GREATER GOOD

Our plan for a sustainable future

Net Zero Strategy

Edinburgh Airport

Where Scotland meets the world

CEO FOREWORD

Too often strategies in business can be triumphs of style over substance. Great words that tell a great story but are sadly just that – a story without the actions to deliver on the aspirations of the strategy, left on the shelf to gather dust. When we at Edinburgh Airport launched our Greater Good strategy, which explained and detailed how we would tackle the challenges we face in making Edinburgh Airport a sustainable business now and in the future, we were very clear that the strategy would not sit on the shelf. It would be a living, breathing, changing document that would grow with the information we had, the technology at our disposal and the passion, ingenuity and commitment of our team.

This Net Zero Strategy, which sets out our path to becoming a Net Zero organisation, is part of that approach. Pragmatic and action oriented, it provides the detail on how we intend to meet our responsibilities and achieve our aspirations.

It builds on the Greater Good strategy, framing this journey in the context of the airport's decarbonisation in terms of the benefits to Scotland as a whole, our passengers, our communities and the wider airport team.

It's a journey we cannot take alone – Scotland's targets will only be met if we work together, and it is our experience that our greatest successes have been from doing just that.

I hope that you find this strategy of use and would welcome working with you to ensure Scotland's connectivity for future generations.

GORDON DEWAR
Chief Executive

INTRODUCTION

Edinburgh Airport is Scotland's gateway to the world, linking our country to destinations across the globe. We understand the value of this international connectivity both in terms of delivering economic benefit through supporting industries like tourism, further education and the financial sector, and also in meeting Scotland's wider aspirations for travel, cultural exchange and learning.

We also recognise our responsibilities in minimising the impact of this connectivity, realising the importance of reducing emissions to mitigate against a changing climate. To create a roadmap for the airport to reduce emissions down to near zero, we have been revising our net zero strategy in 2023. Now we are publishing it for the first time, to make sure the collaboration opportunities and the journey that lays ahead of us is clearly communicated and transparent.

The reasons for reaching net zero as an organisation with our supply chain are clear:

OUR TRACK RECORD IN REDUCING EMISSIONS

DEFINING DECARBONISATION

We are using 2019 as our baseline year for determining a roadmap to net zero emissions. 2019 has been chosen as it is pre-COVID 19 disruption and represented our busiest year to date with 14.7 million passengers. To establish a baseline, a business must ensure the significant majority of emissions in scope are being captured and reported. The diagram opposite illustrates the balance of emission creation and management and illustrates the difference between carbon neutral, which Edinburgh Airport achieved in 2021, and net zero, for which our aspiration is set on 2030 and beyond.

Defining Market-Based & Location-Based Emissions Methodology:

Market-based and location-based emissions methodologies are two approaches used to measure and account for greenhouse gas emissions. Market-based emissions methodology accounts for greenhouse gas emissions based on a businesses' choices in the market. This approach offers a broader perspective on emissions and is commonly used for carbon footprint assessments and sustainability reporting, taking account of green tariffs for procuring energy and renewable energy agreements.

Location-based emissions methodology, on the other hand, focuses solely on emissions that occur within a specific geographic area or jurisdiction. It assigns responsibility to the location where emissions physically occur, often used for regulatory compliance and policy development at the local level by using standardised emissions factors from the UK Government.

We report both market and location based emissions, however we track our baseline and measure performance on a market-basis.

14.7 Million Passengers

Carbon Neutral in **2021** and aspiration for Net Zero in **2030** and beyond.

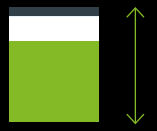
EMISSION CREATION

SCOPE 1
All direct emissions from the activities of an organisation or those under its control

SCOPE 2
Indirect emissions from electricity purchased and used by an organisation

SCOPE 3
All other indirect emissions from activities of an organisation, excluding electricity (e.g. from 3rd party sources)

BASELINE CARBON FOOTPRINT



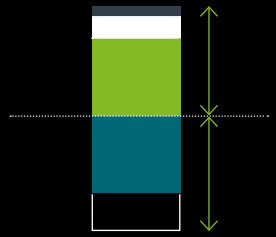
TYPES OF EMISSION MANAGEMENT

REDUCTIONS
Organic decreases in emissions that reduce the carbon footprint

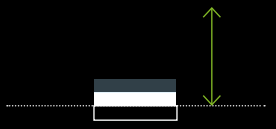
OFFSETS
Carbon credits purchased that help avoid equivalent emissions elsewhere

NEUTRALISATION & REMOVALS
Long-term carbon sequestration via technical solutions (e.g. carbon capture and storage) or natural carbon sink effects (e.g. biochar)

CARBON NEUTRAL
Emissions= offsets + removals



NET ZERO
Reduction achieved and residual emissions = neutralisation + removals



OUR CARBON FOOTPRINT

We have been tracking our carbon footprint at Edinburgh Airport since 2016. Every year, our reporting process and methodologies have matured and we now track over 95% of all emissions generated on-site, through scope 2 electricity usage, alongside emissions from visiting aircraft's landing and take-off cycle (LTO).

Clean Energy: In 2019 we moved to a green tariff for electricity, in 2021 we changed natural gas for biomethane (known as green gas). Last year we also introduced hydrotreated vegetable oil (HVO) as an alternative to diesel in our operational vehicles, where possible.

Building Management: In 2022, we introduced a building management system to monitor and track our energy usage and we undertook air flow modelling, to understand the way that our buildings cool down, heat up and consume energy.

Lighting Upgrades: We have an extensive LED lighting upgrade programme running across the campus. We are upgrading main terminal lighting, changing aircraft stand mast lighting, converting the air traffic control tower to LED and looking at runway lighting too.

Fixed Electrical Ground Power: We are currently in phase 3 of a roll-out of electrical equipment to replace diesel powered generators on aircraft stands. We currently have 18 and by the end of the year we will have 33 units.

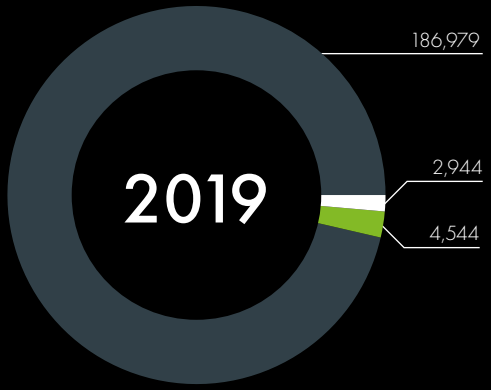
Solar Power: Our 11-acre 9.7MW solar farm, which is made up of over 15,000 panels, is now live and operational at the end of the runway – which is a first for a UK airport. This allows us to self-generate around 25% of our current energy needs.

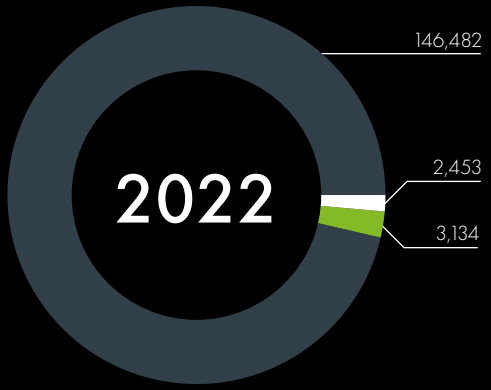
Vehicle Electrification: We are exchanging operational vehicles from diesel & HVO to electric as part of a rolling vehicle replacement programme. As a business, we no longer procure fossil fuelled vehicles and equipment where a suitable electric option exists.

In **2022**, we reduced our **Scope 1 & 2** emissions by **91%** against our **2019** baseline and that's also a **98%** reduction since our carbon tracking began in **2016**.

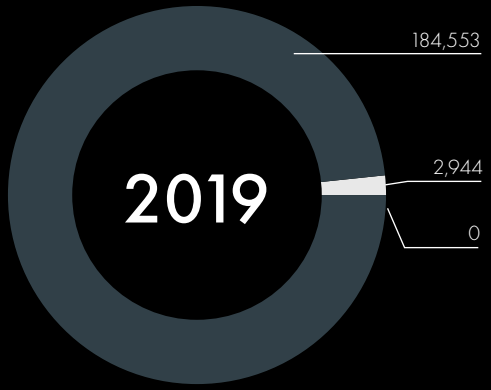
*Using a market-based methodology.

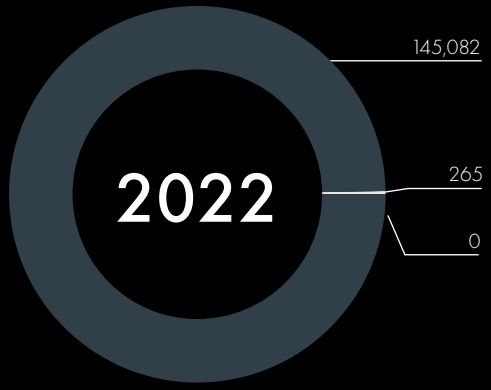
LOCATION BASED EMISSIONS TCO_2E





MARKET BASED EMISSIONS TCO_2E





Scope 1 Emissions
Scope 2 Emissions
Scope 3 Emissions (excl. Climb,Cruise & Descent – CCD)

2022 VS. 2019 BASELINE CARBON FOOTPRINT

Carbon Emissions (Tco_2e)	2019 LOCATION BASED	2022 LOCATION BASED	2019 MARKET BASED	2022 MARKET BASED
Utilities	2,146	2,251	2,146	63
Operational Vehicles	534	33	534	33
Airport De-icer	262	124	262	124
Fire Training	2	45	2	45
Scope 1 Emissions	**2,944**	**2,453**	**2,944**	**265**
Electricity	4,544	3,134	0	0
Scope 2 Emissions	**4,544**	**3,134**	**0**	**0**
Aircraft Movements	140,150	111,480	140,150	111,480
Passenger Surface Access	30,816	24,737	30,816	24,737
Waste	3,328	4,527	3,328	4,527
Utilities	5,039	3,872	2,613	2,472
Staff Commute	6,679	981	6,679	981
Operational Vehicles	755	701	755	701
Aircraft Engine Testing	83	169	83	169
Business Travel	129	15	129	15
Scope 3 Emissions [excl. Climb, Cruise & Descent – CCD]	**186,979**	**146,482**	**184,553**	**145,082**
Scope 1 & 2 Emissions	**7,488**	**5,586**	**2,944**	**265**
Total Emissions [excl CCD]	**194,467**	**152,068**	**187,496**	**145,346**

THE AIRPORT CARBON ACCREDITATION SCHEME (ACA)

ACA is the only institutionally endorsed, global carbon management certification programme for airports. It has 6 stages of certification that airports can be certified at. Edinburgh Airport is currently certified at Level 3 (Optimisation), with an aim to achieve level 3+ at the end of this year, and level 4 in 2024.

To become certified, airports must:

- Independently verify their carbon footprints in accordance with ISO 14064 (Greenhouse Gas Accounting) through an ACA approved verifier.
- Evidence of this must be provided along with case studies demonstrating carbon management, which must also be independently verified.
- Resubmit the above to move up, to prove that they are operating at the next ACA level.

Mapping – Determine emissions sources within the operational boundary of the airport company. Calculate the annual carbon emissions. Compile a carbon report.

Reduction – All of the above plus: Provide evidence of effective carbon management procedures. Show quantified emissions reductions.

Optimisation – All of the above plus: Widen the scope of carbon footprint to include third party emissions. Engage third parties at and around the airport.

Neutrality (level 3+) – All of the above plus: Offset remaining emissions for all emissions over which the airport has control with high quality carbon credits.

Transformation (level 4) – Define a long-term carbon management strategy oriented towards absolute emissions reductions, aligned with the objectives of the Paris Agreement. Demonstrate evidence of actively driving third parties towards delivering emissions reductions.

Transition (level 4+) – All of the above plus: Offset the residual carbon emissions over which the airport has control, using internationally recognised offsets.

OUR COMMITMENT

GETTING TO NET ZERO

We have split our roadmap to net zero into three separate milestones. Milestones for achieving net zero emissions are important, as they provide a structured and measurable approach to transitioning to a sustainable and low-carbon future. Our milestones have been created to ensure:

- Clarity and accountability to all colleagues and an external audience.
- Accurate measurement and tracking of data and progress.
- Motivation and focus for the business in the context of growth and decision making.
- Risk management and prioritisation of response.
- Resource allocation and long-term planning.
- Policy and regulatory alignment with UK & Scottish Governmental targets.

WHY SPLIT SCOPE 3 EMISSIONS?

We speak regularly with our airlines on environment & sustainability, and this includes understanding the timeline for the adoption of new fuels, such as hydrogen, electric flight & Sustainable Aviation Fuel [SAF]. At this time, the technologies required for zero-emission flights may not be commercially available until after 2030. For now, we have aligned our net zero target for air traffic movements with the Scottish Government's target of 2045. This signals best practice and an accelerated ambition against the Jet Zero Strategy's wider UK target of 2050. We will continue to refine and revise our net zero strategy as a business as information, data and technological forecasts become clearer and more granular, so this may change again in a future iteration and move forward to a 2040 target alongside other scope 3 emissions.

2020
2021 — **2021** Carbon Neutral
2022
2023
2024
2025
2026
2027
2028
2029
2030 — **2030** Net Zero scope 1 & 2 emissions
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040 — **2040** Net Zero scope 3 (excluding air traffic movements)
2041
2042
2043
2044
2045 — **2045** Net Zero scope 3 (including air traffic movements)

SCOPE 1 & 2 EMISSIONS: [2030]

What does this mean?

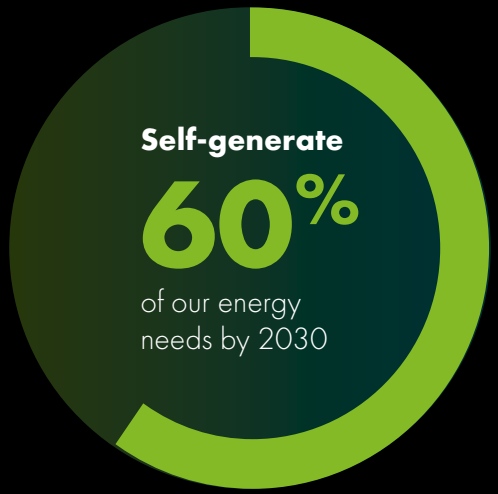
Scope 1 & 2 emissions are those within the direct control of the airport, for example:

- Natural Gas (Scope 1)
- Liquid fuels e.g. Diesel (Scope 1)
- Glycol de-icing products (Scope 1)
- Electricity (Scope 2)

What's the plan?

Getting to net zero for scope 1 & 2 emissions means reducing them to as low a level as possible. We have been carbon neutral since 2021, this was achieved through emissions reductions and small purchases of nature-based, long-term carbon offsets. We created an offsetting strategy in 2022 to ensure we had a clear policy and direction of travel when investing in reputable and credible offsets. However, where the technology exists, we are continuing to replace emission generating fuels and energy with clean renewables or alternatives. For example, we are undertaking a rolling-replacement programme for operational vehicles to change them to EVs (electric vehicles). We are exchanging our diesel generators for aircraft to FEGPs (Fixed Electrical Ground Power units), we are exploring the development of a district heat network onsite to remove the need for green gas to heat our terminal buildings and lastly, we have an ambitious plan to self-generate 60% of our site's energy demand by 2030.

At Edinburgh Airport, we have been procuring a green electricity tariff since 2016 and green-gas, known as biomethane instead of natural gas since 2019. This means we are using renewable and lower-carbon fuels to power our terminal facilities, which lowers our overall carbon footprint. We will continue to procure green energy to supplement our self-generation plans such as the UK's first airside solar farm, which will become operationalby the end of this year, with a peak generative capacity of 9.7MW. We also have a large battery installed, with a storage capacity of 1.5MW. During the summer, when we are generating excess energy, we will charge the battery up and then discharge overnight, which means we will no-longer be drawing power from the grid for night-time operations.



Install Building Management Systems

Explore heating alternatives

Remove diesel use

9.7MW
Airside Solar Farm

Use ECO2 **low-carbon** de-icer

Roll-out of **Electric Vehicles**

Procure **100%** green energy

Reduce lighting electricity consumption

SCOPE 3 EMISSIONS: [2040]

What does this mean?

Scope 3 emissions are those outwith the direct control of the airport, although within our scope of influence. For example:

- Waste
- Tenant Utility Usage
- Business Travel
- Staff & Campus Partner Commuting
- Aircraft De-Icing
- Ground Handling Operations
- Passenger Surface Access

What's the plan?

Getting to net zero for scope 3 emissions represents a challenge for the airport, given the materiality of these emissions. Scope 3 emissions formed 99.8% of our market-based carbon footprint overall in 2022. Reducing scope 3 emissions within an airport estate requires collaboration and partnership working to support third parties with their reductions.

Business Travel: As a business, we are working to reduce our business travel, and we have credibly offset these emissions since 2021.

Surface Access & Vehicular Transport:
We understand that surface access is the scope 3 reduction option that as an airport we have the most influence over. In 2023, we launched a new 6-year capital programme, with over £1.5 million committed to providing the infrastructure to support EV charging campus wide. At the beginning of this year, we installed 40 electric car chargers across our parking estate in conjunction with the Low Carbon Energy Project, that delivered the airport's first solar farm. The chargers are available for staff, campus partners & passengers and to encourage EV adoption and usage, we introduced an electric car salary sacrifice scheme with Tusker in the second half of 2022. We also provide staff access to the EV chargers at cost and campus partners also pay a reduced fee to charge their vehicles. Passengers can also enjoy reduced parking rates in our car parks and reduced drop-off charges when they visit the airport in an electric vehicle too.

DEFINING SCOPE 3:

Edinburgh Airport reports Scope 3 emissions as required under Level 3/3+ of the Airport Carbon Accreditation (ACA) scheme, inclusive of some additional emissions sources. More information on the ACA can be found **here**.

Minimise Waste Generation and **Maximise Recycling**

Introduce a **Campus Partner** Sustainability Standard

Surface Access **Strategy** Launch

Facilitate **Zero-Emission** Ground-Handling

Increase Campus Wide Provision of EV Chargers For Staff, Passengers and Campus Partners

SCOPE 3 EMISSIONS: [2040]

To look at how we approach surface access holistically, we are launching a new surface access strategy this year for the airport. This strategy, which will be launched in the last quarter of this year, will set out our aspiration and plan to enhance and extend the reach of our current public transport provision. This would see us exceeding the 40% of passengers already accessing the airport by public transport, which is the highest modal split for any UK airport outside of London. The strategy will identify opportunities for new routes for public transport, in areas that are currently under-served. Our objective is to support passengers to arrive via sustainable transport options and to support accessible jobs, offering employment opportunities to those who may not have access to their own vehicle.

For operational vehicles, we already have 15 electric cars in our fleet, with more traditional fuelled vehicles being replaced each year as part of our rolling asset replacement programme. We also welcomed our first 2 fully electric coaches this year, to move passengers around the airfield. These zero emission vehicles are reducing our carbon footprint, whilst also reducing our background noise level too. For existing vehicles that have not yet reached the end of their useful life cycle and are still diesel users, we have now replaced their diesel fuel with HVO, Hydrotreated Vegetable Oil. HVO is a sustainable second life biofuel made from animal, plant or algae remains. It offers much lower net greenhouse gas emissions when compared with diesel and is a drop-in fuel replacement.

Ground Handling:

Decarbonising ground operations at the airport is a crucial step in reducing our carbon footprint. Our ground handling agents, who manage various activities such as baggage handling, aircraft servicing, aircraft waste management and fuelling operations, play a significant role in achieving net zero for the Edinburgh Airport site. We are working with our ground handlers to facilitate the change from diesel fuelled equipment to electric or hybrid ground support equipment by installing more charge points as part of our 6-year investment of over £1.5 million. We make HVO fuel available as a diesel alternative and support staff with optimising operations to reduce equipment fuel spend and an efficient aircraft turnaround process. We are also launching a new baggage handling system at the airport this year, known as BBHS – Bulk Baggage Handling System. BBHS is an innovative baggage handling system that reduces the manual handling of baggage. The BBHS baggage handling system is designed to reduce the number of manual handling movements done by ground handling agents. The system stores bags in a multi-tier conveyor system and releases them to the baggage carts when called forward by the ground handling agent. The bags are then automatically loaded onto the carts and delivered to aircraft. This innovative technology is all electric and will reduce the vehicular movements required for baggage and operational support vehicles for this process, therefore reducing the onsite emissions from this activity.

Tenant Utilities & Waste:

In 2023, we are launching our first Campus Partner Sustainability Standard. This standard is aimed at partnership working with all types of third-party goods and service providers who are on-site. Two key elements within the partnership framework are reducing electricity and gas usage and then reducing waste. With increased adoption of LED lighting and energy efficient equipment in the fit-outs of our retail and food & beverage units, we have already seen reductions in third party utilities. A big focus for 2024 however, as part of an ongoing capital project waste review, is reducing campus waste. Waste generated by staff, passengers and campus partners on site contributed just over 3% of our scope 3 emissions last year and by changing behaviours and encouraging less wastage and improved material segregation, we can reduce this down together.

SCOPE 3 EMISSIONS (AIR TRAFFIC MOVEMENTS): [2045]

What does this mean?

An air traffic movement classes the emissions arising from an aircraft's operations on-site and up to 3,000 ft, within what is known as the landing & take-off cycle (LTO). This methodology is defined by the International Civil Aviation Organisation, known as ICAO, and it is used by airports worldwide to calculation emissions, based on the following five elements:

- Approach
- Taxi-In
- Taxi-Out
- Take-Off
- Climb

What's the plan?

Our scope 3 indirect emissions from ATMs are the airline's scope 1 direct emissions, which are those from sources owned or controlled by an aircraft's operator. Airlines are working hard to understand the benefits of new fuels and technologies such as hydrogen and electric propulsions, however these opportunities are only available medium-term. Therefore, sustainable aviation fuels may represent the best way to reduce carbon emissions in the interim, alongside operational enhancements and will continue to be used for long-haul travel into the future.

Improving The Fleet:

Aircraft: Improved engine efficiency helps to reduce carbon, as aircraft manufacturers are continuously working on innovations that improve engine design, combustion efficiency, and overall propulsion systems. Redesigning aircraft for improved aerodynamics can also help to reduce drag and increase fuel efficiency. Existing fleet can also be upgraded with newer engines, aerodynamic modifications, and other efficiency-enhancing technologies which can help reduce emissions from older aircraft that are still in service. Lastly, the research and development of alternative propulsion technologies, such as electric and hybrid-electric propulsion systems, could potentially revolutionise the aviation industry and significantly reduce emissions over time.

In 2022 we introduced a carbon rebate and in 2023, an accompanying carbon tariff. This is an additional charge and rebate scheme, where aircraft who meet specific engine efficiency criteria are awarded a £25 rebate against aero charges, and this is awarded after a carbon charge has been applied to the flight. The charge is calculated from the passenger loading data and the aircraft efficiency which produces an output in tonnes of carbon dioxide.

Improving The Airspace:

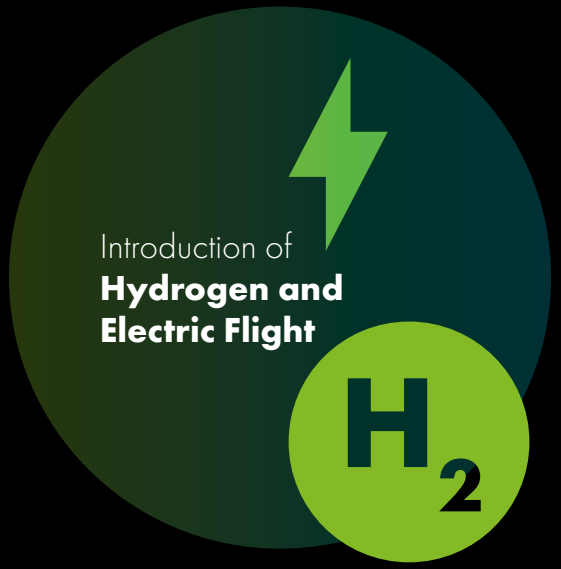
Airspace modernisation refers to the process of upgrading and transforming the design, management, and utilisation of airspace to improve the efficiency, capacity, safety, and environmental sustainability of air travel. The principal idea is to optimise the movement of aircraft through the sky, reducing congestion, while addressing challenges such as increased air traffic and the need for more efficient flight operations.

Edinburgh Airport has an Airspace Change Programme which is looking to modernise our skies by 2025, which will result in a reduction in miles flown, therefore reducing the fuel spend and carbon footprint of our flights. You can find out more information **here**.

Smart Stand Planning to Reduce Taxi-Times

2025 Airspace **Change Programme**

Modernised Aircraft Fleet



SCOPE 3 EMISSIONS (AIR TRAFFIC MOVEMENTS): [2045]

Improving The Fuel:

Both hydrogen and electric flight are being explored as potential clean energy alternatives for aviation. Hydrogen-powered aircraft could offer a roadmap to achieving zero-emission flights, especially for shorter-haul routes alongside electric planes. Sustainable Aviation Fuel (SAF) will also be a crucial component in reducing aviation emissions. This fuel is produced from sustainable feedstocks and can be blended with traditional aviation fuel to lower the overall carbon footprint of flights. As the availability and adoption of SAF increases, airlines can achieve substantial reductions in scope 1 emissions, which will therefore reduce our scope 3 emissions as an airport.

MEETING JET ZERO:

In 2021, the UK Government launched its first Jet Zero strategy. The strategy is a comprehensive plan aimed at achieving net zero greenhouse gas emissions from flights originating from the UK. The strategy emphasises innovation, technology development, and collaborative efforts to achieve its goals through advancements in aircraft design, propulsion systems, and air traffic management to enhance fuel efficiency and reduce emissions. Sustainable aviation fuels (SAFs) play a crucial role, with the strategy outlining support for SAF research, production, and adoption. The strategy proposed a UK-wide mandate of 10% of UK jet-fuel supply to be SAF by 2030, increasing to 75% in 2050.

Edinburgh Airport supports the introduction of the mandate but as with most in the aviation industry, shares concerns regarding the barriers to SAF production in the UK that will allow the country to produce SAF to meet the mandate.

We support a price stability mechanism to provide the price certainty needed to unlock private capital. This capital is vital in developing the infrastructure for SAF production, keeping the UK at the forefront of aviation decarbonisation.

OUR FOCUS ON SAF:

SAF is the bridge between today's technology and the technology of the future and it forms a major part of our efforts to reduce Scope 3 emissions, and as such will remain a major focus for Edinburgh Airport.

The creation of a SAF production infrastructure and a SAF market in Scotland is a complex task. Edinburgh Airport has been collaborating with PETROINEOS, owners of the refinery at Grangemouth and suppliers of Edinburgh Airport's fuel, to explore the best models for Scotland.

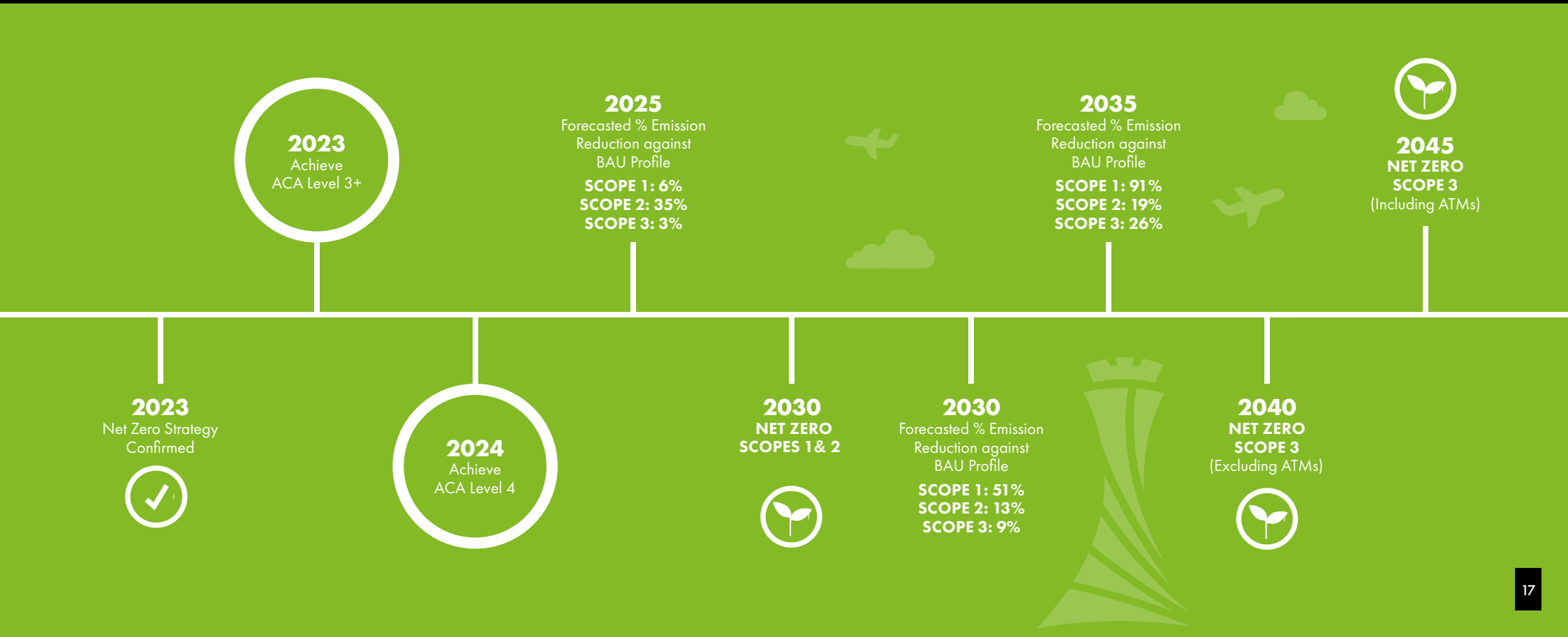
There has been engagement with the Scottish Government on these plans and we will continue to work in a partnership that ensures SAF is placed at the heart of Scotland's just transition to a sustainable future.

We're also playing our part in the wider industry efforts at Westminster to ensure there is a regulatory environment that supports SAF production in the UK.

OUR NET ZERO ROADMAP:

The roadmap below shows the key dates of our journey to net zero, including where we forecast our emissions will be at regular intervals, when compared with a business as usual (BAU) emissions profile. This BAU profile has been projected out from our 2019 emissions baseline, without any further planned investment post 2023. We are now working as a business to create interim targets to guide us to each of the net zero milestones listed below; 2030, 2040 & 2045.

This strategy and roadmap will be reviewed and republished at a three yearly interval, once our science based targets have been created and adopted, and as more information and detail becomes available to share, whichever comes first. The intention is that it is a living document which will respond to changes in our business and the wider Greater Good sustainability strategy.



The data contained in this report have been externally verified in March 2023 by GEP Environmental Ltd.

Methodology:

GEP Environmental completed the review in accordance with ISO 14064 Part 3 (2019): Greenhouse Gases: Specification with guidance for the verification and validation of greenhouse gas statements. The work was undertaken to provide a reasonable level of assurance for Scope 1 and Scope 2 GHG emissions and a limited level of assurance for Scope 3 GHG emissions with respect to the GHG statements made by the airport.

CONTACT DETAILS

Thank you for reading our report, if you have any questions, comments or feedback please email edicommunications@edinburghairport.com

For more information visit edinburghairport.com/GreaterGood

Follow us on:

twitter @EDI_Airport

Facebook @EdinburghAirport

Instagram @EdinburghAirport