- fleet renewal/purchasing;
- the use of new technology software to reduce fuel burn;
- the retrofit of the fleet with split scimitar winglets;
- in assessing the SAF premium as part of the decision to uplift SAF, the cost of carbon is a key input to the financial analysis.

Intra-European flights are required to adhere to the Emission Trading System whereby emissions on these flights are subject to the Cap and Trade scheme. As c. 85% of Ryanair flights are in scope for ETS, the ETS price is the most effective carbon price and is the price used internally as part of decision making. This price has traded in a range of c.€70 - €100 per CO<sub>2</sub> tonne in the last year.

As part of the identification of climate related risks and opportunities, climate scenario analysis was conducted. Key focal questions were asked under each scenario to assess potential climate impacts on strategy including the price of carbon (further details outlined in Risk Management section). See [page 26](#) for more information.

## OTHER ENVIRONMENTAL NEWS

### AIRCRAFT NOISE

In FY23, 100% of Ryanair aircraft complied with ICAO 10-decible criterion. The introduction of over 120 new Boeing 737- 8200's ahead of peak summer 2023 will maintain this high standard with operational noise emissions reductions of up to 40% compared to the Boeing 737-800NG and the retrofit of the Boeing 737-800NGs with Scimitar winglets will also reduce take off noise by approximately 6.5%

### BIODIVERSITY AND COMMUNITY IMPACT

Following extensive internal and external engagement with our stakeholders, biodiversity is not a material issue for Ryanair. However, one of the key impacts an airline has on biodiversity is the noise its aircraft emit. The impact of noise may, potentially, be a threat to some species. Ryanair's new fleet of Boeing 737-8200s produce 40% less noise emissions than previous generations.

### WATER

Following extensive internal and external engagement with our stakeholders, water management is not a material issue for Ryanair. We monitor our usage and undertake a process of remediation if excessive water usage is identified in any of our locations.



# RISK MANAGEMENT

The Group's Enterprise Risk Register exercise ("ERM") assesses risks based on a matrix of the likelihood of occurrence and potential financial or operational impact to the Group. Climate related risks are integrated into the ERM. The likelihood assessment categorises the probability of occurrence between five parameters – (i) Rare <10% chance; (ii) Unlikely 10% - <30% chance; (iii) Possible 30% - <60% chance; (iv) Likely 60% - <90% chance, and (v) Almost Certain > 90% chance. The five impact assessment parameters are assessed against the impact on operations including safety and customer service and the business model. The parameters are: (i) Minor – minimal impact, (ii) Limited impact, (iii) Moderate impact, (iv) Major impact, and (v) Catastrophic impact. Ryanair deems substantive financial risks as those that would result in a major or catastrophic impact on business operations and are assessed to have a probable likelihood of occurring. The results of the ERM is reviewed by both the Audit Committee and the Board. Resolution of these matters requires Board approval.

## RYANAIR METHODOLOGY FOR RISK MANAGEMENT

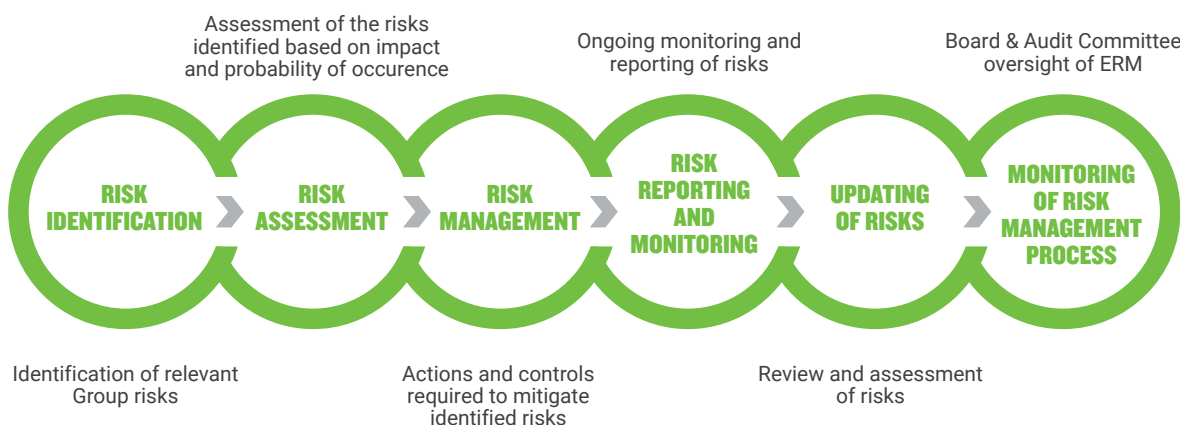
Ryanair has conducted a scenario analysis to assess the potential impact in 2030 and 2050 based on the IEA Net Zero Emissions (NZE) Scenario and also on a high emission scenario based on the IPCC RCP 8.5 scenario. The NZE is aligned with limiting the increase in temperature to 1.5°C, whereby temperatures peak by 2050 before declining. In the high emission scenario, temperatures are 'as likely as not' to exceed 4°C by 2100. The scenarios are supported by assumptions around energy markets and commodity pricing, policy choices, GDP and population growth.

In both of these scenarios, focal questions were discussed across internal stakeholders to the potential climate related impact and associated effect on business strategy. These focal questions centred around carbon and fuel pricing, potential and future new technologies, demand for aviation travel, regulation and chronic risks that impact on aviation.

This analysis helped the Ryanair Group identify short, medium and long-term climate-related physical and transition risks. These risks are an inherent part of operating in the airline industry with their impact being assessed through the Group ERM. Upstream climate risks are also raised with the sustainability committee. The potential quantitative financial impact is assessed using forecasting scenario analysis. All risks including those related to climate change are identified through the Group's ERM. The register highlights the risks, their likelihood of occurring and impact with associated risk mitigation.

## RESULT

The result of the scenario analysis show that in the high emission scenario, the Group would face increased fuel costs and lower demand due to a poorer economic outlook. Also extreme weather events are more likely to occur resulting in operational disruptions. In the NZE scenario, costs associated with higher CO<sub>2</sub> pricing and SAF usage would impact the Group. Under both scenarios, Group operations are flexible and resilient and continues investing in the latest aircraft and engine technology. To the extent that the results of scenario analysis impact on financial planning and operating plans, the Board assess the drivers and impact.



## Inability to meet mandated SAF blending

Medium Term

Long Term

### Climate-Related Risk description

Currently SAF availability represents a small percentage of the aviation industry's needs. The cost of SAF, depending on the feedstock and country of uplift, can be up to four times the cost of normal jet kerosene. There is a risk through prohibitive pricing or lack of availability that the Group cannot meet mandated SAF blending requirements.

This risk is most impactful on strategy in NZE scenario.

### Potential strategic/Financial impacts

Increased costs for SAF or potential noncompliance penalties resulting in lower earnings. As part of the EU ETS reform for aviation, SAF ETS allowances will be rewarded where SAF is uplifted. By having a strong relationship with leading SAF producers, Ryanair can reduce its ETS exposure.

### Mitigating actions/Opportunities

Ryanair has bi-lateral agreements in place with a number of SAF suppliers. These agreements allow Ryanair to access SAF at our key airport locations. These agreements are in place with Shell, OMV, Repsol and Neste. Together, with expected mandates, these will deliver approximately 70% of Ryanair's SAF use Goal (12.5% by 2030).

Ryanair and Trinity College Dublin - Sustainable Aviation Research Centre partnership raised awareness of supply issues as part of the December 2022 Sustainability Day (see [page 22](#) for details) along with the work performed by TCD to identify early SAF feedstock candidates. By using SAF, GHG reductions will decrease which will reduce ETS and CORSIA compliance costs.

## Changing customer behaviour away from aviation

Long Term

### Climate-Related Risk description

There is a reduced demand for flights with customers switching to rail or holidaying at home.

This risk is impactful on strategy in both NZE and high emission scenario.

### Potential strategic/Financial impacts

Potential loss of revenue.

### Mitigating actions/Opportunities

By Ryanair positioning itself as the leader in sustainable aviation there is an opportunity that passengers will switch from less efficient legacy airlines to flying with Ryanair. Ryanair has established an ESG Communications Working Group so key stakeholders throughout the Group, such as Head of Communications and Head of Public Affairs, are fully briefed on our activities and communicate them to key external stakeholders including media, NGO's and public officials.

## Inability to access financing

Long Term

### Climate-Related Risk description

The EU Taxonomy is classifying what sustainable activities are, with the aim of directing finance towards them. As the aviation sector was excluded from the first climate delegated act, the sector may find it difficult to attract funding for investments.

This risk is most impactful on strategy in NZE scenario.

### Potential strategic/Financial impacts

Potential for higher financial costs or inability to fund major Capex effectively.

### Mitigating actions/Opportunities

The Group has a strong balance sheet, net cash, almost 100% unencumbered assets, BBB+ (stable) investment grade credit ratings and strong ESG ratings which facilitates funding requirements.

## A reduction in asset valuations

Long Term

### Climate-Related Risk description

The resale valuation of the Ryanair fleet decreases due to fuel efficiency expectations.

This risk is most impactful on strategy in NZE scenario.

### Potential strategic/Financial impacts

Reduction in asset valuations/ accelerated depreciation resulting in lower earnings.

### Mitigating actions/Opportunities

Ryanair maintains a young, fuel efficient fleet and closely monitors external valuations to optimise sales. Ryanair is currently undergoing a programme of retrofitting split scimitar winglets on the Boeing 737-800NG fleet. This technology improves fuel efficiency by approximately 1.5%.

The Boeing 737-800NGs are the logical choice for the cargo industry to reflect and reduce their carbon footprint with more efficient CFM 7B engines, keeping valuations up.

The global shortage of new aircraft due to supply chain and OEM delivery delays increases the value of our Boeing 737-800NG fleet.

## Costs to transition to lower emissions technology

Long Term

### Climate-Related Risk description

The Group has set the goal of reaching net zero emissions by 2050. The pathway to reaching net zero requires certain enhancements in new technologies which will reduce emissions. There is a risk that the cost of this new technology may be prohibitive.

This risk is most impactful on strategy in NZE scenario.

### Potential strategic/Financial impacts

Higher Capex spend and lower earnings.

### Mitigating actions/Opportunities

Ryanair has had a long-standing strategy for fleet modernisation (as seen through the order for 210 Boeing 737-8200s in the period from FY22 to FY25 and 300 new Boeing 737-MAX-10s from FY27 to FY34) supported with strong cashflows, investment grade ratings and access to capital markets. Today Ryanair's average fleet age is just 9 years.

New technologies will be more fuel efficient, delivering ongoing operational cost savings. An example is Ryanair's decision to retrofit 409 Boeing 737-800NG aircraft with split scimitar winglets. These winglets provide an emission reduction benefit of approximately 1.5%.

Ryanair has partnered with TCD to establish the Ryanair Sustainable Aviation Research Centre to research improved aircraft technology for the future.

## Increased consumer concern

### Climate-Related Risk description

Public concern about climate change may lead to reputational risks to Ryanair. If Ryanair is not perceived (regardless of whether it is) to be addressing its role in addressing climate change customers may choose to book with other airlines/ other forms of transport that are perceived to be more proactive. These risks are identified by the Sustainability Team and Marketing Department by monitoring consumer opinion to climate change.

This risk is impactful on strategy in both NZE and high emission scenario.

### Potential strategic/Financial impacts

Reluctance to fly results in lower revenue.

## Medium Term

## Long Term

### Mitigating actions/Opportunities

There is an opportunity to enhance the Groups reputation and brand value as a carbon efficient airline Group. With a fuel efficiency of 66grams of CO<sub>2</sub> per pax/ km, the Group is a leader in the industry for fuel efficiency where switching to Ryanair from a legacy carrier reduces a passenger's carbon footprint by up to 50%.

By offering customers the opportunity to offset their emissions through the Ryanair Customer Offset Scheme, carbon conscious customers can fully offset their emissions when they fly. Our offsetting programmes include the methane capture and electricity production in Bulgaria, the Kartaldagi wind power plant project in Turkey, distribution of cookstoves in Nepal (all Gold Standard projects). Additionally, Ryanair supports reforestation in Portugal – through the sponsoring of the Monchique project.

Ryanair is also actively investing in R&D in this area (e.g. TCD partnership – “Ryanair Sustainable Aviation Research Centre” – see [page 22](#).) The Group's environmental credentials are strong.

In FY23:

- Ryanair sent a commitment letter to SBTi for the verification of our CO<sub>2</sub> reduction targets;
- Sustainalytics score improved;
- MSCI upgraded our rating to BBB;
- CDP rating was “B”.

Positive momentum with the Group's environmental credentials is expected to continue as management long term and annual remuneration is linked to environmental targets. Ryanair has established an ESG Communications Working Group so key stakeholders throughout the Group, such as Head of Communications and Head of Public Affairs, are fully briefed on our activities and communicate those to key external stakeholders including media, NGO's and public officials.

**Increased carbon pricing and aviation taxes**

Long Term

**Climate-Related Risk description**

There is a risk that the increased cost of compliance with Fit for 55 (FF55) regulation including carbon pricing and aviation taxes will make travelling by air in the European Union expensive.

This risk is most impactful on strategy in NZE scenario.

**Potential strategic/Financial impacts**

Increased operating costs and lower passenger revenues.

**Mitigating actions/Opportunities**

As a fuel-efficient airline Group, the change in legislation should be less impactful on Ryanair than on other airlines. This presents a competitive advantage whereby the cost gap between Ryanair and competitors operating on similar routes widens. Ryanair has the lowest cost per passenger (ex-fuel) of any major European airline, giving it a significant competitive advantage. This, coupled with its leadership in carbon reduction, ensures that Ryanair's fares will be the lowest in the market, a key competitive advantage over higher cost airlines.

**A ban on short haul travel**

Medium Term

**Climate-Related Risk description**

There is a risk that legislation is passed in certain jurisdictions that places a ban on sectors below a certain distance.

This risk is most impactful on strategy in NZE scenario.

**Potential strategic/Financial impacts**

Potential loss of revenue on short haul.

**Mitigating actions/Opportunities**

The Group has very little exposure to sectors that can be easily replaced by other modes of transport. Ryanair operates on routes with an average sector length of over 1,300km and over water (even domestic routes such as the Balearic Islands, Canary Islands, Sardinia, Sicily, etc.) which means switching to rail is not viable. Group assets are highly mobile (aircraft) and can be moved so they can serve other markets (peripheral regions/islands). Lowest cost producer of a seat (cost per pax).

**Rising temperatures and sea levels**

Long Term

**Climate-Related Risk description**

Chronic physical risks such as higher average temperature could potentially lead to lower load factors due to performance restrictions. As some of the airports Ryanair operate to are on coastal areas, a rise in sea level due to higher temperatures could make the risk of flooding higher. If these airports closed due to flooding, it may result in Ryanair cancelling flights/closing bases and as a consequence change public willingness to travel to these locations.

This risk is most impactful on strategy in high emission scenario.

**Potential strategic/Financial impacts**

Lower revenue as a result of cancelled flights.

**Mitigating actions/Opportunities**

The Group predominantly flies within Europe which even under extreme weather conditions should not result in significant engine performance restrictions.



**Increased severity of extreme weather events such as wild-fires, cyclones and floods**

Long Term

**Climate-Related Risk description**

The occurrence of extreme weather events and the resulting cancellations due to the closure of airports could also have a material adverse effect on the Group's financial performance indirectly, as a consequence of changes in the public's willingness to travel within Europe due to the risk of flight disruptions. Local impacts such as fires/drought impact on the attractiveness of the Group network.

This risk is most impactful on strategy in high emission scenario.

**Potential strategic/Financial impacts**

Operational disruption and potential revenue loss. Costs of delays and operational disruption including turbulence.

**Mitigating actions/Opportunities**

The Group uses dynamic flight plans to respond rapidly in order to avoid potential weather events. Group assets are highly mobile (aircraft) and can be moved and so are not subject to acute risks associated with coastal flooding or tropical cyclones.

**Inability to source key supplies due to climate change.**

Long Term

**Climate-Related Risk description**

Value chains are exposed to acute climate change from higher temperatures or a reliance on fresh water (inadequate supply).

This risk is most impactful on strategy in high emission scenario.

**Potential strategic/Financial impacts**

The cost of key supplies increases resulting in lower earnings.

**Mitigating actions/Opportunities**

The Group engages a wide range of suppliers and can manage developments by switching supply lines should constraints/disruptions arise. Ryanair is the lowest cost operator which is a key competitive advantage over higher cost airlines/ forms of transport.

Ryanair consider short term time horizons to be between 0 and 3 years, medium term horizons as 3 to 10 years and long-term goals to be beyond 10 years. Short term risks are those that have the potential to disrupt the Group's three-year financial outlook. Medium term risks represent a longer timeframe in which the regulatory environment evolves, the competitive landscape changes and customer preferences have the potential to shift. All of which impact on the business plan and operations. Longer term risks are those that potentially impact on the Group's competitiveness through demographic and economic shifts and advancements in engine and airframe technology. Consideration is given to both the average age of the fleet (approximately 9 years) and the useful life (up to 25 years) of aircraft in setting this time horizon.

# SOCIAL

FY23 saw us grow beyond pre-pandemic levels. From ground to air, our people were ready to help our customers return to the skies.



**⚠ DANGER**  
Prohibitively unsafe.  
Prohibitively unsafe.  
Prohibitively unsafe.  
Prohibitively unsafe.  
Prohibitively unsafe.

# OPERATIONAL SAFETY & SECURITY

Safety and security is Ryanair's number 1 priority.



## SAFETY ALERT

In FY23, Ryanair launched its safety communications app "Safety Alert" for pilots. This app allows us to address/highlight urgent issues and communicate with our people.

## SAFETY MANAGEMENT SYSTEM

Ryanair's Safety Management System provides a platform end-to-end management of our safety and operational processes and includes processes for effective documentation, information gathering and audit.

The industry leading software is used by airlines throughout the world and is certified to the below standards:

- ISO 9001:2015;
- ISO 14001:2015;
- ISO 27001:2013;
- ISO 45001:2018.

The information is then analysed to help to better understand where the risks are (safety issue identification), determine the nature of these risks (Risk Assessment) and verify if the safety actions are delivering the needed level of safety (performance measurement).

## DATA4SAFETY

Ryanair is a founding member of Data4Safety (D4S). D4S aims to support the management of safety risks at European level by collecting information such as safety reports (or occurrences), flight data (i.e. data generated by the aircraft via the Flight Data Recorders), surveillance data (air traffic data) and weather data.

## INTERNAL SAFETY AWARDS

Each year, Ryanair hosts its internal safety awards. These awards are given to Crews and team members who have gone above and beyond in their duty to ensure an exceptional level of safety.

## EMERGENCY RESPONSE PROGRAMME

Ryanair's Chief Operating Officer is its Crisis Director. The Crisis Director is responsible for Ryanair's internal policy that helps it prepare, respond and investigate flight emergencies. This policy lays out the responsibilities and procedures to deal with stakeholders and includes key contact points to raise issues of concerns. Our pilots and cabin crew are required to receive safety and emergency procedures training every 12 months.



# 38+

Ryanair has not had a single staff or customer fatality in its 38+ year operating history

# TRAINING & DEVELOPMENT UPDATE

Training is at the forefront of the employee experience at Ryanair and our people have access to state of the art training facilities. Our pilot and cabin crew training facilities in Ireland, Italy and the U.K. are strategically located and house advanced technology flight simulators and Cabin Emergency Evacuation Trainers (CEET).

## CEFA AVIATION

In FY23, Ryanair announced a 5-year partnership extension with CEFA Aviation. CEFA is an ISO 27001 certified leader in flight safety and pilot training software and services. The partnership sees CEFA provide cloud-based mobile service for Ryanair's industry-leading pilot training programmes.



## FY23

In FY23 Ryanair announced a 5-year partnership extension with CEFA Aviation

Ryanair was the first airline in Europe to introduce this breakthrough pilot training innovation with the only app in the world allowing pilots to replay their flights on their tablet after landing. This helps pilots achieve competency earlier by allowing them to review their flights outside the cockpit.

## SAMPLE CAREER PATH = NEW CABIN CREW TO CUSTOMER SERVICE SUPERVISOR

With Ryanair's growth trajectory, the most motivated and hard-working cabin crew have the best opportunity to advance in the industry. In FY23, almost 1,500 crew successfully completed the training and qualified to operate as a Customer Service Supervisor also known as a "Number One" which is the senior cabin crew member on our flights.



**6 WEEK SAFETY & SERVICE TRAINING COURSE**



**ANNUAL LINE CHECK ON BOARD**



**MINIMUM 12 MONTHS LINE OPERATION**



**INTENSIVE THEORY TRAINING CLASSROOM AND E-LEARNING**



**3 DAYS OF PRACTICING THE ROLE**



**3 DAYS OF CHECKS**

# ATTRACTION & RETENTION

Ryanair recruited over 3,000 new people last year and has over 22,000 aviation professionals looking after our customers.



We closely monitor turnover and gather insights through exit interviews, employee engagement sessions and benchmarking to enable us to address any concerns and implement retention measures.

## RYANAIR LABS

In November 2022, Ryanair announced a major recruitment drive to fill over 150 tech roles for Software Development, Business Intelligence professionals, Security, Infrastructure & Operations, Project Planning & Delivery and Quality Assurance Engineers. These important hires will help Ryanair deliver even more cutting edge projects, emerging technologies and driving digital transformation for Europe's No.1 airline Group as it grows to carry approximately 300m passengers per annum by 2034.

## FAST TRACK RECRUITMENT

During FY23, Ryanair responded to competitor closures by setting up a fast-track recruitment process for those affected. Recruitment focussed on all roles at Ryanair including Flight Crew, Cabin Crew, Engineers, Ground Staff and support teams.

## RECRUITMENT DAYS

We continue to host open days and attend industry specific events throughout Europe to showcase Ryanair as an employer of choice. Over the past 12 months, we hosted over 100 Cabin Crew recruitment events, visited more than 30 pilot flight schools, 10 universities and hosted 3 on-site tech open days in Dublin, Madrid and Wroclaw. We also held an open day in Dublin and attended numerous industry events including the Pilot Expo in Berlin, Pilot Careers Live and The Irish Students Aviation Society Annual symposium.



“

FEEDBACK FROM MY ENGAGEMENTS WITH OUR AVIATION PROFESSIONALS WAS PROVIDED TO THE BOARD TO ENSURE THE EMPLOYEE VOICE IS REFLECTED IN THE BOARDROOM. THANKS ARE DUE TO ALL THOSE WHO PARTICIPATED IN THESE SESSIONS AND SHARED THEIR VIEWS. THE COMMITMENT AND PROFESSIONALISM OF THOSE I HAVE MET IN THIS ROLE IS ABUNDANTLY CLEAR.

”

Róisín Brennan,  
Non-Executive Director  
for Workforce Engagement throughout FY23



## Fast-track

Ryanair responded to competitor closures by setting up a fast-track recruitment process

# LABOUR RELATIONS



At the outset of the Covid-19 pandemic, Ryanair and its union partners negotiated agreements to protect crew jobs via temporary pay cuts which were to be gradually restored from 2022 to 2025. These agreements successfully delivered job security through the 2 years of the Covid pandemic, as Ryanair maintained not only the jobs but also the licences of our crews. This investment positioned Ryanair as the best prepared airline for the post-Covid traffic recovery. By keeping our crews "current", and recruiting early, Ryanair avoided the crew shortages which caused so many competitor cancellations and disruptions in summer 2022. Since spring 2022, we have worked with our union partners to negotiate accelerated pay restoration as part of long-term deals on pay and rosters which run until 2026 or 2027.

The remainder of Ryanair's people not covered by collective bargaining agreements include management and support teams.

Following the Group's strong H1 FY23 financial and operational performance, Ryanair brought forward the full restoration of pay for all crews covered by these long-term agreements to December 2022 (approximately 28 months early).

These long-term pay agreements with the vast majority of our people have now delivered restored pay 28 months earlier than previously agreed, and they will also deliver annual pay increases from 2024 until 2026 as we create thousands of new, well-paid crew jobs and grow traffic to 225m p.a. by FY26 and 300m p.a. by FY34.



“

**THESE NEGOTIATED AGREEMENTS DELIVER EARLY PAY RESTORATION AND ONGOING PAY INCREASES OVER THE NEXT 4 YEARS AS WE CONTINUE TO GROW, WHICH ALLOWS FOR RAPID PROMOTION AND UNRIVALED CAREER DEVELOPMENT OPPORTUNITIES FOR RYANAIR'S PEOPLE**

”

**Darrell Hughes,  
Chief People Officer**



**95%**

**Over 95% of our pilots and cabin crew are covered by long term agreements**

# ENGAGEMENT



Ryanair crew celebrating at the Annual Cabin Crew Awards Ceremony (the Oscars)

## FLEET HUB

In FY23, Ryanair launched a new, content rich internal network, *Fleet Hub*. Fleet Hub is an internal social network that allows the Group to update our people and allows our entire network create channels for sharing of information. It gives our people direct access to senior management with a mix of business and social content that promotes our philosophy of open and direct communication.



**FLEET HUB POSTS  
OVER 7,000**

## WORKFORCE ENGAGEMENT

There have been 5 Workforce Engagement meetings between April 2022 and March 2023. Representatives from across the network including pilots, cabin crew, engineering, ground operations, Dublin Airside Office and Labs took part in detailed seminars with Ryanair Non-Executive Director for Workforce Engagement, Róisín Brennan, who updated the Board directly. Eamonn Brennan, who recently took over this role from Róisín, attended his first workforce engagement meeting in April 2023.



**FLEET HUB COMMENTS  
27,000**



**FLEET HUB LIKES  
193,000**

## RYANAIR CABIN CREW AWARDS

The Ryanair Annual Cabin Crew Awards Ceremony (the Oscars) is a 2-day crew event to reward the top performing crew across the network. Last year the event took place in Athens with over 150 top performing crew attending. This event included a product tradeshow, gala dinner, and awards ceremony. This is the biggest cabin crew event of the year and provides the Group with an opportunity to recognise and thank cabin crew for their good work.



**FLEET HUB IMPRESSIONS  
7.8M**

As at 31 May 2023

# INCLUSION, DIVERSITY & EQUALITY

We are extremely proud to have a diverse mix of 22,000 people in our team representing over 70 nationalities.



## INCLUSION & DIVERSITY COMMITTEE

FY23 saw the activities of our Gender, Diversity & Inclusion Committee ramp up. Made up of employees from across the network including Senior Leaders such as Ryanair DAC's Chief Financial Officer (Tracey McCann), Deputy Director of Inflight (Thomas McLoughlin) and the Director of HR (Lorna Reynolds), this committee is responsible for promoting and supporting diversity in the workforce.

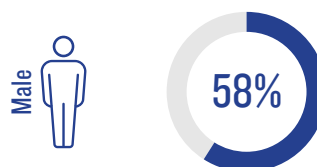
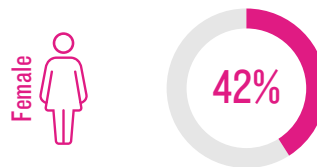
FY23 saw our Gender, Diversity & Inclusion Committee introduce new initiatives to help promote and encourage diversity, equality and inclusion in Ryanair such as increased involvement in Pride events and initiated a renew of uniform and grooming policy to support gender diversity.

## INCLUSION & DIVERSITY TRAINING

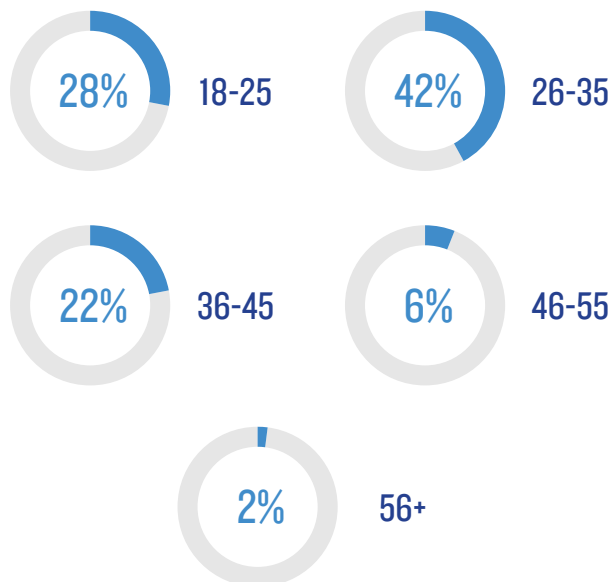
In FY23, we launched inclusion and diversity training. This training focusses on the importance of empathy in the workplace and how different people and cultures may respond to different interactions. It also focuses on the role that unconscious bias can play in everyday life. The training aims to leave all our people asking themselves if their words are true, helpful, inspiring, necessary and kind.

This training will be rolled out to existing and new employees.

## TOTAL NUMBER OF EMPLOYEES 22,000+



## AGE BREAKDOWN





### INTERNATIONAL WOMEN'S DAY

This year's International Women's Day campaign – *The Sky's No Longer The Limit* - was inspired by the statistic that only 7% of pilot applicants are women but with an 85% success rate, the opportunity for an amazing career is there for those who apply.

A lack of visible role models can often be a barrier for young women to consider a career in aviation. We want even more female pilots to join Ryanair, so this International Women's Day, we launched our 2023 Role Models Roadshow for schools, where young women can hear from our female pilots and women right across our business who have built their career in Ryanair.

By May 2023, over 300 schools had signed up across Ireland, Italy and Spain.



ZERO LIMITS | RYANAIR | INTERNATIONAL WOMEN'S DAY 2023



ROLE MODELS ROADSHOW | RYANAIR



# ZERO LIMITS

SO WHAT'S STOPPING YOU?



# BOOSTING ECONOMIES

## RYANAIR'S ECONOMIC IMPACT

During FY23, Ryanair celebrated its unmatched contribution to Ireland's economy over the past 35 years. An independent report, prepared by international consultants, demonstrated that Ryanair is one of Ireland's largest contributors to economic growth and development since 1985.

Our contribution to Ireland includes supporting:

- guests to spend over €1.5bn p.a. in Irish economy;
- over 26,000 Irish jobs annually;
- 200 routes from 7 Irish airports, carrying 20m passengers p.a.;
- flying over 230m passengers to/from Ireland since 1985.

Similar reports were prepared to celebrate our 20th anniversaries flying to Italy, Portugal and Spain.

## ERASMUS STUDENT NETWORK

In FY23, we announced the sixth year of our Erasmus Student Network (ESN) partnership, which helps students to travel at the lowest fares to their European exchange projects. This partnership offers Erasmus students a dedicated ESN booking platform on the Ryanair.com website, where they can avail of 10% flight discounts on four one-way flights (or 2 roundtrips) and a free 20kg checked-in bag with every flight booked.



“

RYANAIR IS ONE OF THE WORLD'S MOST INNOVATIVE AIRLINES AND A FORMIDABLE IRISH COMPANY. IT DEMOCRATISED FOREIGN TRAVEL ACROSS EUROPE, MAKING OVERSEAS HOLIDAYS AFFORDABLE FOR MILLIONS OF PEOPLE. WE CAN BE PROUD OF RYANAIR AS AN IRISH COMPANY AND AS A DRIVING FORCE FOR CHANGE. THEY LED THE WAY WITHIN THE EU WITH ONLINE BOOKING AND CHECK-IN, DIGITAL TICKETING, AND RADICAL NEW PRICING MODELS. AS AN ISLAND, WE RELY HEAVILY ON OUR CONNECTIVITY WITH EUROPE AND THE INBOUND TOURISM IT BRINGS.

”

Leo Varadkar,  
An Taoiseach  
(Ireland's Prime Minister)



Juan Rayón González,  
President of ESN  
2021/2023

“

FINANCIAL BARRIERS REMAIN THE BIGGEST OBSTACLE FOR STUDENTS TO PARTICIPATE IN EXCHANGE PROGRAMS. OUR PARTNERSHIP WITH RYANAIR HAS HELPED FINANCIALLY PRESSED STUDENTS TO MAKE THE MOST OUT OF THEIR EXCHANGES

”

# RYANAIR'S OPERATIONS

AS AT 30 JUNE



**91**  
BASE  
AIRPORTS



FLIGHTS TO/FROM  
**228**  
AIRPORTS



SERVES  
**36**  
COUNTRIES



530 BOEING  
28 AIRBUS  
AIRCRAFT



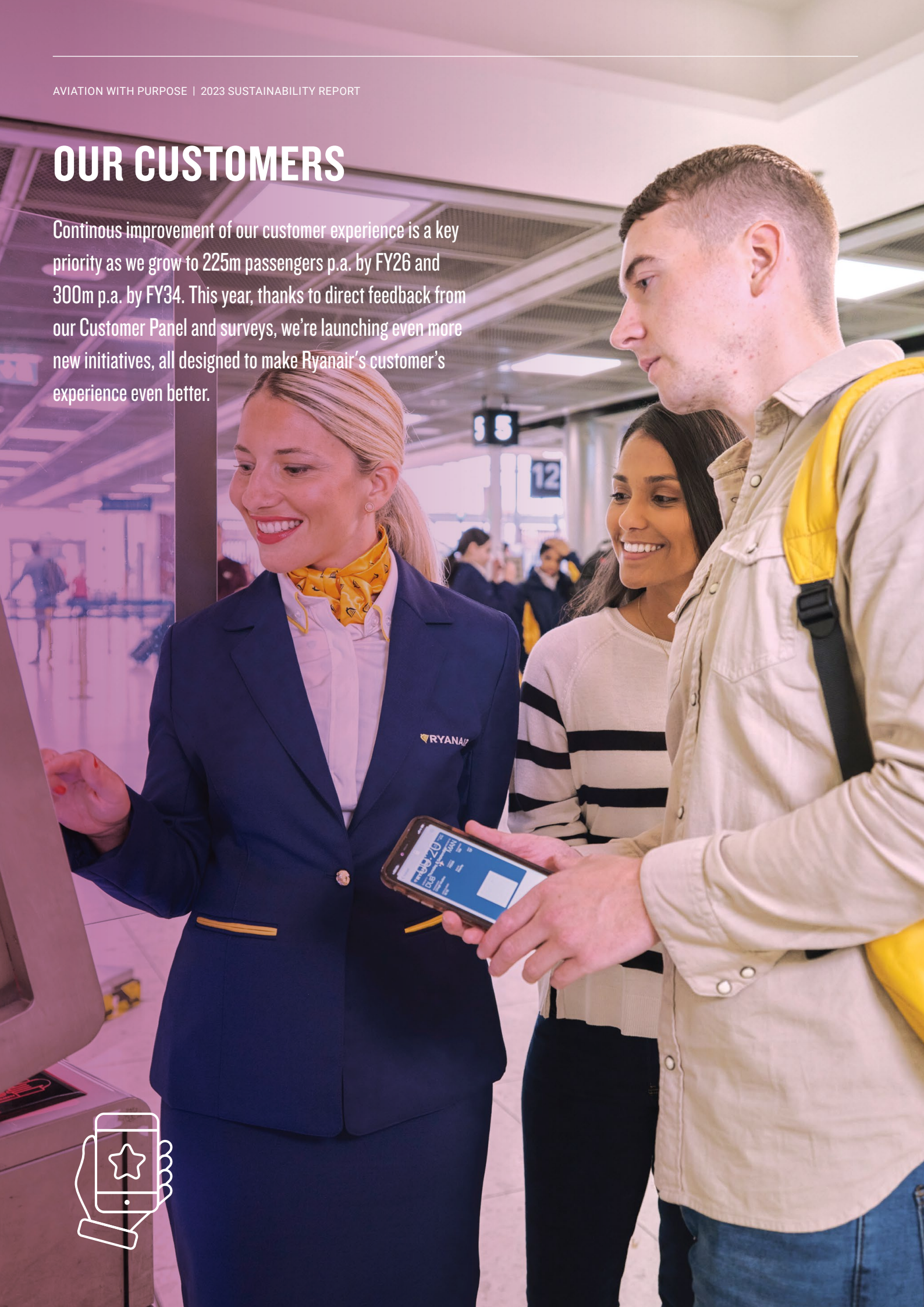
OVER **3,000**  
DAILY FLIGHTS

**225M** PAX P.A. BY FY26  
**300M** PAX P.A. BY FY34



# OUR CUSTOMERS

Continuous improvement of our customer experience is a key priority as we grow to 225m passengers p.a. by FY26 and 300m p.a. by FY34. This year, thanks to direct feedback from our Customer Panel and surveys, we're launching even more new initiatives, all designed to make Ryanair's customer's experience even better.



# CUSTOMER SATISFACTION

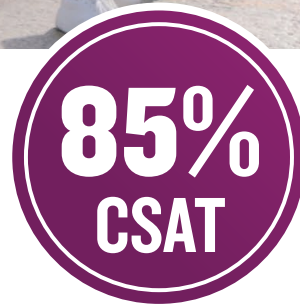
Customer Satisfaction is a priority in Ryanair. That is why we have linked senior management’s bonuses to Ryanair’s customer satisfaction (“CSAT”) score.

## CSAT

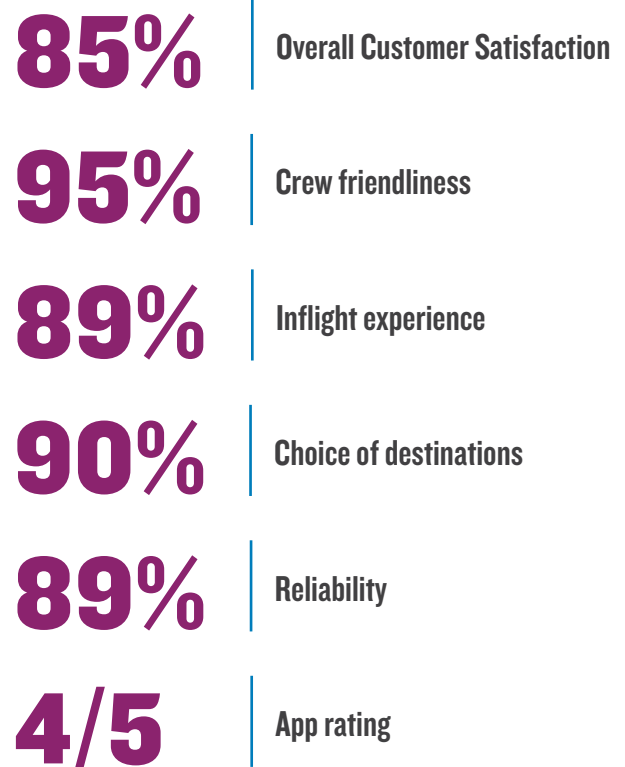
We delivered a strong overall CSAT score of 85%. Our crew continue to rate highly with our passengers, with ‘crew friendliness’ consistently achieving our top CSAT score of 95%. Overall sentiment around Ryanair also improved this year. Our annual brand sentiment tracker recorded an overall Net Promoter Score (NPS – *would you recommend Ryanair to a friend?*) of +14, which is a 3 point improvement on last year’s score. Our TV ad campaign which ran in January and featured our friendly crew and happy customers, had a positive effect on brand sentiment. Customers who reported seeing the ad are significantly more likely to recommend Ryanair than those who didn’t and are more likely to agree that Ryanair ‘cares about its customers’.

## AMADEUS PARTNERSHIP

Amadeus builds solutions that help airlines, airports, hotels and railways, search engines, travel agencies, tour operations and improve the travel experience, billions of times a year, all over the world. In May 2023, Ryanair and Amadeus launched a distribution partnership, that expands access to Ryanair’s offering to Amadeus’ industry-leading customer base. The partnership supports Ryanair’s vision to grow its visibility and reach to Amadeus customers, particularly for business travel, where corporates not only want to access our low fares and reliable schedules but also improve their carbon footprint by flying with Europe’s most fuel efficient major airline.



Customer Satisfaction score out of 100:



# CUSTOMER PANEL



This year we expanded our Customer Panel, with 12 new panellists representing our Top 10 markets.

The first session with our new panellists took place last October in Ryanair's Airside Campus in Dublin.

We held a number of interactive workshops with our panellists which have informed a whole new range of customer improvements into FY24 including the roll-out of new announcements on board; a new booking flow to streamline the booking experience; and launching new branding across our airports.



“

OUR CUSTOMER PANEL HAS BEEN INSTRUMENTAL IN HELPING US DRIVE IMPROVEMENTS FOR OUR CUSTOMER EXPERIENCE OVER THE PAST YEAR AND WE LOOK FORWARD TO WORKING WITH OUR NEW PANELLISTS TO SHAPE OUR 2023 CUSTOMER IMPROVEMENTS PROGRAMME.

”

Tracey Kennedy,  
Director of Customer Service

# CUSTOMER SERVICE

## CUSTOMER COMMITMENTS

All 38 help centres in our web and app will be able to deal with queries in the local language and all phone numbers listed will be local (fixed tariff) for that country.

We endeavour to answer all of our customer queries in a timely and efficient manner. Our targets are:

**90%** of calls answered within an average of 5 mins

**95%** of chats answered within an average of 5 mins

**70%** of general requests actioned within 5 days

**100%** of complaints answered within 28 days

**100%** of passenger rights claims answered within 14 days

## SUPPORT

Our FY24 CSAT target (marginally lower, due to anticipated high levels of ATC disruptions in summer 2023) is 82.5% and to achieve this we have the following initiatives in our current plan:

- Onboarding two new contact centre partners;
- Improved communications to passengers delayed/disrupted on their day of travel;
- More automation to help the customer to be self-sufficient and speed up responses;
- Measuring CSAT scores at an individual agent level.

## ACCESSIBLE TRANSPORT

Ryanair became the first Irish airline to join the [Hidden Disabilities Sunflower](#) network, recognising Sunflower Lanyards – a globally recognised symbol of non-visible disability. This new initiative forms part of the airline's continued customer experience focus, enabling Ryanair's pilots, cabin crew and support teams to further support customers, making travel easier and more accessible for everyone.



In FY23, we also supported the Polish Labrador Foundation in their training of guide dogs so they can get accustomed to air travel. To facilitate this, our Buzz team opened one of our based aircraft, as part of the training.



## GUIDE DOG TRAINING

*"Socialisation is an important element of guide dog training. It requires familiarising the dog with as many locations and situations that may occur when they are supporting people with additional needs. That's why the training is so important so they can find themselves in familiar place without creating issues for crew or other passengers."*

**Irena Semmler,**  
President of the Labrador Foundation



# COMMUNITY INVESTMENT



To celebrate the 10th anniversary of our successful partnership with the Spanish charity Pequeno Deseo (Make a Wish), last Christmas we flew 20 sick children, their siblings and parents on a special chartered flight from Madrid to Beauvais on a magical trip to Disneyland Paris.

The children and their families enjoyed a special tour of Disneyland, accessing all of the attractions. Over the past 10 years, Ryanair has raised more than €0.5m for Pequeno, which grants the wishes of children with serious or chronic illnesses who receive lengthy treatments or have long hospital stays.



## €500,000

In recent years, Ryanair has raised more than €500,000 for Pequeno Deseo





# CYBER SECURITY



Cyber security is a key focus area in which the Group invests heavily in and in FY23 we doubled the size of our 24/7 security team.

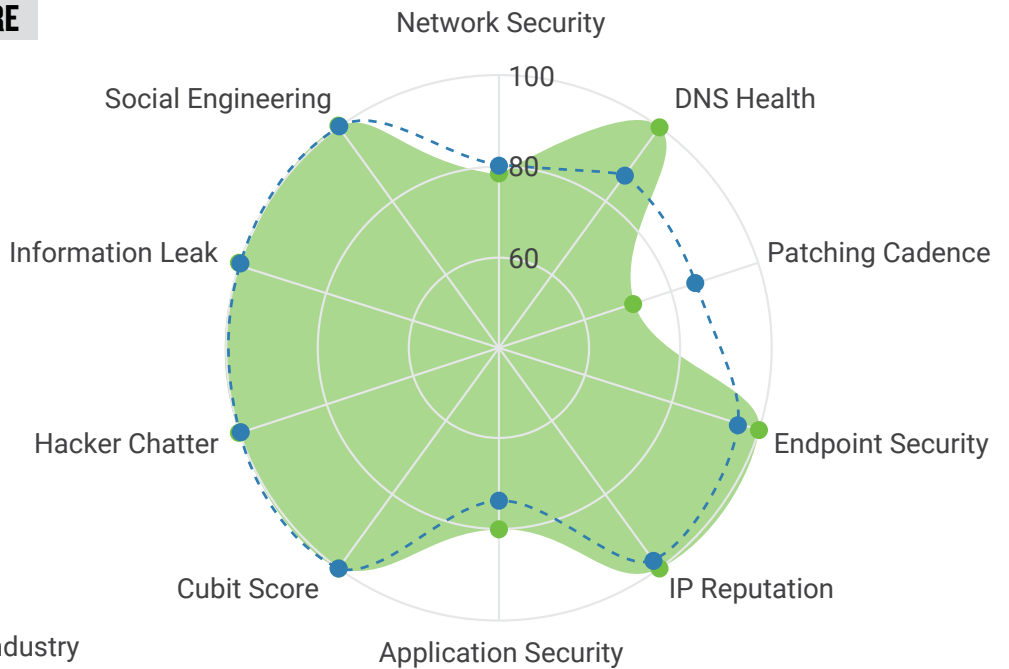
We have an incident response agreement with Cyber Security firm, Madiant, to provide additional cyber security support. During the year we also successfully completed the EU Network and Information Systems (NIS) Directive Audit and the Civil Aviation Authority's (CAA) Cyber Security CAF Audit.

We are proactive in our Cyber Security tests. We frequently conduct simulated phishing tests with our people, with those failing the test required to undergo additional training. Cyber Security assessments are also done during the onboarding of new suppliers.

## OUR CURRENT SECURITY SCORE

PREPARED ON 06 JUNE, 2023

**A** 90



ryanair.com    Our Industry

Company	Score
ryanair.com TRANSPORTATION	<b>A</b> 90
aerlingus.com TRANSPORTATION	<b>D</b> 62
wizzair.com TRANSPORTATION	<b>B</b> 87
lufthansa.com TRANSPORTATION	<b>C</b> 74
easyjet.com TRANSPORTATION	<b>B</b> 80
southwest.com TRANSPORTATION	<b>C</b> 75



# APPENDIX

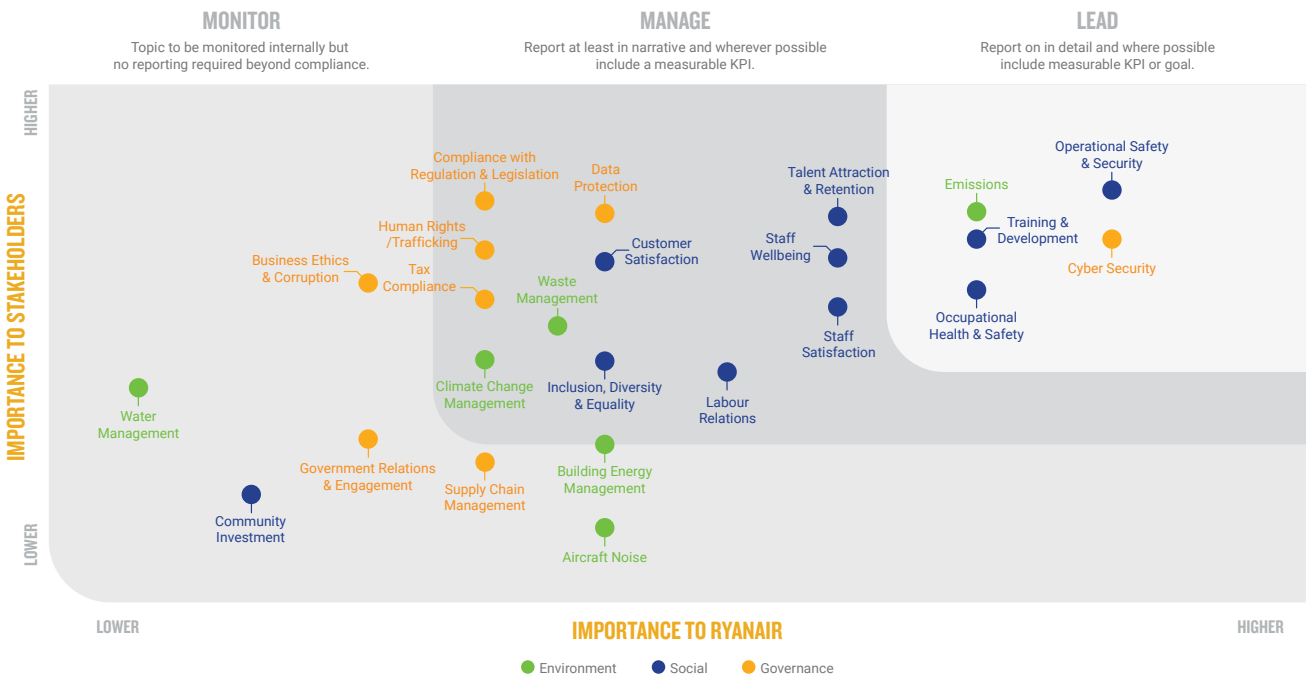


# MATERIALITY

In FY22, Ryanair conducted a materiality assessment. A well-established process was followed when producing it and we followed some clear steps:

- STEP 01** | In order to identify the areas of most importance to the Ryanair Group (“Group”) and its stakeholders, we completed a horizon scanning exercise to understand the key topics in this agenda. This was informed by competitor reviews, regulation – both existing and upcoming – media analysis and relevant industry research.
- STEP 02** | These topics were then explored in a stakeholder engagement exercise which sought the views of customers, staff, suppliers and professional services.
- STEP 03** | Ryanair’s Enterprise Risk Management Register was used to plot the potential impact of the topics on the Group.
- STEP 04** | The materiality matrix was presented to the Sustainability Committee for approval and sign off.
- STEP 05** | We established key (where relevant, quantitative) indicators to help us track the success of initiatives. These indicators can be seen throughout this report.

## MATERIALITY MATRIX



## TOPICS WHERE WE WILL LEAD THE AVIATION INDUSTRY

This report is structured to tell our stakeholders how we are managing the issues that are most material to us.

### Operational Safety & Security

Managing the safety of our customers and our people ([Page 33](#))

### Cyber Security

Protecting our customer and company data ([Page 48](#))

### Training & Development

Ensuring industry-leading training for pilots, cabin crews, engineers and the wider team ([Page 34](#))

### Emissions

Reducing emissions across our entire value chain ([Page 13](#))

### Occupational Health & Safety

Improving and maintaining workplace health & safety standards ([Page 33](#))

# SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB)

## GREENHOUSE GAS EMISSIONS

Accounting Metric	Metric	FY23	FY22	FY21	FY20	Code
Gross global Scope 1 emissions	Metric tons (t) CO2e (Millions)	14.3	9.1	2.9	12.7	TR-AL-110a.1
Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Page 12					TR-AL-110a.2
Total fuel consumed	USG (Millions)	1,484	952	307	1,339	TR-AL-110a.3

## LABOUR PRACTICES

Accounting Metric	Metric	FY23	FY22	FY21	FY20	Code
Percentage of active workforce covered under collective bargaining agreements*	%	95	89	88	88	TR-AL-310a.1
Number of work stoppages	#	0	0	0	0	TR-AL-310a.2
Total days idle	Days	0	0	0	0	TR-AL-310a.2

## COMPETITIVE BEHAVIOUR

Accounting Metric	Metric	FY23	FY22	FY21	FY20	Code
Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	Euro (millions)	0	0	0	9.2	TR-AL-520a.1

## ACTIVITY METRIC

Accounting Metric	Metric	FY23	FY22	FY21	FY20	Code
Available seat kilometers	ASK (millions)	229,698	147,028	49,271	192,165	TR-AL-000.A
Passenger load factor	%	93	82	71	95	TR-AL-000.B
Revenue passenger kilometers	RPK (millions)	213,619	120,563	34,982	182,556	TR-AL-000.C
Number of departures	#	946,643	620,524	204,828	823,897	TR-AL-000.E
Average age of fleet	Years	9	8	9	8	TR-AL-000.F

\*See page 36 for more information

# CONSOLIDATED DISCLOSURES PURSUANT TO ARTICLE 8 TAXONOMY REGULATION

The EU Taxonomy is a classification system for environmentally sustainable economic activities, the purpose of which is to direct investments towards sustainable projects and activities and to provide companies, investors and policymakers with appropriate definitions for which economic activities can be considered environmentally sustainable.

Article 8 of Regulation (EU) 2020/852 (the “Taxonomy Regulation”) establishes a framework to facilitate sustainable investing. As part of the Taxonomy Regulation, Ryanair is required to disclose how and to what extent the Group’s activities are associated with economic activities that qualify as environmentally sustainable under Articles 3 and 9 of the Taxonomy Regulation and Article 10 (2) of Commission Delegated Regulation (EU) 2021/2178 (the “Delegated Disclosures Act”).

The Group is required to report the share of taxonomy-eligible economic activities in terms of turnover, capital expenditures (Capex) and operating expenditures (Opex). Only taxonomy-eligible economic activities related to the first two environmental objectives (climate change mitigation and climate change adaptation) in accordance with Article 9 of the Taxonomy Regulation and Article 10 (2) of the Delegated Disclosures Act are required to be reported for Ryanair’s fiscal year 2023.

## RYANAIR APPROACH

The economic activities listed in Annex 1 and Annex 2 of Commission Delegated Regulation (EU) 2021/2139 (the “Climate Delegated Act”) were analysed by management. The main economic activity of the Group is the air transport of passengers. Draft proposals exist which will bring air transport into the taxonomy, however these have not yet become EU law. As such, the Group’s use of sustainable aviation fuel, retrofit of split scimitar winglets on older aircraft and fleet renewal are not yet taxonomy aligned. There were no other material activities identified as taxonomy eligible.

## KPI

With Aviation not yet one of the sectors covered by the Climate Delegated Act, the share of taxonomy-eligible economic activities in Turnover, Capex and Opex was 0% in fiscal year 2023.

## TURNOVER

Turnover consists of Total operating revenues. See Consolidated Income Statement per [page 167](#) alongside [note 16](#) for details of the Group’s revenue generation. The associated accounting policies are set out on [pages 171 to 184](#).

## CAPEX

Capex consists of additions to fixed assets, intangible assets (net of supplier reimbursements), maintenance prepayments greater than one year, intangible assets and right-of-use assets. See [note 16](#) of the Consolidated financial statements.

## OPEX

Opex consists of Total operating expenses. See Consolidated Income Statement per [page 167](#). The associated accounting policies are set out on [pages 171 to 184](#).

	Substantial Contribution			DNSH criteria (Does no significant harm)			Category (enabling activity)	Category (transitional activity)	Proportion taxonomy non-eligible economic activities (in %)	Calculation	Explanation
	Climate Change Mitigation	Climate Change Adaptation	Proportion taxonomy eligible economic activities (in %)	Climate Change Mitigation	Climate Change Adaptation	Proportion taxonomy eligible economic activities (in %)					
Turnover	0%	0%	0%	0%	0%	0%	0%	0%	Revenue derived from taxonomy-eligible economic activities divided by the net turnover (denominator).	The Group did not generate any revenues from taxonomy-eligible products and services during FY23. The Group's carbon offset offering does not generate any profits.	
Capex	0%	0%	0%	0%	0%	0%	0%	100%	numerator, we have not identified any Taxonomy-eligible activities as Group revenue is primarily derived from the air transport of passengers (by the Climate Delegated Act)	The Group has invested in the latest aircraft technologies as part of the 210 Boeing 737-8200 order, however, this is not currently covered by the Climate Delegated Act. As such, the proportion of taxonomy eligible Capex was 0%.	
Opex	0%	0%	0%	0%	0%	0%	0%	100%	Taxonomy-eligible Capex (numerator) divided by our total Capex (denominator). With regard to the proportion of Capex in relation to aircraft purchases.	While the Group uses SAF on certain routes this is not currently covered by the Climate Delegated Act. As such, the proportion of taxonomy eligible Opex was 0%.	



# GLOBAL REPORTING INITIATIVE (GRI)

## Statement of use

Ryanair Holdings plc has reported the information cited in this GRI content index for the period 01 April 2022 to 31 March 2023 in accordance with the GRI Standards.

## GRI 1 used

GRI 1: Foundation 2021

## GRI STANDARD

### DISCLOSURE

### LOCATION

#### GRI 2: General Disclosures

#### 2-1 Organizational details

Ryanair Holdings plc  
Airsides Business Park,  
Swords, Co Dublin, K67 NY94,  
Ireland

#### 2-2 Entities included in the organization's sustainability reporting

Buzz  
Lauda Europe  
Malta Air  
Ryanair DAC  
Ryanair UK

#### 2-3 Reporting period, frequency and contact point

Reporting Period: Fiscal Year 2023 ("FY23") (01 Apr 2022 - 31 Mar 2023)  
Frequency: Annual  
Date of Publication: 24 July 2023  
Contact: [sustainability@ryanair.com](mailto:sustainability@ryanair.com)

#### 2-4 Restatements of information

N/A

#### 2-5 External assurance

This report has been reviewed and approved by Ryanair Holding plc's Senior Management and the Audit Committee (A Board subcommittee). Emissions data received third party verification from Verifavia. See [page 63](#).

#### 2-6 Activities, value chain and other business relationships

Airlines

#### 2-7 Employees

22,261

#### 2-8 Workers who are not employees

See [page 36](#) of this report.

#### 2-9 Governance structure and composition

See [page 8](#) of this report.

#### 2-10 Nomination and selection of the highest governance body

See [Governance section of Group Website](#)

#### 2-11 Chair of the highest governance body

Stan McCarthy, Non-Executive Chair

#### 2-12 Role of the highest governance body in overseeing the management of impacts

See [Governance section of Group Website](#)

#### 2-13 Delegation of responsibility for managing impacts

Ryanair's Sustainability Team is responsible for the day-to-day management and delivery of the sustainability strategy and targets. The team reports to the Group CFO with a dotted line to the Board and Audit Committee. The Sustainability Team are members of the Sustainability Committee and provide weekly and monthly emission intensity analysis to executives and senior management. The team is also responsible for procuring SAF blends in line with the targets set by the Board and executive management team. The Sustainability Team ensure compliance with carbon trading schemes, most notably, the EU & UK Emission Trading System and CORSIA. Monitoring of emission savings of new projects implemented by the Sustainability Committee is performed by the Sustainability Team with updates provided to the Committee on a monthly basis.

GRI STANDARD	
DISCLOSURE	LOCATION
<b>GRI 2: General Disclosures</b>	
2-14 Role of the highest governance body in sustainability reporting	Ryanair's Board has ultimate oversight and responsibility for the Group's climate transition plan, strategy in achieving sustainability goals and climate related risks and opportunities. The Board and Audit Committee receive quarterly updates on Ryanair's climate related risks and performance from the Group CFO and the Director of Sustainability & Finance. Ryanair's Group Chief Executive Officer (CEO) is a member of the Board. The CEO has responsibility for all issues including climate-related issues because this position oversees the strategy, objectives, opportunities and long-term planning of the Group, thus ensuring that these issues are truly integrated into business governance and strategy.
2-15 Conflicts of interest	<a href="#">Ryanair Code of Business Conduct &amp; Ethics</a>
2-16 Communication of critical concerns	<a href="#">Ryanair Code of Business Conduct &amp; Ethics</a>
2-17 Collective knowledge of the highest governance body	See <a href="#">page 10</a> of this report.
2-18 Evaluation of the performance of the highest governance body	See <a href="#">page 2</a> and <a href="#">25</a> of the Annual Report.
2-19 Remuneration policies	<a href="#">Ryanair Remuneration Policy</a>
2-20 Process to determine remuneration	<a href="#">Ryanair Remuneration Policy</a>
2-21 Annual total compensation ratio	See <a href="#">page 39</a> of the Annual Report.
2-22 Statement on sustainable development strategy	See <a href="#">page 2</a> and <a href="#">24</a> of this report.
2-23 Policy commitments	<a href="#">Ryanair Code of Business Conduct &amp; Ethics</a>
2-24 Embedding policy commitments	<a href="#">Ryanair Code of Business Conduct &amp; Ethics</a>
2-25 Processes to remediate negative impacts	<a href="#">Ryanair Code of Business Conduct &amp; Ethics</a>
2-26 Mechanisms for seeking advice and raising concerns	<a href="#">Ryanair Code of Business Conduct &amp; Ethics</a>
2-27 Compliance with laws and regulations	<a href="#">Ryanair Code of Business Conduct &amp; Ethics</a>
2-28 Membership associations	See <a href="#">page 7</a> of this report.
2-29 Approach to stakeholder engagement	See <a href="#">page 51</a> of this report and <a href="#">page 24</a> of the Annual Report
2-30 Collective bargaining agreements	See <a href="#">page 36</a> of this report.
<b>GRI 3: Material Topics</b>	
3-1 Process to determine material topics	See <a href="#">page 51</a> of this report.
3-2 List of material topics	See <a href="#">page 51</a> of this report.
3-3 Management of material topics	See <a href="#">page 51</a> of this report.
<b>GRI 305: Emissions</b>	
305-1 Direct (Scope 1) GHG emissions	See <a href="#">page 14</a> of this report.
305-2 Energy indirect (Scope 2) GHG emissions	See <a href="#">page 18</a> of this report.
305-3 Other indirect (Scope 3) GHG emissions	See <a href="#">page 19</a> of this report.
305-4 GHG emissions intensity	See <a href="#">page 14</a> of this report.
305-5 Reduction of GHG emissions	See <a href="#">page 13</a> of this report.
305-6 Emissions of ozone-depleting substances (ODS)	See <a href="#">page 13</a> of this report.
305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	See <a href="#">page 15</a> of this report.



# RYANAIR HOLDINGS

## GHG EMISSIONS STATEMENT

### RYANAIR HOLDINGS

Greenhouse Gas (GHG) emissions statement  
Year ended March 31, 2023  
In tonnes of carbon dioxide equivalent (CO<sub>2</sub>e)

	FY23	FY22
Scope 1 emissions	14,266,186	9,193,324
Scope 2 emissions:		
Market-based method	2,372	3,717
Location-based method	3,349	1,976
<b>Total scope 1 and scope 2 emissions (market-based method)</b>	<b>14,268,558</b>	<b>9,197,041</b>
Select scope 3 emissions:		
Category 1: Purchased Goods & Services	3,530	2,468
Category 2: Capital Goods	94,461	151,635
Category 3: Fuel and energy related activities	2,953,112	1,903,059
Category 4: Upstream Transportation and Distribution	17,067	11,607
Category 5: Waste generated in operations	1,073	619
Category 6: Business Travel	1,625	1,115
Category 7: Employee Commuting	10,694	9,991
Category 8: Upstream Leased Assets	519	849
Category 11: Use of Sold Products	18,050	14,509
<b>Total reported scope 3 emissions</b>	<b>3,100,314</b>	<b>2,096,029</b>
<b>Total Scope 1, 2 and 3 emissions</b>	<b>17,368,872</b>	<b>11,293,070</b>

The accompanying notes on pages 12 to 31 form an integral part of this GHG emissions statement.

### RYANAIR'S EMISSION INTENSITY (GRAMS OF CO<sub>2</sub> EQUIVALENT\* PER PAX/KM)

	FY23	FY22
Scope 1	66.8	76.3
Scope 2	0.0	0.0
Scope 3, Category 3	13.8	15.8
	<b>80.6</b>	<b>92.1</b>

Ryanair Group's emission intensity is targeted to reduce by c.25% by FY31 in line with a 1.5°C world. Ryanair will submit a target in line with this intensity reduction for validation to SBTi in 2024.

\*Includes conversion of other GHG emissions (methane and nitrous oxide) into CO<sub>2</sub> for comparison purposes.

## 1. REPORTING ENTITY

Ryanair Holdings and subsidiaries (the Group) operates a low fare, low cost scheduled airline group serving short-haul, point-to-point routes from 91 bases to airports across Europe and North Africa. Ryanair pioneered the low-fares air travel model in Europe in the early 1990's. As of March 31, 2023, the Ryanair Group had a fleet of 509 Boeing 737 aircraft and 28 Airbus A320 aircraft. The Group offers over 3,000 short-haul flights per day serving more than 230 airports across Europe and North Africa.

## 2. BASIS OF PRESENTATION

The Group has prepared its GHG emissions statement for the year ended March 31, 2023 in accordance with the World Resources Institute and World Business Council for Sustainable Development's Greenhouse Gas Protocol standards and guidance (collectively, the GHG Protocol):

- Scope 1 emissions have been prepared in accordance with the GHG Protocol Corporate Accounting and Reporting Standard (revised edition)
- Scope 2 emissions have been prepared in accordance with the GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard
- To the extent presented, Scope 3 emissions have been prepared in accordance with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

## 3. ORGANISATIONAL BOUNDARY

The Group presents its emissions under the operational control approach, accounting for emissions from operations over which it, or one of its subsidiaries, has the full authority to introduce and implement its operating policies. All of the Group's subsidiaries are wholly owned by the Group. All emissions presented include operations relating to Buzz Air, Lauda, Malta Air, Ryanair DAC and Ryanair UK.

## 4. USE OF ESTIMATES AND ESTIMATION UNCERTAINTIES

The Group bases its estimates and methodologies on historical experience, available information and various other assumptions that it believes to be reasonable. Emissions data presented are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

## 5. OPERATIONAL BOUNDARIES

Emissions are calculated and presented independent of any GHG emission trading and offsetting schemes i.e. sales, purchases, transfers or banking of allowances. Emissions are calculated across the Group's operational value chain. Full breakdown of scopes are listed below:

### a. Scope 1 emissions

Scope 1 emissions are direct emissions from the combustion of jet fuel and gas use in Ryanair owned buildings from inside the organisational boundary.

Source	Boundary description
Mobile Consumption	Ryanair Group assets including leased aircraft
Purchased Natural Gas	Consumption of gas in owned buildings including Head Office, Engineering, etc.

### b. Scope 2 emissions

Scope 2 emissions are indirect emissions from the generation of acquired and consumed electricity

Source	Boundary description
Purchased electricity	Owned office space, leased office space, hangar facilities

### c. Scope 3 emissions

Scope 3 emissions are indirect emissions from the generation of fuel from sources outside the organisational boundary as a consequence of activities of the Group.

Source	Boundary description
Category 1: Purchased goods & services	The production, transportation and distribution of products purchased or acquired, including products sold on board by third party providers and the purchase of tyres
Category 2: Capital goods	The production and transportation of aircraft
Category 3: Fuel and energy related activities	The extraction, transport, refining and purification or conversion of primary fuels to jet kerosene and transportation and distribution losses
Category 4: Upstream transportation and distribution	Emissions generated by Ground Traffic
Category 5: Waste generated in ops	The third-party transportation, disposal and treatment of waste generated on board aircraft
Category 6: Business travel	Hotel stays when employees travel for business
Category 7: Employee commuting	Air, rail, bus, automobile when employees commute between home and worksites
Category 8: Upstream leased assets	Consumption of gas in leased hangars
Category 9: Downstream transportation and distribution	Ryanair does not transport and distribute sold products in vehicles and facilities not owned or controlled by Ryanair
Category 10: Processing of sold products	Ryanair's primary sold products are flights, and emissions are accounted for in both our Scope 1 emissions and Scope 3 "Fuel-and-energy-related activities" categories. This category is not applicable for Ryanair
Category 11: Use of sold products	The use of fuel as part of car hire services sold on Group websites. Electricity consumed as part of hotel services sold on Group websites.
Category 12: End of life treatment of sold products	End of life emissions from disposing of aircraft is not applicable for the reporting period as Ryanair sold/retired no aircraft in FY23
Category 13: Downstream leased assets	Ryanair does not lease out any owned assets
Category 14: Franchises	Ryanair does not operate a franchise model
Category 15: Investments	Ryanair has no relevant in scope investments

## 6. EMISSIONS PER GAS

Emissions data for all seven GHGs in tonnes of CO<sub>2</sub> equivalent and in metric tonnes include only scope 1 and 2 emissions. All amounts are for the year ended March 31, 2023.

In tCO <sub>2</sub> e							
	Carbon dioxide (CO <sub>2</sub> )	Methane (CH <sub>4</sub> )	Nitrous Oxide (N <sub>2</sub> O)	Nitrogen trifluoride (NF <sub>3</sub> )	Hydro-fluoro carbons (HFCs)	Perfluoro carbons (PFCs)	Sulfur Hexa fluoride (SF <sub>6</sub> )
Scope 1	14,123,767	8,790	133,629	0	0	0	0
Scope 2 Location based	3,311	14	24	0	0	0	0
Scope 2 Market based	2,345	10	17	0	0	0	0

In absolute mt gas							
	Carbon dioxide (CO <sub>2</sub> )	Methane (CH <sub>4</sub> )	Nitrous Oxide (N <sub>2</sub> O)	Nitrogen trifluoride (NF <sub>3</sub> )	Hydro-fluoro carbons (HFCs)	Perfluoro carbons (PFCs)	Sulfur Hexa fluoride (SF <sub>6</sub> )
Scope 1	14,123,767	314	448	0	0	0	0
Scope 2 Location based	3,311	0	0	0	0	0	0
Scope 2 Market based	2,345	0	0	0	0	0	0

## 7. BASE YEAR

Base year for scope 1 and scope 2 emissions is the current reporting year FY23. The base year is recalculated if there are changes in any of the following that are significant either individually or in aggregate:

- Structural changes in the organisational boundary, including acquisitions and divestments.
- Changes in calculation methodology or improvements in the accuracy of emission factors or activity data that result in a significant impact on the base year emissions data.

During the course of FY23, Ryanair reviewed and expanded the operational boundary for which scope 3 emissions are identified bringing certain services into our inventory. These emissions largely relate to ancillary services provided by third parties and sold as part of our main customer offering (Car hire service and Hotels). This is reflected in both FY23 and FY22 data on [page 58](#).

## 8. MEASUREMENT METHODOLOGIES

### a. Scope 1 emissions

Source	Method	Emission factors	Inputs
Mobile consumption	Emission factors applied to primary data	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>• Jet Fuel invoices</li> <li>• Aircraft on board measurement equipment</li> </ul>
Purchased Natural Gas	Emission factors applied to primary data	Sustainable Energy Association of Ireland Conversion Factors	<ul style="list-style-type: none"> <li>• Utility bill/metered consumption</li> </ul>

### b. Scope 2 emissions

Source	Method	Emission factors	Inputs
Purchased electricity	Market based	Association of Issuing Bodies - European Residual Mixes 2021	<ul style="list-style-type: none"> <li>• Utility bill/metered consumption</li> </ul>
Purchased electricity	Location based	European Environment Agency - Greenhouse gas emission intensity of electricity generation	<ul style="list-style-type: none"> <li>• Utility bill/metered consumption</li> </ul>

#### Methodology Description

Emissions are calculated by multiplying the amount of company-purchased electricity by the relevant emission factor.

Location-based method estimates are based on grid-average emission factors for defined geographic locations.

Market-based method estimates are based on emission factors derived from contractual instruments, which meet the 'Scope 2 Quality Criteria'.

**c. Scope 3 emissions**

Source	Method	Emission factors	Inputs
Category 1: Purchased goods & services	Hybrid & Average-data	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>Records of Tyres purchased in year</li> <li>Cater emissions identified relative to Ryanair services</li> </ul>
Category 2: Capital goods	Supplier-Specific	Per manufacturer specific	<ul style="list-style-type: none"> <li>Records of aircraft purchases</li> </ul>
Category 3: Fuel and energy related activities	Average-data	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>Jet Fuel invoices</li> <li>Aircraft on board measurement equipment</li> </ul>
Category 4: Upstream Transportation & Distribution	Fuel-based	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>Fuel consumed per records associated with handling operations</li> </ul>
Category 5: Waste generated in ops	Waste-Type specific	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>Records of waste generated through operations</li> </ul>
Category 6: Business travel	Spend-based	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>Length of Hotel stay per country</li> </ul>
Category 7: Employee commuting	Average-data	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>Total employees, adjusted for those not commuting</li> <li>Mode of transport (rail, car, foot, bus)</li> </ul>
Category 8: Upstream leased assets	Asset-Specific & Average-Data	Sustainable Energy Association of Ireland	<ul style="list-style-type: none"> <li>Based on consumption records</li> <li>Utility bill/metered consumption Based on consumption records</li> </ul>
Category 11: Use of sold products	Distance-based - car hire Average data - hotels	UK DEFRA Emission factors 2022	<ul style="list-style-type: none"> <li>Distance travelled</li> <li>Vehicle type (passenger car)</li> <li>Length of Hotel stay per country</li> </ul>

**Methodology Description**

The average-data method estimates emissions using secondary emission factors for emissions per unit of consumption.

The distance-based method estimates emissions using mass, distance and mode of transport, and applying the appropriate mass-distance emission factor for the vehicle used.



# ASSURANCE STATEMENT



## CONTEXT

VERIFAVIA SAS ('VERIFAVIA') has been engaged by Ryanair to perform an independent verification of the carbon inventory data for the fiscal year 2023 (April 1, 2022 – March 31, 2023) as presented in the [Ryanair's Annual Report](#) and Sustainability Report. The verification was performed with a reasonable assurance for Scope 1 and Scope 3 (Category 3) and with a limited assurance for Scope 2 and Scope 3 (except for category 3). Scope 2 emissions were calculated using both location-based emission factors and market-based emissions factors.

Furthermore, VERIFAVIA has also been engaged by Ryanair to perform an independent verification with a limited assurance of Ryanair's emissions per revenue passenger kilometre.

Metric	Emissions per RPK
CO <sub>2</sub> per revenue passenger kilometre (RPK)	66g CO <sub>2</sub>

All other information in [Ryanair's Annual Report](#) and Sustainability Report is not subject to our assurance engagement and we do not report and do not opine on this information.

The Sustainability Team of Ryanair is responsible for the preparation and presentation of [Ryanair's Annual Report](#) and Sustainability Report, including the reported annual environmental data and information presented therein. We are responsible for providing an Assurance Statement on the reported annual environmental data presented in the Reports. VERIFAVIA disclaims any liability or responsibility to a third party for decisions, whether an investment or otherwise, is based on this Assurance Statement.

## CRITERIA

We conducted the independent audit based on the following verification criteria:

- ISO 14065:2013 – *Greenhouse gases – requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition*
- ISO 14064-3:2019 – *Greenhouse Gases – Specification with guidance for the validation and verification of greenhouse gas emissions and removals*
- Chapter 10 of the *Greenhouse Gas Protocol – "A Corporate Accounting and Reporting Standard" (Revised Edition)*

## RESPONSIBILITIES

Ryanair is solely responsible for the preparation and reporting of its carbon inventory data, for any information and assessments that support the reported data, for determining the company's objectives in relation to carbon information and management, and for establishing and maintaining appropriate performance management and internal control systems from which reported information is derived.

In accordance with the verification contract, it is our responsibility to form an independent opinion, based on the examination of information and data presented in the [Annual Report](#) and Sustainability Report, and to report that opinion to Ryanair. We also report if, in our opinion:

- the carbon inventory data is or may be associated with misstatements (omissions, misrepresentations, or errors) or non-conformities; or
- the verification team/verifier has not received all the information and explanations that it requires to conduct its examination; or
- improvements can be made to the company's performance in monitoring and reporting carbon inventory data.

We conducted our examination having regard to the verification criteria documents listed above. This involved a site visit on 24 October 2022, to interview the staff responsible to give us limited assurance that the amounts and disclosures relating to the data have been properly prepared in accordance with the requirements of the Greenhouse Gas Protocol in terms of relevance, completeness, consistency, transparency, and accuracy. This also involved assessing where necessary estimates and judgements were made by Ryanair in preparing the data and considering the overall adequacy of the presentation of the data in the [Annual Report](#) and Sustainability Report.

## INDEPENDENCE STATEMENT

We confirm that VERIFAVIA and the verification team are independent of Ryanair and have not assisted in any way with the development of the carbon inventory or in the preparation of any text or data provided in the [Annual Report](#) and Sustainability Report, except for this Assurance Statement.

## OPINION

We conducted a verification of the carbon inventory data reported by Ryanair in its [Annual Report](#) and Sustainability Report and presented above. Based on the verification work undertaken to reasonable assurance for Scope 1 and Scope 3 (Category 3) and limited assurance for Scope 2 and Scope 3 (except for Category 3), these data are fairly stated and contain no material misstatements or material non-conformities.



Paris, 12 May 2023  
Mathias Grossmann,  
Aviation & Airports Director,  
VERIFAVIA SAS

# KEY STATS YEAR END MAR. 2023



**169M GUESTS**

**149M PRE-COVID  
300M BY FY34**



**22,000+**

**HIGH SKILLED  
AVIATION PROFESSIONALS**

## CHOICE & COVERAGE



**OVER 3,000**

**DAILY FLIGHTS**



FLIGHTS TO/FROM

**230**

**AIRPORTS**



**91**

**BASE  
AIRPORTS**

**(36 COUNTRIES)**

## UNRIVALED CUSTOMER SERVICES

**BBB  
MSCI**

**B  
CDP**

**CLIMATE  
RATING**

**ESG:**



**NO.1 EUROPE AIRLINE**

**NO.1 LARGE CAP AIRLINE**

**SUSTAINALYTICS**



**99% B737 FLEET  
UNENCUMBERED**

**BBB+**  
(STABLE)

**S&P  
CREDIT  
RATING**



**38 YEAR  
SAFETY RECORD**

**RYANAIR GROUP**

This report provides updated information pertaining to Ryanair's FY23 Sustainability performance.

It communicates valuable information to our stakeholders. It provides a clear understanding of our company policy, as well as the direction and coordination of our future endeavours.

