



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA

Aviation Strategy

Analysis of consultation responses

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Executive Summary

Introduction

To inform the development of Scotland's first ever Aviation Strategy, a consultation was launched in October 2021 inviting views on how the Scottish Government could best work with others to achieve its vision for aviation: "For Scotland to have national and international connectivity that allows us to enjoy all the economic and social benefits of air travel while reducing our environmental impact."

The consultation invited views across four main topics, namely: transition to low and zero emission aviation; Scotland's international connectivity; Scotland's domestic connectivity; and air freight. More general views on what else the Aviation Strategy should try to achieve were also invited.

Methodology

A total of 93 responses to the consultation were received - 38 from individuals and 55 from organisations. Among the organisations that responded, a broad range of stakeholders were represented including aviation and associated industries, business representative groups, environmental NGOs, local authorities/public bodies, transport partnerships and third sector organisations, among others.

The majority of responses were submitted via Citizen Space, the Scottish Government's online consultation platform, with responses downloaded to a database for analysis purposes. Closed question responses were quantified to ascertain the number and percentage of respondents who agreed/disagreed with each proposal or question statement, and open question data was analysed thematically to provide an overview of the main views expressed by participants.

A series of four virtual meetings with aviation stakeholders were also held during the consultation period, and findings from each event were written up and fed directly into the consultation analysis.

Main Findings: Low and zero emission aviation

Most respondents supported the development of more efficient low and zero emission aircraft, and both public and private sector investment were seen as necessary in order to bring these new types of aircraft to market. Electric and hydrogen flight options were widely supported, especially for short haul in the short term, and this was coupled with calls for infrastructure changes to support a relatively quick move to electricity and hydrogen.

Many encouraged investment into sustainable aviation fuels (SAF) and there was notable appetite for exploring the possibility of domestically produced SAF, as well as investing in training to ensure an appropriately skilled Scottish workforce to respond to new developments and innovation (and to help with a 'just transition'). Financial incentives were also widely cited as an appropriate means of helping increase the use of SAF, with corresponding penalties for those who do not support or make progress towards improving environmental performance.

A long term policy framework with incentives to help generate confidence in low and zero emission aviation and attract investment in large scale SAF production was encouraged. Any developments in low and zero emission aviation and associated public messaging must, however, be transparent and consider the true environmental impacts associated with their roll out and use. Opportunities for reducing, minimising and preventing unnecessary air travel should also be explored, it was felt, especially where alternative surface transport was in place that could be used (generating lower emissions).

Main Findings: International connectivity

There was general support for proposals to improve international connectivity in the interests of inclusive economic growth for Scotland. Some respondents, especially environmental non-governmental organisations (NGOs), however, urged consideration of alternative modes of travel ahead of exploring ways of expanding international air travel, suggesting that the focus should be on aviation demand reduction. Support was also caveated by concerns about the need to ensure that regional connectivity was prioritised and that travel within the UK was not negatively impacted (including exploring ways of better connecting hub airports).

There were mixed views regarding priority routes for both short and long haul, although agreement that destinations closer to home should be prioritised in the short term. A more strategic approach to identifying priority countries (especially long haul) may be needed to take cognisance of anticipated changes in demand post-pandemic. More general government support for the travel and tourism sector was also encouraged, to help recovery from the impact of COVID-19.

Main Findings: Domestic connectivity

There were mixed views in response to questions linked to domestic connectivity. Most respondents favoured the idea of the Scottish Government purchasing and leasing new zero emission aircraft to airlines operating routes in the Highlands and Islands, however, there was some scepticism regarding how this would operate in practice.

There was also no real consensus regarding the Air Discount Scheme (ADS) for those living in remote communities in the Highlands and Islands. Some considered that it had been effective in making communities more accessible and sustainable, maintaining lifeline services, while others felt it did not go far enough to help those most in need.

There was support for the Scottish Government encouraging airlines and other transport operators to offer plane plus train tickets, although it was felt that this may need to be widened to include other transport modes to fit with Scotland's existing infrastructure.

There were very mixed views in relation to the air services needed to best meet the needs of people living in and visiting the Highlands and Islands (including on-demand and open charter services), as well as mixed views on how air services and fares should be managed. While some felt that local authority operation of airports provided greater democratic accountability and an ability to respond quickly to local issues and concerns, others stressed that unified oversight could be financially more beneficial and nullify some of the risk associated with multiple operators.

There was slightly more consensus around the best way of achieving targets for decarbonising scheduled flights within Scotland, with many noting the benefits of incentivising both the development and use of decarbonised, zero emissions technology.

Main Findings: Freight

In relation to air freight, the main themes appeared to be support for investment and development of SAF supply, innovative new technologies and improved infrastructure in Scotland and at Scotland's airports to support and attract freight investment. Development of airport facilities and infrastructure where this could enable improved airfreight connectivity for Scotland was also seen as key.

Several comments were made (both in online responses and at the workshops) about seeking ways to reduce Scotland's reliance on English airports to act as transit points in the transport of freight to/from Scotland. Safeguarding (and better understanding) freight travel in remote and fragile island economies in particular was seen as essential. Making better use of unmanned flights/drones for airfreight purposes in some regions was also supported (although not unanimously).

Exploring ways to improve the road and rail infrastructure to support efficient and sustainable airfreight transport was encouraged. Views were also put forward that opportunities for alternative movement of freight (especially by rail and water) should

not be overlooked and moves to support and enable air freight to the benefit of Scottish airports should not be at the cost of increased carbon emissions.

Cross-Cutting Themes

Financial incentives for the development and use of zero carbon technologies, as well as penalties/taxes/levies for those who continue to use fossil fuel options, was something raised in response to a number of questions. Disincentivising unnecessary aviation was also a recurrent theme although it was recognised that penalties must not disproportionately affect those living in rural, remote and island communities for whom aviation can provide a valuable lifeline.

Support for research and development into zero emissions technology and investing in the required infrastructure to support many of the proposed changes also featured across the consultation. There was consensus that, with the right financial support, the Aviation Strategy may provide an opportunity for the aviation sector in Scotland to explore new and innovative solutions, but that these must be informed by robust research and evidence. Learning lessons from other jurisdictions and taking note of positive advances already made towards sustainable aviation was also encouraged.

The main gaps identified across the consultation were attention to noise pollution, demand reduction and focus on how the wider public transport system (e.g. bus, rail, ferry) can be better integrated with aviation to meet the aims set out. Ensuring that the Aviation Strategy is aligned with policy objectives in relevant fields was also stressed as well as ensuring that it reflects and responds to challenges and changes which are anticipated during the COVID-19 recovery period and beyond.

Conclusions

The findings from the consultation suggest that there is much support for the development of a dedicated Aviation Strategy for Scotland, and also for ongoing involvement of all relevant stakeholders in its development and implementation. Many working in the public and private sectors welcomed the proposals set out in the discussion document and considered that there were significant opportunities for Scotland to embrace new technologies to help meet net-zero targets.

Next Steps

The feedback from both the online consultation and the stakeholder workshops, together with other evidence, will inform the development of the Scottish Government's Aviation Strategy, which is expected to be published in late 2022 or early 2023.

Introduction

Background

To inform the development of Scotland's first ever Aviation Strategy, a consultation was launched in October 2021 inviting views on how the Scottish Government could best work with others to achieve its vision for aviation: "For Scotland to have national and international connectivity that allows us to enjoy all the economic and social benefits of air travel while reducing our environmental impact."

The consultation included 23 questions (21 open and 2 closed) which invited views across four main topics:

- Transition to low and zero emission aviation - with the aim to reduce the environmental impact of aviation, in line with the Scottish Government's commitment to be a net-zero nation by 2045 and for Scotland to benefit economically from the transition to low and zero emission aviation;
- Scotland's international connectivity - aiming to help airports and airlines rebuild and grow Scotland's international air connectivity following COVID-19 to support inbound tourism and sustainable economic growth, whilst reducing the environmental impact of aviation in line with the Scottish Government's commitment to be a net-zero nation by 2045. This includes achieving similar levels of global connectivity as leading peer nations and regions (e.g. Ireland and Catalonia) with the ultimate aim of being able to travel between Scotland and any major city in the world either directly or with, at most, only one stop. Such improvements in international connectivity support Scottish business and stimulate new markets for inbound tourism;
- Scotland's domestic connectivity - the aim being, between Scotland and other parts of the UK, and within Scotland, to have low/zero emission air services that meet the needs of communities and help deliver sustainable economic growth. This includes decarbonising scheduled passenger flights within Scotland by 2040 and having air services in the Highlands and Islands which provide good value for passengers and the tax payer; and
- Air freight - aiming to help achieve the commitment in the National Transport Strategy to promote efficient and sustainable airfreight transport.

To help people answer these questions, Transport Scotland produced a [discussion document](#), with background information on the areas covered by the consultation. The discussion document noted two cross-cutting challenges facing Scottish aviation: the impact of COVID-19 on airports and airlines, and meeting the Scottish Government's target to deliver net-zero emissions by 2045. These targets include

seeking to decarbonise scheduled flights within Scotland by 2040 and creating the world's first zero emission aviation region by decarbonising airport operations and infrastructure across the Highlands and Islands.

Methods

The consultation opened on 18 October 2021 and closed on 21 January 2022 and was run mainly as an online exercise using Citizen Space, the Scottish Government's online consultation platform. Responses received via Citizen Space were automatically collated into a database, downloadable to Excel to facilitate analysis. Some organisations opted to provide non-standard contributions by emailing written documents directly to the Scottish Government, which were manually added to the database for analysis.

Comments given in response to all open-ended questions were examined and where questions elicited a positive or negative response they were categorised as such. The main feedback both in support of and against the content included in the consultation was reviewed, alongside suggestions for alternative and/or additional content, caveats to support and other related comments. Verbatim quotes were extracted in some cases to highlight the main themes that emerged. Only extracts where respondents indicated that they were content for their response to be published were used and a decision was made to anonymise all responses as part of the reporting process.

Closed question responses were quantified and the number and percentage of respondents who agreed/disagreed with each proposal or question statement were summarised in table format.

A series of four virtual meetings with aviation stakeholders were also held during the consultation period, with each event focusing on separate, themed questions from the consultation. A total of 43 delegates, representing 32 different organisations, took part in the sessions (with some individuals attending more than one event). Findings from each event were written up ([see Appendices A to D](#)) and fed directly into the consultation analysis.

Respondent Profiles

A total of 93 valid responses were received to the online consultation - 38 from individuals and 55 from organisations, with a broad range of different organisations and interests represented across the sample. Only one respondent provided an invalid response (i.e. all responses were left blank) and this was removed for analysis purposes. All responses were allocated to respondent 'types' to allow any differences in the views expressed between groups to be explored.

Table 1 below shows the breakdown of the sample by type:

Respondent Type	Number of respondents	Percentage of respondents
Aerospace company (including representative bodies)	4	4%
Aviation and associated industries (including representative bodies)	18	19%
Business representative bodies	7	8%
Community Group	4	4%
Environmental NGOs / representative bodies	6	6%
Local Authority/Public body	5	5%
Third sector	1	1%
Transport Partnership	5	6%
Other	5	6%
Individuals	38	41%
Total	93	100%

Table 1: Number and percentage of respondents by type

Reporting Conventions and Caveats

All responses were screened to ensure that they were appropriate/valid. No organised campaign responses were received and there were no duplicate responses. While some organisational responses were very similar in content, indicating an element of collaboration in the submission process, none were duplicated in their entirety. All were also submitted on behalf of separate bodies and were therefore counted as discrete responses.

Throughout the feedback, there was some evidence of possible misinterpretation of questions, which is highlighted in the reporting where relevant. Although some responses did not directly address the questions being asked, all feedback was analysed and is presented under the appropriate sections below. It should also be noted that some respondents gave feedback in response to some questions that was more relevant to other parts of the discussion document and so the findings presented below should be considered as providing a holistic account of responses, rather than being linked exclusively to only the questions asked. Finally, some respondents did not answer the set questions directly and instead offered more general comments or observations, or provided detailed reports outlining their views

in relation to aviation in Scotland. Again, the content of these was considered and relevant extracts are included in the most appropriate sections of the report.

Due to the small numbers of respondents overall (i.e. <100) some of the main themes to emerge (and which are reported below) relate to just small numbers of individual respondents in real terms. A thematic analysis approach was taken for all qualitative data submitted, rather than attempting to quantify and attribute open-ended data to codes. As a guide, however, and to provide an indication of the strength of feelings expressed, where reference is made in the report to 'few' respondents, this typically relates to fewer than 5 and the term 'several' refers to more than 5, but typically less than 10. Where the term 'many' is used, this relates to 10 or more responses - while this figure may seem low, it often represented a reasonable proportion of those who answered the questions being asked i.e. some questions attracted a response from only half of the overall sample.

Also, due to the relatively small sample overall, no attempt was made to analyse differences in the percentage of organisations versus individuals who agreed or disagreed with the closed questions. Where there was a notable difference in the qualitative views presented by individuals and organisations to the open-ended questions (or by organisations of different 'types') this is noted in the report. Similarly, differences in feedback given by online respondents and workshop participants are noted.

A small number of respondents, mainly individuals and environmental NGOs/representative bodies, also provided responses which reflected very specific environmental concerns/interests and which they repeated in response to all/most of the questions asked (i.e. that aviation should be discouraged, minimised or eradicated for both personal and business travel in the interests of meeting climate change aspirations). This means that there is some repetition in the findings presented below, however, in the interests of transparency and to demonstrate the full range of views that were offered in response to all questions, the data is included as it was presented and weighted in the context of overall feedback received.

Finally, it should be noted that some of those who took part in workshop discussions were attending as representatives of organisations that also submitted formal online consultation responses. While this may mean that there was duplication in some of the feedback received, especially relating to some organisations' niche interests, care was taken in reporting not to double count feedback given by the same organisations using the two different response formats.

The remainder of this report presents the findings from the analysis.

Transition to low and zero emission aviation

The first section of the consultation discussion document sought views on reducing the environmental impact of aviation, in line with the Scottish Government's commitment to be a net-zero nation by 2045 and for Scotland to benefit economically from the transition to low and zero emission aviation.

Q1. What more, if anything, should the Scottish Government and industry do to accelerate the transition to low/zero emission aviation?

Research, Development and Infrastructure Support

The main theme to emerge in response to this question was support for the development of more efficient, as well as low and zero emission, aircraft. Both workshop participants and online respondents urged research and investment into alternative technology, including electric and hydrogen flights and sustainable aviation fuels (SAF). Workshop participants stressed the importance of both private and public sector investment in order to bring these new types of aircraft to market.

Among organisations in particular, investment in technology (and its testing) emerged as a strong theme, as well as the development of SAF at scale:

“There must be massive investment in new technologies to produce and use sustainable liquid aviation fuels (SAF), or electricity. Even designing and building this new infrastructure and (at least in the case of electricity) aircraft will have its own substantial carbon footprint which must be accounted for.” (Individual)

Investment in aerospace engineering and modernisation was also encouraged by several, as well as investment in infrastructure for aviation. Piloting/trials of zero emission flights on some domestic routes was also urged.

Encouraging greater use of electric and hydrogen flights (especially for short haul) and more Scottish Government investment in testing of electric and hydrogen aviation was also suggested by several online respondents. Workshop participants also suggested that electric and hydrogen powered aircraft were particularly promising for the future of short haul aviation and suggested encouraging airlines to use the newest, most fuel-efficient aircraft and to upgrade their fleets. This was coupled with calls for infrastructure changes (both from online and workshop participants) to support a greater move to electricity and hydrogen. Aviation

representatives suggested that the Scottish Government could support airports to put this in place:

“Infrastructure will be key to new technologies that will deliver zero emission flight...the Scottish Government should engage closely with groups such as the British Aviation Group and other infrastructure providers to ensure that Scottish aviation facilities are able to support the development of electric and hydrogen aircraft. This should include a focus on charging stations, hydrogen production, refuelling and distribution capabilities, and requisite maintenance facilities.” (Aerospace company (including representative bodies))

While popular, others warned that use of electric aircraft alternatives was not without negative environmental impacts, and this should be factored into any strategy (i.e. increased electricity demand must be met with plans for renewable electricity generation and, as with electric land vehicles, the manufacture, transport, and disposal of batteries necessary for electrically powered aircraft would need to be considered). Workshop participants concurred with online respondents that it was important to consider the whole supply chain, from production to transportation to storage, as well as the need to consider how aviation’s demand for hydrogen/renewable electricity might impact on other sectors and policy aims. Workshop participants also suggested that it was important to recognise the challenges of switching to hydrogen/electric aircraft and the fact that such aircraft would not be suitable for a lot of Scotland’s international routes.

More general comments included that more investment into research and development was needed, to explore if zero emission aviation was possible and the targets achievable, as well as into sustainable aviation fuels more generally:

“The Scottish Government should consider funding research and development in low and zero emission aviation to attract businesses and research institutes and collaborate with other nations to exchange knowledge and expertise in these areas.” (Transport Partnership)

As a caution, several respondents indicated that, whilst technological developments were welcomed across the sector, they would take time, and progress may not be achieved quickly enough to help meet the Scottish Government’s commitment to be a net-zero nation by 2045:

“...it must be recognised in the Strategy that there are significant challenges to be overcome and that technology is not yet advanced enough to allow users to enjoy the social and economic benefits of

air travel, while reducing the environmental impact of flying to any meaningful extent...until there are greater advances in engine and fuel technology, the aviation sector will struggle to contribute its fair share of emissions reductions to Scotland's net zero target within the required timeframes. The Aviation Strategy must recognise this.”
(Individual)

Partnership working

Alongside research and development, several respondents also stressed that a partnership approach to developing and delivering this part of the Aviation Strategy was needed:

“Achieving net zero emissions for UK aviation by 2050 will require ever stronger partnerships between Governments, the aviation industry and key low carbon innovation partners. Clear policy and leadership decisions are required today, to ensure that today's breakthroughs in aerospace technology, sustainable aviation fuels and carbon removal are maximised.” (Aviation and associated industries (including representative bodies))

Workshop participants agreed that the Scottish Government could play a coordinating role, to help bring together the different strands of activity in relation to low and zero emission aviation. Workshop participants also suggested that international standards could help speed up the use of new types of aircraft and one environmental NGO suggested that a government mandate on their use would also be needed.

The Scottish and UK Governments should also ensure that the right policies are in place to push for and incentivise the transition to low and zero emission aviation by the industry, it was stressed. This may include increasing taxes for unclean aviation fuel (especially on short haul flights) and reducing taxes for sustainably-powered aircraft:

“Incentives need to be in place to push aviation in the correct direction. Fuel costs make up the majority of aircraft operating costs, so a move towards potentially cheaper alternatives benefits all parties - but the technology must be ready.” (Aviation and associated industries (including representative bodies))

Demand reduction

Actively reducing demand or excess travel was stressed across a number of online individual and organisational responses, including reducing flight numbers (especially cancelling flights with low passenger numbers) and limiting the number of flights per person (possibly by introducing taxation of frequent flyers):

“I suggest small aircraft routes could perhaps reduce the number of flights required by offering lower fares to passengers who are flexible with travel times and willing to accept having their flight cancelled and moved to a different day, or time of day. If a flight had only two or three passengers, and those passengers were offered a partial refund of their fares, then, if they all took up the offer, the flight could be cancelled altogether.” (Individual)

Linked to this, several respondents stressed the need to promote alternatives to flying as the most effective way of achieving the transition to low/zero emission aviation. Several suggested decreasing the cost of travel by train or bus and/or increasing the cost of flying. More investment in alternative travel options including trains and buses to encourage more land-based travel (not only within the UK but across Europe) was also suggested:

“The focus really needs to be on reducing aviation full stop, especially domestic flights. That means massive investment in railways to improve services, and dramatically reduce cost of fares to encourage people to use trains and not flights or cars within the UK.” (Individual)

A small number of (mainly individual) respondents advocated here and elsewhere in the consultation that all air travel (except essential travel) should be banned or capped at existing levels.

Travel to and from the airport

Other online respondents (including Regional Transport Partnerships) commented that the aim of low/zero aviation emission would only be achieved if approached in the wider context of Scotland’s transport network and policy objectives to achieve net zero by 2045:

“...it is imperative that aviation continues to be part of the overall transport offering providing good connectivity... and is not seen as a stand-alone method of travel. It needs to be part of an integrated transport system that together aims to decarbonise transport.

Therefore, good surface access to airports by public transport, ground operations at the airport and decarbonising the flights themselves should all be considered in decarbonising air travel.”
(Transport Partnership)

One regional transport partnership suggested that the Aviation Strategy should set out the strategic direction and requirements for getting to and from airports (which although covered by the Strategic Transport Projects Review 2 (STPR2) requires separate strategic thought). The same organisation suggested that the Strategy should build on the National Transport Strategy and complement Regional and Local Transport Strategies, while others stressed that the Aviation Strategy would only be successful if considered alongside wider transport policy change:

“Ensuring that airports are served by good public transport and, where applicable, active travel routes will help to reduce emissions around the aviation sector, as well as those generated directly by it.”
(Business Representative Body)

Other suggestions

Other specific suggestions to accelerate the transition to low/zero emission aviation (mentioned by just one or two respondents each) included:

- increasing the environmental ambition of the [Carbon Offsetting and Reduction Scheme for International Aviation](#) (CORSIA) and the [UK Emissions Trading Scheme](#) (UK ETS) to incentivise airlines to use low and zero emission aircraft.
- introducing measures to end all engine idling in airports (including plane engine idling, airport buses, cars, taxis, etc.);
- encouraging small aircraft to use more regional airports;
- connecting up some small regional airports with overseas destinations that are comparatively close and reinstating some short haul connecting routes;
- banning light aircraft unless essential and banning executive/private planes;
- introducing more efficient scheduled arrivals management systems/refine scheduled aircraft arrival streaming; and
- actively promoting the importance of behaviour change.

Specifically for the islands, one local authority suggested that the Scottish Government could accelerate the transition to low and zero emission aviation by continuing support in meeting the costs of air travel. This would ensure healthy demand for travel to/ from the islands which would support commercial viability of

services. This in turn would also support operators in stimulating demand for net zero aircraft solutions and the pace at which they are developed.

A small number of respondents questioned the evidence and data underpinning the discussion document with perceptions that the proposed tools for achieving emission reductions would not be able to deliver the reductions that are necessary in the short and medium term. Reliance on Emissions Trading Schemes and offsetting arrangements such as CORSIA received specific criticism and some stressed that the discussion document did not go far enough in putting forward the radical proposals for change that were needed to achieve the set targets.

Q2. What can the Scottish Government do to help increase the use of sustainable aviation fuels?

Feedback on this question focussed mainly on financial solutions that the Scottish or UK Governments could adopt to encourage sustainable aviation fuels (SAF) production and use, including:

- reducing cost of SAF to operators;
- providing grants, loans and/or subsidies to airlines to encourage use of sustainable aviation fuels;
- heavier taxing of non-sustainable fuels (and lower taxes for SAF compared to non-sustainable fuels); and
- funding of more research and development into sustainable aviation fuels.

There was consensus that SAF needed to be financially attractive for airlines. Tariffs on sustainable and traditional aviation fuels needed to be transparent and easy to administer and the Scottish Government should seek to influence the UK Government to deliver, with urgency, a progressive taxation environment for the most sustainable fuels, it was suggested.

More general investment in, and promotion of, SAF and, more specifically, a desire to encourage production of SAF in Scotland, was stressed by several online respondents. This included actively working to establish manufacturing sites at suitable locations such as Aberdeenshire, Grangemouth and possibly even in Shetland using the existing pipelines to get SAF to the mainland. Several respondents said that SAF were currently cost-prohibitive and that a key priority would be reducing production costs, including by encouraging domestic production within Scotland. Workshop participants also noted the possible economic and environmental opportunities from the production of SAF in Scotland and suggested that there could be a role for government in starting this up/providing investors with

the confidence to spend the large sums of money which would be needed to take this forward.

Domestic production would also mitigate the costs, environmental damage and high carbon footprint associated with importing sustainable (crop based) fuels:

“It harms the environment to grow crops specifically for fuel - even more so when imported. The fuel for growing and transport is likely to exceed the final product. Imported fuel from crops often drives deforestation.” (Individual)

There was agreement among those in the aviation industry that SAF needed to be easily available, viable and cleared for use on aircraft. It was felt that the Scottish Government could help with this by assisting in the development of an economically viable SAF infrastructure for different fuel types, and by applying pressure to aircraft and engine manufacturers to test and clear the use of such fuels on their aircraft.

Others (mainly operators) expressed concerns regarding increased costs as well as supply, and suggested that the UK government’s proposed mandated use of low blends of SAF may cause demand to outstrip supply for the foreseeable future as well as increasing costs to passengers disproportionately. Therefore, government support to enable the infrastructure and supply to deliver sufficient SAF to meet demand was encouraged:

“The Scottish Government should set out a comprehensive policy framework for commercialising SAF, which in addition to financial mechanisms, must ensure the planning system is supportive of the development of SAF plants.” (Aviation and associated industries (including representative bodies))

“Scottish Government can tackle some of the commercial risks to the private sector of developing and investing in production and distribution infrastructure through supporting key projects and coordination the planning at a Scottish level.” (Local Authority/Public Body)

Other suggestions to help increase the use of sustainable aviation fuels included:

- phasing out of fossil fuels;
- prioritising use of SAF for domestic flights in the short term, which is likely to be more acceptable and achievable for operators;
- pricing all flights as if they were already using SAF to challenge and change expectations around the cost of flying;

- mandatorily offsetting all tickets and implementing a frequent flyer levy. These views were countered, however, by those who stressed it would be important not to exclude people who rely on flying, particularly with regard to Highland and Island communities;
- support to enable the development of technology to create SAF; and
- increased funding for research and development of SAF.

More general comments suggested the need for very specific and measurable goals in SAF use to be set at the UK level to ensure progress is made and can be monitored:

“The lack of clear, long term Government policies to support SAF production in the UK has pushed back SAF production and use... we are urging the Government to set out a comprehensive policy framework for commercialising sustainable aviation fuels, alongside finance mechanisms that will be critical to delivering first-of-a-kind UK SAF plants. Specifically, the SAF mandate needs to be implemented along with a UK price stability policy, such as contracts for difference, by the end of 2022. This is to ensure the UK realises the full potential from SAF.” (Aviation and associated industries (including representative bodies))

A minority indicated that they were sceptical about the aspirations to increase the use of sustainable aviation fuels with some suggesting that SAF were not as desirable nor as reliable as was assumed by the discussion document. This included comments that biofuels had a “mixed track record” (e.g. for land vehicles), concerns that the ‘feedstock’ used for the manufacture of SAF may not be genuinely sustainable or renewable, and that there may be negative implications/contradictions of increasing SAF on such things as policies linked to land use, food supply and waste reduction, etc. While the ‘feedstock hierarchy’ gave some confidence, the true sustainability of SAF was still questioned by others.

Environmental NGOs who took part in the workshop welcomed the emphasis on high environmental criteria for SAF and noted the need to learn lessons from the use of biofuels in other areas. Workshop participants also recognised the challenges around feedstock supply and environmental NGOs suggested that demand reduction also needed to be considered, as less SAF would be needed if there were fewer flights. Some aviation industry representatives suggested that power to liquid fuels using carbon capture or ring-fencing a certain amount of feedstock for SAF may provide a solution. The need to align with agricultural policy was also mentioned at the workshop, as this could help with feedstock supply.

A small number of online participants also stressed that SAF were not unproblematic in their use and some instead favoured hydrogen-electric over biofuels as the way forward for what they perceived to be truly sustainable aviation travel. Supporting and investing in hydrogen infrastructure was also encouraged as well as more piloting of drones and unmanned aerial vehicle technology to replace non-passenger flights. Opposite views were offered by a small number who felt that use of SAF would provide an invaluable bridge while alternative technologies and infrastructure were still being developed:

“Many low/zero-emissions aviation technologies are, while promising, still in the early stages of development and some distance from commercial deployment, so Sustainable Aviation Fuels can provide a vital early-stages measure towards decarbonising aviation while other technologies mature.” (Business Representative Body)

Others suggested that use of SAF alone would not be sufficient to deliver the required emission reductions and the Scottish Government was cautioned against over-reliance on SAF in meeting targets.

Workshop participants referenced the work that the UK Government was doing in this area, including considering a ‘Contract for Difference’ like mechanism for SAF as well as the SAF mandate consultation, both of which could be considered in the development of the Aviation Strategy.

A minority disagreed that SAF was ‘sustainable’ and expressed views that genuine sustainability required shifting away from air travel *per se*.

Q3. What do you think the Scottish Government can do to help ensure a just transition to net-zero for the Scottish aviation sector?

There were disparate responses to this question with a broad range of suggestions for ensuring a just transition to net-zero for the Scottish aviation sector.

Cross-sectoral approach

Support for the travel sector throughout the transition was also stressed by many and, in particular, support for aviation workers. The potential for those employed in the aviation sector to be negatively impacted by the proposed changes was noted with a need for them not to be disadvantaged but supported:

“...the Scottish and UK Government should use this opportunity to support further research and development to enable the creation of new green aviation jobs as part of the transition towards net-zero.”
(Business Representative Body)

Environmental NGOs that attended the workshop suggested that a just transition could not be done on a sectoral basis but needed to be across the economy. While there might be fewer jobs in aviation due to the need to reduce demand, the Scottish Government should still seek to ensure that there are other good quality jobs available, and support individuals in acquiring the new skills they needed to transition.

Workforce Training and Skills

Investment in training and skills for those working in aviation and other carbon intensive industries was also suggested by several online respondents, including retraining those already in the industry and supporting workers to remain in employment during any transition to new technology:

“This process should be used to inform priorities for government/corporate investment in training and skills for workers who need to transition either to alternative jobs within a transformed aviation sector, or to another sector where their skills will be utilised.”
(Environmental NGOs/representative bodies)

The scope to develop a new skills base and create skilled jobs in green aviation was highlighted and, again, some respondents urged creation and investment in a domestic SAF industry:

“By working with existing airport and airline operators to support retraining in these skills, as well as looking for opportunities to retrain high-skilled workers from other sectors such as nuclear or oil and gas, there is a real opportunity to make this a Just Transition not only for the aviation sector but across a range of regions and sectors.” (Business Representative Body)

“Domestic SAF is also important to ensure that Scotland can have greater control over delivering their own net zero goals rather than relying on the import of SAF from abroad.” (Aviation and associated industries (including representative bodies))

Workshop participants noted that, while the necessary skills may already exist in Scotland to enable SAF use and production, hydrogen was more challenging. As

well as needing the safety regulations in place to support growth in this area, it would be helpful to have guidance to help organisations train their staff for its safe transportation, storage and refuelling, they suggested. Workshop delegates also noted that it is too early to determine the skills workers might need for the use of electric/hybrid aircraft until it becomes clear which kind of aircraft will be used and how they will be recharged.

Partnership working

Engagement of all relevant stakeholders in taking this part of the strategy forward was stressed again, including Scottish and UK governments, local communities, customers, employees and employee representative bodies, suppliers, industry and educational institutions:

“We recommend that the Scottish Government use its convening power to bring industry sectors together in pursuit of the required solutions. For example, the transportation, infrastructure and energy sectors must work together to co-ordinate efforts in response to net zero goals.” (Aviation and associated industries (including representative bodies))

Engagement must be wide ranging and far reaching both within the UK and international context to secure a wider policy environment that secures a just transition, it was suggested.

Communications/messaging

Both aviation industry representatives and environmental NGOs suggested that the messaging around low and zero emission aviation needed to be clearer to ensure a just transition, although these groups expressed different concerns around communication.

Among aviation industry respondents, views were expressed that careful messaging throughout the transition was needed to avoid excessive blame being projected onto the aviation industry for emissions (with accurate and transparent data being available to show the relative contribution of aviation to overall emissions compared to other modes). This was key to minimise risks of the aviation sector being alienated (post-COVID), especially in relation to travel and tourism:

“There must be a positive dialogue surrounding travel and tourism during the transition. Travel is not the enemy - carbon is - and the Scottish Government must support messaging around how

responsible international tourism is a force for good.” (Aviation and associated industries (including representative bodies))

Aviation industry representatives at the workshop also stressed that, due to the economic and social benefits achieved from air travel, decarbonisation needs to be done in a way that does not deter/stop people from coming to Scotland. Communication should also be transparent about future regulations required to reduce emissions, it was suggested.

For environmental NGOs and representative bodies, there were also views that public awareness should be increased specifically around the total environmental impact of flying:

“The cost of flying to the climate affects the wider population, while the benefits are enjoyed by a relatively small group of people. It would therefore be unjust to allow the aviation sector to continue its climate-destroying practices while carbon reductions are made elsewhere.” (Environmental NGOs/representative bodies)

Challenging individual travellers’ behaviour to encourage behaviour change (including, for example, promotion of individual carbon calculators) was again suggested by a small number of respondents.

Environmental NGOs also stressed that any public messaging around low and zero aviation needed to be realistic about the limits of technology to solve the problem. At the workshop, it was also suggested that the Scottish Government could strengthen the narrative on ongoing actions and commitments to lowering emissions, and on airspace modernisation and its benefits, to increase public awareness.

Among all groups there was consensus that a just transition would require never excluding or disadvantaging vulnerable or marginalized groups within society as well as protecting lifeline services for rural, remote and island communities.

Avoiding negative economic consequences

It was suggested that financial support (grants or loans) for the shift to new technologies/new fleets and to incentivise operators, as well as to minimise the costs of transition being passed directly to passengers (e.g. through increased ticket prices) would help operators to step into the future. One respondent specifically suggested utilising the £500M Just Transition Fund to provide grants to support Scotland’s SAF and aviation research and development projects to support the Scottish aviation sector’s net-zero transition.

Ensuring that airports are effectively serviced by local (surface) transport networks and improving public transport access also featured in several responses:

“...aviation needs to be considered as part of an integrated transport system and net zero for ground access and support services should be achieved as soon as possible at all Scottish airports.” (Transport Partnership)

Other comments

Many reiterated earlier support for research, development and testing of new technologies, including hydrogen and electric aircraft and offered support for sustainable aviation fuels in response to this question. In particular, support to Scottish academia and industry in the maturing of technology was suggested to avoid a reliance on foreign developed solutions. Separate, specific focus on smooth transitions for rural, island and isolated communities was also encouraged:

“...work closely with Scotland’s airports and airlines to support further trials of electric and green aircraft, particularly in the Highlands and Islands where short distance flights offer excellent opportunities for testing.” (Business Representative Body)

At a more fundamental level, a minority of respondents questioned if a ‘just transition’ was possible or desirable. Some workshop participants considered that there may be different interpretations of what is meant by a ‘just transition’ and what it would entail, and said it would be useful for the Scottish Government to offer further clarification. The process of change must start immediately, some suggested, with minimal scope for delays in the development, testing and implementation of alternatives in order to help avert the climate crisis:

“I disagree with the proposal for a ‘just transition’. What is needed is drastic and immediate action. While this would no doubt cause disruption it would also send the strongest message to industry that it needs to change, and fast.” (Individual)

Finally, it was suggested that thought could be given to how Public Service Obligations (PSOs) could be structured to support a just transition

Scotland's international connectivity

The discussion document set out what the Scottish Government aims to achieve for international air connectivity, based on existing strategies and commitments:

“To help airports and airlines rebuild and grow Scotland's international air connectivity following COVID-19 to support inbound tourism and sustainable economic growth, whilst reducing the environmental impact of aviation in line with the Scottish Government's commitment to be a net-zero nation by 2045.

This includes achieving similar levels of global connectivity as leading peer nations and regions (e.g. Ireland and Catalonia) with the ultimate aim of being able to travel between Scotland and any major city in the world either directly or with, at most, only one stop. Such improvements in international connectivity support Scottish business and stimulate new markets for inbound tourism.”

Q4. Considering future challenges and opportunities, what changes, if any, should we make to our approach to help achieve our aim for international connectivity?

Among those who answered this question, most supported proposals for improving international connectivity, especially the introduction of new international routes, and viewed that this was essential for the Scottish economy:

“Good international connectivity is crucial for the economy of Scotland's cities, with Edinburgh and Glasgow providing direct flights to a significant range of international destinations, including hub airports such as London Heathrow and Amsterdam Schiphol. Connections to these hub airports are particularly important to smaller regional airports providing a gateway to long haul destinations.” (Transport Partnership)

A minority did not welcome proposals for more direct/international routes since they perceived that this would encourage more air travel instead of reducing demand. This group stressed that rail, bus and ferry travel as alternatives to international air travel should be encouraged, as well as exploring digital connectivity which would reduce the need for travel between countries.

Suggested changes to approach

Respondents from the aviation industry and business representative bodies put forward the view that more needed to be done to help the aviation industry recover

from COVID-19 and grow Scotland's connectivity. More general government support for the travel and tourism sector was also encouraged, to help recovery from the impact of COVID-19 (including minimising the use of new or existing COVID-19 related restrictions wherever possible). Workshop participants noted that Scottish Government support to the sector for route development had been good pre-COVID, but that there was a need to consider how the approach could change to respond to the pandemic.

Investing more meaningfully in route development and Scotland's international connectivity was suggested and another respondent stressed that this would entail close partnership working between the Scottish Government and relevant partners, especially the business community:

"It is now vital that this approach continues and that Scottish Government works in close consultation not only with the aviation sector but with the wider business community to understand their needs and re-establish the international connectivity that is so vital to Scotland's growth." (Business Representative Body)

Among the delegates who attended the dedicated International Connectivity workshop, there was a consensus on the need for the Scottish Government to work with the sector to understand how support can best be targeted; intelligence on likely future trends around demand and capacity was needed, they suggested, as the strategy is developed.

As a way of further improving connectivity, suggestions were put forward to improve rail and bus networks to/from all Scottish airports, as well as between UK airports (which would benefit both tourist and freight travel):

"The aim of 'being able to travel between Scotland and any major city in the world either directly or with, at most, only one stop' should take into consideration English airports and direct links to airports by other modes of transport, such as rail." (Transport Partnership)

Improving airport infrastructure, including increasing the number of electric car charging ports, offering more electric hire car options, etc. was also encouraged to improve international journeys overall. One respondent, however, cautioned that while new routes may be valuable to consider long term, the fact that new technologies and travel by electric or hydrogen means was not yet fully developed, tested and understood may make it prudent to pause route and airport expansion until the future of air travel becomes clearer. In not doing so, there was a risk of building the wrong infrastructure, they suggested.

Other suggestions included:

- that the Scottish Government could allocate more resources and consider how to be more creative in its approach;
- exploring with the UK Government the feasibility of establishing short term public service obligations to cover international flights to and from Scotland;
- supporting communities to develop and operate their own airports;
- ensuring that appropriate and affordable facilities are in place for disabled travellers and their carers; and
- developing a new Air Route Development Fund to enable Scottish airports to compete effectively in the competitive market for new route slots.

While most respondents welcomed more direct routes, some caveated their support by suggesting that there was a need not to focus on Glasgow and Edinburgh alone as the two most central airports, but to consider connectivity of smaller airports too.

Other comments

Respondents from the aviation industry criticised the consultation for not asking about Air Passenger Duty (APD) and Air Departure Tax (ADT) when considering what action the Scottish Government could take to restore and grow Scotland's connectivity, i.e. as a means of improving connectivity and making travel more accessible and affordable:

“APD should at least be recognised as a factor influencing the decisions of airlines. No credible Scottish Aviation Strategy can ignore it.” (Aviation and associated industries (including representative bodies))

One respondent indicated that they felt this area of the discussion paper (and future strategy) needed to be refocussed as they perceived that it reflected the pre-COVID situation more than the current situation faced by aviation in Scotland.

Q5. Do you agree with the priority countries for short haul and long haul set out in the table above?

The discussion document included a proposed list of priority countries for short haul and long haul flights to help rebuild Scotland's air connectivity to support business and tourism (see [Appendix E](#)).

Among those who provided an answer to this question, a slightly higher proportion agreed with the priority countries for short and long haul set out in the discussion document compared to those who disagreed. The valid percentage, in the table below, shows the proportion of respondents who said 'yes', 'no' or 'don't know' once the non-responses were removed. This provides a more accurate account of the strength of feeling among those who answered the set question.

Response	Number of respondents	Percentage of respondents	Valid %
Yes	28	30%	47%
No	22	24%	37%
Don't know	10	11%	16%
No response	33	35%	-
Total	93	100%	100%

Table 2: Number and percentage of respondents who agreed with the priority countries for short haul and long haul set out in the consultation discussion document

While most respondents simply noted that they were generally supportive of/in agreement with the priority countries listed, a few put forward specific suggestions for inclusion, as follows:

Short haul	Long haul
Austria	Brazil
Denmark	Chile
Estonia	Ethiopia
Iceland	India
Lithuania	New Zealand
Poland	Qatar
Sweden	Russia
	South Korea
	UAE

Some gave less precise suggestions including:

- inclusion of Scandinavia and the Baltic states in short haul;
- Asia, in general, to feature on the long haul list (but the respondent did not specify which countries they intended);
- addition of the Middle East and North Africa;
- addition of the South African Development Community nations;
- including countries from which Scotland is looking to attract workers; and

- widening out Australia to Australasia (delegates at the dedicated workshop noted that direct connectivity with Australia might impact on Scotland's global hub connectivity which was also essential).

There were few suggestions for removal or de-prioritisation, with only one or two respondents each commenting that:

- Belgium and Ireland should be removed as short haul priorities;
- Australia should be removed because it had shown a lack of action on climate change and was not a popular tourist or business link;
- Japan as business may be limited; and
- China, questioned on the basis of both business and tourism grounds, as well as its perceived lack of action on climate change.

Some respondents also questioned the priority order given and put forward different suggestions including:

- that Ireland should be higher up the list of priorities;
- that Norway should be given more priority/be moved above Germany; and
- France, Netherlands, Norway and Belgium should all be further down as they can be reached easily by ferry and train.

Other online participants commented more generally that the rationale for the priority order in the discussion document was not clear and that a more strategic approach to identifying priority countries (especially long haul) may be needed:

“A strategic approach based on access to key international hubs could be more appropriate.” (Transport Partnership)

“Long haul destinations should only be supported if there can be shown to be an existing unmet need, not based on the creation of a new need.” (Individual)

Alternatively, it was proposed by workshop delegates that the Scottish Government could focus more on connectivity and on its desired outcomes, and demonstrate greater flexibility in its approach, rather than establishing a prescriptive list of countries. This would also entail a greater focus on hubs, which provide access to many countries. If such an approach were adopted, it was acknowledged that the Scottish Government would still require some kind of structure to govern its decisions, and that there would not be funding available to ‘do everything’.

More general comments included that, subject to their projected economic and political situations, the priority countries could be annually reviewed. Having a flexible list of priority countries was also seen as important post-pandemic and post-Brexit, as Scotland's economic needs may fluctuate over time:

“We welcome the plan to align to Scotland's trade, inward investment and tourism strategies to develop this priority list. We would encourage Scottish Government to revisit and revise this list on a regular basis and to remain open to opportunities not identified at the outset of the strategy. These might include opportunities presented by new Free Trade Agreements struck by the UK, for example with India and the Gulf Cooperation Council. It will also be important to consider priorities for connectivity with regional markets within countries”. (Business Representative Body)

Several respondents again encouraged close working between the Scottish Government and businesses in taking forward the plans to ensure that maximum benefits to the economy could be realised:

“Ensuring that the priority list is developed in conjunction with businesses and UK Government to support collaborative working and a strategic four-nations approach to route development and connectivity will benefit Scotland's airports and connectivity with other parts of the UK...[Organisation] propose establishing a further sub-group to bring together business, the aviation sector and Scottish Government officials from Transport Scotland, Economic Development and International Trade Officials from both the Scottish and UK Government's to examine the priority destinations in greater detail to ensure they provide maximum economic benefit to Scotland's economy.” (Business Representative Body)

Similarly, it was stressed that it would be important for the Scottish Government to work closely with the tourism industry in finalising any list of priority countries in the strategy:

“It is important that the Scottish Government, working with the UK Government and other international partners, supports the role of tourism as a force for good in terms of economic development and employment, both domestically and internationally, and considers the role that tourism can play in terms of global links and soft power as part of future trade deals with partners around the world.”
(Aviation and associated industries (including representative bodies))

Two respondents indicated support for the countries listed but expressed that flights should not all originate from Glasgow, Edinburgh, Aberdeen and Inverness - regional airports should also be given direct access to some of the priority countries and other hub airports. Prioritising better connections to hub airports in Europe was also suggested:

“While much international connectivity takes place from larger, hub airports in the UK, it is also important to consider the important role that regional airports play in feeding traffic to these hubs for onward international connections. Scottish Government should explore the possibility of using mechanisms such as Public Service Obligation routes to support additional connectivity between regional airports in Scotland and key hubs for international flights.” (Business Representative Body)

A minority of respondents again expressed the view that no flights should be prioritised and/or that air travel (especially long haul) should be minimised, wherever possible as it was incompatible with the climate requirements:

“Prioritising any long haul destination means that we will struggle to reach our carbon reduction targets. At a time of climate crisis we should be reducing emissions as far as possible, and it is difficult to see how flights to Australia fit within this.” (Environmental NGOs/representative bodies)

Q6. Which other countries should we focus on in the: Short term (next 2 years); Medium term (2-5 years); Long term? (5 years plus)

Many respondents did not provide any feedback in response to this question. Among those who did, the main theme was a focus on local/European countries in the short term, and long haul countries more medium to long term (although this was not unanimous). Respondents did not typically list countries, and instead offered more discursive responses providing reasoning for prioritisation of ‘regions’ (e.g. Europe, North America, Baltics, etc.) The specific countries and regions that were suggested included:

Short term	Medium term	Long term
Amsterdam (As a key hub airport)	Baltics	Africa
Austria	Brazil	Asia
Baltics	Canada	Australasia
Cyprus	Caribbean	Australia
Denmark	Far East	Caribbean
Eastern Europe	Finland	China
England	Iceland	India
Finland	India	Far East
Hong Kong	Italy	Hong Kong
Iceland	Middle East	Mediterranean
India	New Zealand	Russia
Middle East	North Africa	Singapore
New Zealand	Norway	South America
Poland (mentioned by several)	Portugal	USA
Portugal	Russia	
Scandinavia	Singapore	
Sweden	South Korea	
Turkey	Spain	
	Taiwan	
	USA	

In the short term, there were views that short haul flights should receive prioritisation, as well as domestic connectivity, and that this would in turn allow for better global connectivity. Regional connections to international airports within Scotland should not be overlooked it was suggested by one, and another indicated that cuts to regional connections would otherwise continue to affect travel plans and limit the connectivity of Scotland.

There were suggestions that innovative routes between international destinations with close proximity should also be prioritised in the short term as these would expedite adoption of zero-emission flight technologies.

A small number of respondents mentioned longer haul 'seasonal' flights as a medium term focus (mainly linked to tourism).

A small number of respondents indicated that they were reluctant to put forward suggestions because they felt that there were too many uncertainties, especially in the medium and long term, around both business and tourism travel. Focussing on consolidating and strengthening existing connections was instead proposed:

“Given the current international situation and the uncertainties associated with Brexit and post-COVID scenarios it is challenging to

make realistic predictions as to any changes in the short, medium and longer term. Change will probably evolve rather than move forward in a predictable manner. Perhaps the need to maintain existing connections particularly as regards key global hubs should also be focussed on.” (Transport Partnership)

A small number again also stressed that international travel and new routes must be demand led and felt that demand was difficult to predict, especially post-pandemic. Consolidating, re-establishing and enhancing existing hub-connectivity was mentioned for the short term with expansion seen as a more long term aspiration once the sector had had a chance to recover from the impacts of COVID-19:

“[Organisation] believe that the short term development should look to re-establish any European and North American links that have been lost during the course of the pandemic, whilst also examining the potential for enhanced Hub connectivity that has the potential to attract customers and drive economic growth.” (Business Representative Body)

Again, a minority put forward no suggestions instead stressing that the focus should be on alternative travel options, rather than aviation. A handful of respondents again indicated that long haul routes in particular should not be prioritised due to their negative environmental impact.

Q7. How do we incentivise the use of more efficient aircraft, whilst still ensuring that we secure the routes Scotland needs?

Many respondents simply reiterated answers to earlier questions, including suggestions for financial penalties for operators who do not use sustainable approaches (including higher taxes for non-sustainable fuels), as well financially supporting or rewarding those who commit to SAF and the use of more sustainable aircraft (including tax breaks for hydrogen/electric aircraft):

“A clear incentive would be to address airport, Air Traffic and Navigation Charges for Operators...An alternative would be to introduce some form of charging mechanism for operators who do not embrace the available technologies or meet the [Scottish Government] goals to offset against a discount for those that do.” (Aviation and associated industries (including representative bodies))

Again, some suggested a lower rate of APD should be charged for more fuel-efficient aircraft and higher rates for conventional high-emissions flights. The need to ensure affordable connectivity for rural and remote communities was again stressed.

Workshop delegates suggested that, in providing route development support to the sector, the Scottish Government could seek to incentivise cleaner aircraft. However, the potential difficulty of turning away a request for support because the aircraft being used was not the latest, cleanest model available would need to be acknowledged.

Others, again, reiterated the development and use of new electric, hydrogen and hybrid aircraft to ensure that Scotland remains globally well connected and competitive.

Auditing and removing non-sustainable fleet was suggested by a handful of respondents, as well as offering direct support to those air carriers that have modernised their fleet. Reducing airport landing fees for more fuel efficient aircraft was also suggested by a small number of respondents.

Focussing on developing and maximising the use of regional airports was again suggested:

“Encourage airlines - by providing incentives - to adopt shorter routes in smaller aircraft out of more regional airports to appropriate destinations.” (Individual)

Other suggestions put forward by just one or two respondents each included the Scottish Government subsidising routes, as well as sponsoring next generation aircraft and providing funding for new technology research and development. Subsidies and loans to start-up and legacy companies to invest in electric aircraft was also posited.

Workshop delegates suggested that route development business cases should include a description of the airline’s environmental commitments to aid decision making. In any case, it was suggested that the market was already driving environmental improvements to aircraft without the Scottish Government necessarily having to develop any new policy or commit further resources to encourage this process. Encouraging the use of sustainable aviation fuel may be a far more productive and useful role for Scottish Government.

Several also indicated that clear communication and target setting was needed, setting out the standards required by the aviation industry:

“In negotiations, and the formation of partnerships, the Scottish Government could set requirements or targets around reducing the environmental impact and the use of more efficient aircraft, sustainable aviation fuels, etc.” (Transport Partnership)

A minority voiced views that international travel should be viewed as a luxury whilst the climate emergency is a necessity and, as such, securing new routes should not be prioritised (with alternative modes being promoted instead). Overall, however, the main theme in response to this question appeared to be calls for financial incentives to stimulate low and zero emission flight and penalise carbon fuelled flight as the way forward, building on existing good practice and developments already underway:

“The Scottish Government in this strategy should acknowledge and welcome the significant progress the market is already making in terms of driving forward environmental improvements to aircraft and offer ongoing assistance to support this work.” (Business Representative Body)

Scotland's domestic connectivity

The third part of the consultation discussion document set out aims for domestic connectivity, based on existing strategies and commitments, namely:

“Between Scotland and other parts of the UK, and within Scotland, to have low/zero emission air services that meet the needs of communities and help deliver sustainable economic growth.

This includes decarbonising scheduled passenger flights within Scotland by 2040 and having air services in the Highlands and Islands which provide good value for passengers and the tax payer.”

Q8. What do you think about the idea of the Scottish Government purchasing new zero emission aircraft and leasing them to any airline operating routes in the Highlands and Islands?

Among those who answered this question, most were in favour of the proposal for purchasing and leasing new zero emission aircraft to airlines operating routes in the Highlands and Islands. There was a sense that these routes could be transformed into zero emission routes relatively quickly and easily, and that such an option would help support/speed decarbonisation of the sector. A few were also keen to see such provision rolled out more widely and not be limited to a few specific routes. A similar number wanted such aircraft to be exempt from Air Passenger Duty (APD):

“These airline routes are the most likely to be genuinely carbon neutral the soonest, given the low load factor and short distance of many of the routes. It is a good idea to concentrate efforts to decarbonise aircraft here.” (Environmental NGOs/representative bodies)

“Provided that the economics work out, this proposal seems to be a worthwhile investment that will help decarbonise aviation and accelerate the shift to net zero.” (Transport Partnership)

However, some respondents were either against the proposal, and others who were generally supportive, voiced some reservations.

Several respondents felt that other modes of transport needed to be considered and decarbonised as a priority (e.g. trains, buses, ferries, etc.) rather than encouraging flights. Others suggested that Scottish Government resources may be better directed at alternative incentives (such as the adoption of SAF) and improving the

infrastructure needed to support zero emission aircraft in airports, etc. It was suggested by several respondents that operators or private leasing companies were in a better position to purchase the required aircrafts, with a few suggesting they should be supported to do so rather than the Scottish Government buying the aircrafts directly. Airlines and a number of other stakeholders represented at the dedicated workshop also questioned whether the Scottish Government buying and leasing zero emission aircraft would be needed as they expected that private sector aircraft leasing companies would do this more effectively. These companies operate at a larger scale than the Scottish Government could, giving airlines greater flexibility to continually up-grade aircraft as technology develops, it was suggested.

Several online respondents questioned the Scottish Government's credentials and/or practical ability to manage such an undertaking - e.g. its knowledge and ability to purchase appropriate aircraft to suit different airlines/routes, and the costs and ability to ensure any maintenance and repairs could be carried out quickly and efficiently.

Similarly, a few online respondents suggested that the speed with which the technology would develop could present a risk for the Scottish Government and this proposal, with the first generation zero emission aircrafts possibly becoming quickly outdated. The impacts of this were seen to range from routes being tied into using outdated aircraft and thus holding back further development, and for the Scottish Government to have to try and sell these on to other areas/sectors (which it was felt operators were in a better position to do):

“It is expected that private sector aircraft leasing companies would do this more effectively. These companies operate at a larger scale than the Scottish Government, giving airlines greater flexibility to continually up-grade aircraft as technology develops.” (Transport Partnership)

Workshop participants echoed this sentiment suggesting that there may be a danger that the Scottish Government invests in a technology that turns out not to be appropriate and wastes public money.

While other workshop delegates supported the use of these aircraft on intra-Scotland routes, they had concerns about the practicalities of the Scottish Government buying and leasing aircraft, including how to ensure that the aircraft were suitable for the routes, how to provide equal access i.e. if there were insufficient aircraft to meet demand how would decisions be made around allocation?, and the risks of inadvertently constraining airlines' ability to move their assets across their network. One airline said that, should such aircraft be used, the routes would need a public service obligation (PSO).

One public body supported the proposal on the proviso that fares were maintained at an affordable and equitable level, and extra costs of decarbonisation were not met by Highlands and Islands regional stakeholders only.

Q9. What else can the Scottish Government do to achieve its aim of decarbonising scheduled flights within Scotland by 2040?

The key suggestion by many respondents in response to this question was to incentivise both the development and use of decarbonised/zero emissions technology.

A few individuals suggested the Scottish Government should implement a ‘carrot and stick’ approach, by offering tax relief or other financial incentives for the development and use of zero carbon technologies, as well as penalties/taxes/levies for those who continue to use fossil fuel options. Similarly, one organisation in the aviation industry suggested the Scottish Government should legislate to encourage operators to embrace new technology as it becomes available, and perhaps consider penalties for those who do not, while another felt financial assistance should be provided to operators to adopt the early technology:

“...have significant financial ‘carrots’ to encourage airlines to adopt lower emission fuels and technologies and at the same time introduce significant financial ‘sticks’ on the continuing use of older technologies.” (Individual)

At the dedicated workshop, in response to a question about how the Scottish Government could do to help increase the use of SAF, using a ‘contracts for difference’ model was also suggested. This would mean the Scottish Government paying the difference in cost between conventional operation and the new operation using SAF. This would provide support in the early years, with the hope that it would be commercially viable in the medium or longer term.

A few online respondents, from across a range of respondent groups, again suggested the Scottish Government should fund or support research and development to decarbonise the sector, develop zero carbon technologies, the electrification of aircrafts, and the necessary supporting infrastructure (at both ends of the route). Similarly, workshop delegates suggested there may be a role for the Scottish Government in helping to put in place the supporting infrastructure needed for these new types of aircraft to operate, including airport infrastructure but also the wider energy system (grid connection, lowering the cost of hydrogen production, hydrogen transportation and storage, etc.). When considering the infrastructure needed and the best location for this, it was suggested there was a need to consider

demand from other transport modes and other uses (e.g. hydrogen for heating) and to link into the work that was already underway in these areas (with specific comments that lessons could be learned from electric vehicle (EV) charging).

While stakeholders recognised that the regulatory side of aviation is currently reserved to the UK Government, they stressed the importance of the regulatory process keeping up with technological development in order for these new types of aircraft to be able to operate. The importance of passenger acceptance of these new types of aircraft was also highlighted again, and so it would be important for the Aviation Strategy to get the messaging right from the start.

A few online respondents specifically recommended the use of dedicated hubs to test and roll-out new technologies, such as unmanned aerial vehicles (UAV), or hydrogen based airports. A few also suggested it would be important to support the highly skilled workforce needed to both develop and operate/maintain the new technology (something also echoed elsewhere in response to other questions).

Some individuals and Transport Partnerships suggested managing or reducing demand for flights (with a few suggesting this could be done through improving and promoting digital connectivity, or by increasing passenger duty); improving, promoting and incentivising alternative (greener) transport options and addressing the cost of local travel across the Highlands and Islands; and a few individuals and organisation in the aviation industry advocated supporting/incentivising SAF:

“Reduce flights. It's the main tool we have in reaching zero carbon emissions.” (Individual)

“Replace them with better rail connectivity and faster trains, and more efficient ferries with train connections for links to island areas. There should be no need for domestic flights within the UK.”
(Individual)

Again, workshop delegates suggested that improving public transport to and from airports could be a quick win in terms of reducing emissions.

Campaign groups wanted airport expansion plans to be reviewed and only approved where it would be compatible with zero-emissions. This included further reconsideration of the expansion of Heathrow airport. Other suggestions from this group included removing air routes where a direct rail route is available, banning mainland domestic flights, and developing an integrated transport approach:

“Airports should be required to put any expansion plans on hold until they can demonstrate that their infrastructure plans are compatible with zero emissions aircraft. The Scottish Government could

propose a ban after 2030 on any mainland domestic flights powered by jet fuel.” (Environmental NGOs/representative bodies)

A few respondents also wanted the Scottish Government to support and expand the Sustainable Aviation Test Environment (SATE) project in order to allow the private sector to develop the necessary technology.

Q10. What air services do you think are needed to meet the needs of people living in and visiting the Highland and Islands in the scenarios set out above (i.e. less demand for air services; same level of demand for air services; more demand for air services?)

The discussion document set out three possible scenarios for air services which might help to meet the needs of people living in and visiting the Highlands and Islands (see [Appendix F](#)).

While roughly half of respondents answered the question, not all provided a response to all of the question elements. There was also evidence that several respondents misinterpreted this question as a multiple choice question, flagging one option as their preferred/expected scenario for the future. Of these, five wanted/expected more demand (and more affordable prices), while one wanted/expected less demand and two the same level of demand (although one again flagged the need for more affordable services, particularly for businesses).

Less Demand

Under the less demand scenario a few online respondents preferred to see fewer flights and smaller planes, however, they did not want to remove existing routes. Only one respondent preferred an expansion of routes to more destinations:

“Following the pandemic it is possible there may be less demand, but operating smaller, more efficient aircraft connecting more local airports on short flights could be sustainable financially for an airline.” (Individual)

One respondent suggested that flights should be maintained for healthcare and emergency purposes, while another felt that island to mainland and inter-island connectivity should be prioritised. One respondent also suggested tourism should be promoted more. A few, again, noted ways they thought demand for air travel could be reduced, including greater support and promotion of alternative options.

Feedback from workshop delegates in relation to ‘less demand’ included:

- that some air travel would still be needed in this scenario, but perhaps the routes between central Scotland and London/the Midlands would no longer be needed;
- the fact that the NHS is currently a heavy user of the existing air services, both in terms of patients travelling for treatment and NHS staff travelling for work, with suggestions that there needed to be a greater consideration of transportation when making decisions about the provision of health care (i.e. better integration between health and transport policy);
- smaller aircraft could be used, however, fire service provision, etc. would still be needed, meaning that the on-going need for air travel would be challenging (as certain fixed costs could not be reduced);
- that more PSOs would be needed as the reduction in passenger numbers, especially the reduction in business travel, would mean routes would not be commercially viable; and
- air taxis could provide a different way of meeting the remaining need for air travel.

Same Demand

Although some online respondents provided feedback in relation to this scenario, several simply suggested methods for curbing demand (e.g. improving alternative transport options).

A few suggested this scenario reflected the current situation and therefore, generally, the service provision was appropriate and should be maintained. One respondent suggested more services were needed at Wick, while another suggested the services should be maintained at the current level for three years while new transport solutions were developed.

Feedback from workshop delegates in relation to a 'same level of demand' scenario included:

- that this premise could be challenged as it was likely that demand would continue to be low for the foreseeable future as a result of COVID-19 uncertainty, which was also making planning and data interpretation more difficult. It was suggested that making significant changes to PSOs could provide some support with these challenges; and
- that there was a difference between community expectations about the cost and frequency of flights in the Highlands and Islands, and what was feasible to deliver given volumes of passengers. Also, actual usage does not always reflect what people say they want from an air service.

More Demand

Again, a few online respondents outlined their resistance to 'more demand' while others outlined methods for increasing demand. This included:

- exploring new routes (including regional, national and international) - one respondent noted this might require upgrades to infrastructure and policy to support charter flights;
- improving inter-island connectivity;
- improving the frequency and cost of travel to mainland Scotland;
- providing new aircraft (preferably low/zero emission options);
- reducing fares/costs to passengers; and
- considering seasonally adjusted services.

Several also noted the need for increased services, this was particularly for healthcare reasons (and one respondent felt there was a need for travel options to be better aligned with NHS facilities and appointments), but also to provide for currently unmet demand in particular areas or for particular routes. A few respondents also noted the benefits of supporting economic development of the region (Highlands and Islands). One respondent felt it was important to understand local need and then develop services to support this - it was felt this would increase demand.

Feedback from workshop delegates in relation to 'more demand' included:

- that suggested new technologies present new opportunities. While airframe costs may be higher the marginal cost of operating additional services may be lower, incentivising the operator to maximise the use of the aircraft. This means more frequency and possibly more routes. Services such as Glasgow / Edinburgh to Inverness may be viable and environmentally better than the current alternatives; and
- frequency and availability are key. Using the car is very flexible and resilient and this would need to be mirrored if air services were to be considered viable alternatives.

General Comments

Some online respondents provided more general comments rather than responding to different scenarios. Several suggested that local communities and businesses

were best placed to identify aviation requirements and demand and felt that they should be consulted with directly. Similarly, workshop delegates considered that demand would be dependent on individual community needs. The core needs of some communities were not currently being provided, it was suggested. In particular, it was essential to ensure adequate full day return travel is achievable. This was seen as important for business, healthcare and leisure.

Some Transport Partnerships and local authority/public body respondents stressed that flights to many island and remote areas were lifeline services and therefore needed to be retained and protected as such.

Two respondents noted that the use of video conferencing may reduce demand for flights in the short term but suggested this may fuel increased demand over the longer term as businesses expand their markets/customer base.

One noted that regional air services could respond and adapt reasonably quickly to changes in demand.

A suggestion was also made that the model should be developed with the National Transport Strategy (NTS2) priorities in mind:

“In order to better understand and quantify future scenarios, it would be necessary to undertake a sufficiently detailed and sophisticated model of what is required to deliver the all the priorities of the National Transport Strategy.” (Local authority/public body)

At the workshop, a suggestion was also made that the Strategy should adopt an outputs based approach that considers minimum service provision and the support mechanisms needed to achieve that outcome. Similarly, delegates felt that the focus could not be on access to the central belt alone, but should also look at inter-regional links.

Q11. Most air services in the Highlands and Islands are delivered on a commercial basis. How can the Scottish Government best work with the private sector to deliver the air services you think are needed?

This question did not attract a large online response and there was also quite mixed feedback given. General incentives or subsidies were supported or seen as necessary by several to maintain the viability of some routes, to boost the local economy, and/or to enhance or grow provision. A few suggested that subsidies should be provided to promote green technology or services using zero/emission

aircrafts, while a few (generally individuals) were opposed entirely and felt such support should focus on alternatives to aviation such as bus, rail and ferries:

“In the same way as some bus routes are deemed to be socially necessary but not commercially viable and therefore are run with a subsidy, so any air route in the Highlands and Islands that is also considered to be socially necessary should be similarly supported.”
(Individual)

“Public Service Obligations (PSO) are required in some circumstances to support regional services and, although appreciated, a system that better incentivises air operators to improve and grow passenger demand is needed.” (Transport Partnership)

Again, a few individuals suggested that other modes of transport should be prioritised, at least until zero emission air travel was possible, while several suggested that the service should be nationalised (with two extending this to all transport systems). One suggested that a national airline could be run by an ‘arm’s length’ Scottish Government body:

“...an “arm’s length” Scottish Government owned airline should be formed to take over these routes, the aim being to run the routes efficiently for passengers/users and not make as much profit as possible.” (Individual)

A few respondents reiterated earlier support for the Scottish Government buying low/zero emission aircraft and leasing them to the private operators. A few others suggested that undertaking or supporting research and development into zero emissions technology and investing in the required infrastructure would be helpful.

While several respondents recognised the PSO scheme as a method for supporting lifeline services, a few organisations (largely local authorities/public bodies) noted the need for greater co-ordination in this respect. It was suggested the PSO services operated largely in isolation to one another, and that a more joined up approach was required:

“Air services across rural Scotland are all continually being operated in small pockets in isolation from each other. Argyll and Bute Council, Orkney Council, Shetland Council, Comhairle nan Eilean Siar and Transport Scotland all have responsibility for financially subsidising Public Service Obligation (PSO) air service routes and also airports and each organisation carries out its own individual procurement for the air services it has responsibility for. There is not

a joined up approach - that could offer many savings in procurement, advertising, etc. The air service contracts should be procured at the same time, to allow operators the best opportunity as to how they could deliver services in tandem.” (Local Authority/Public Body)

One public body noted that the risks of ‘single operators’ must always be considered and risk management plans put in place to protect lifeline services if the single operator fails.

At the dedicated workshop, airlines outlined what they needed to consider when deciding to operate a route (at a minimum covering their operating costs). This, they explained, is slightly different to airports, which need passenger volumes. It was also noted that some communities may, for example, want a ‘9 to 5 schedule’, which conflicts with what airlines can provide and so the strategy should consider these conflicts of interest.

A few online respondents also noted the need for public consultation or engagement in this respect, with others suggesting the Scottish Government needed to liaise with and take a partnership approach with the private sector to determine the support needed. The importance of open and honest dialogue between communities, Scottish Government, airlines and airports was also stressed during workshops, to find the right balance between what communities would ideally want, what is feasible, and the commercial imperatives involved in providing services.

Q12. How effective do you think the Air Discount Scheme has been at addressing high airfares?

The Scottish Government funds the Air Discount Scheme (ADS) which makes air services more affordable for remote communities in the Highlands and Islands by providing residents with a discount of 50% on the core air fare on eligible routes. When asked how effective the ADS has been to date at addressing high airfares, there was a reasonably even divide between those who offered supportive, unsupportive and neutral feedback.

Those who were positive about the ADS expressed that it had been effective in making communities more accessible and sustainable, and had helped to maintain vital lifeline services:

“The ADS is essential to sustain equity of access for our island residents helping ensure their sustainability in the 21st century.”
(Local Authority/Public Body)

“The fact that flights on these routes have been maintained surely proves that the approach taken has been successful.” (Individual)

Those who provided mixed comments were generally supportive of the ADS but felt it did not go far enough. A few suggested that air fares remained high, thus prohibiting it as a travel choice for some, especially those on lower incomes who still found the cost a barrier to air travel:

“Air fares remain at an extremely unfair high level for Western Isles residents due to lower than average GDP (75% of UK GDP) and earnings locally, compounded by the fact that these are lifeline routes which should be more accessible to residents especially as an alternative to ferry travel which has become increasingly unreliable.” (Local Authority/Public Body)

Of those who provided generally negative comments, several respondents were against the scheme in principle as it was seen to incentivise air travel, which they felt was incompatible with averting the climate crisis.

Very specific regional issues were noted, including lack of flights available from Wick airport.

Costs were also discussed, with one respondent noting that they had seen no difference in airfares, one who felt it had only limited impact on residents and highlighted that the inability to cap costs meant that the excess was passed on to the public purse, and another who suggested it was still cheaper to drive to a larger airport and travel from there compared to their nearest/local airport.

Businesses and tourism were also constrained by the very high costs of air travel and were not eligible for ADS, it was highlighted.

Two respondents simply perceived that the ADS was ineffective, one of whom also suggested it was unnecessary as alternative travel modes were available.

Three organisations that provided more general comments suggested that:

- a discount scheme was important to make air fares affordable for residents;
- that any scheme which makes remote communities more accessible should be viewed as having wider benefits than purely a monetary saving for the passenger; and
- that a level playing field was needed between mainland airports in relation to Air Departure Tax.

One respondent felt that there was still misunderstanding between when ADS or other subsidies applied and felt this needed to be clearer.

Among workshop delegates, there were also mixed views on how effective the Air Discount Scheme had been. Some said it was very important to help reduce the cost of living for people in the Highlands and Islands, while others thought it had not achieved its aim and that the Scottish Government should consider whether there was a better way of achieving this. A number of stakeholders suggested that the Scottish Government should consider how it supports air services in the round (e.g. subsidy for airports, PSOs, air discount scheme, Air Passenger Duty exemption) and how it could use this money in the most effective way to achieve the stated aim of the air discount scheme.

Others suggested changes to the current scheme, such as expanding it to cover business travel and having an 'air discount scheme fare' which eligible people could book. Airlines said this idea would limit their flexibility to adjust prices and thus potentially undermine the viability of the route which, in turn, would have a negative impact on the community by reducing connectivity.

Q13. How can the Scottish Government improve the Air Discount Scheme?

Around a third of respondents provided feedback on how the Scottish Government could improve the Air Discount Scheme.

Some suggested that greater discounts could be provided to residents of the Highlands and Islands, while others advised that it could be expanded to allow a greater/uncapped number of flights for those with medical conditions receiving treatment and to include business travel for those based in remote/island locations (although one respondent suggested it should not be extended to business travel). A few also felt that awareness raising in relation to the scheme was needed, and that it needed to be easier to use.

Conversely, a few suggested that access to the ADS should be restricted, for example, to only those living on islands, or for it to be means-tested. One respondent suggested such a scheme could be applied to operators of small, very short-haul, sustainably-powered aircraft to encourage their use - they suggested the discount could apply to tourists as well as residents and business travel.

One respondent suggested that no further expansion of the ADS was necessary as the sector was already heavily subsidised:

“Flights departing airports in the Highlands and Islands are already exempt from APD. There is currently no tax on aviation fuel and no plans to introduce it. Aviation already enjoys being very lightly taxed, especially when compared to alternative transportation. We do not support the further reduction or discounting of air fares.”
(Environmental NGOs/representative bodies)

Others went further, with one respondent suggesting that the ADS should only be applied for those who make their onward travel by sustainable modes rather than onward flights. Several others argued that the ADS should be scrapped entirely, generally suggesting that funds should be diverted to alternative modes, and with one suggesting all flights should be subject to tax rather than discounts.

Other suggestions made by one respondent respectively included:

- introducing a ‘tourist pass’ which could integrate with ferries to support them to travel around different islands;
- to undertake a comprehensive review of funding for and governance of air services in the Highlands and Islands;
- more input needed from the NHS as a significant service user; and
- the consideration of penalties if the ADS is abused.

Two suggested that local users would be the best placed to provide advice in this respect and one organisation simply urged its continuation:

“Air connectivity is critical for the Highlands and Islands and the existing ADT exemption must remain in place to protect remote and rural communities, and to ensure that the devolved powers are not compromised.” (Local Authority/Public Body)

Q14. What do you think about complementing the current operating model with an on demand service, such as air taxi?

When asked for opinions on complementing the current operating model with an on demand service, respondents gave quite mixed views.

Those who were generally supportive considered that this might improve connectivity for certain areas (especially the islands), and increase travel options for certain groups:

“[We] see this as a positive option particularly to connect to remote areas. A great deal would depend on the affordability but it could

certainly help create better connectivity. [We] are broadly in favour of any innovation such as this and potentially Scottish Government could pilot this idea with a view to being a leader in this area.”
(Organisation, Other)

Despite this support, it was stressed that any on demand service needed to be safe, economically viable, that there should be no penalty/premium for low capacity, it should not increase carbon emissions, and that an equitable funding model would be needed:

“If the fares are cheaper/more affordable and equitable and retain ADS, this may attract a sector of customers to the air taxis. It would be expected that public sector workers/NHS patients would continue to provide baseload for current flights.” (Local Authority/Public Body)

Those who offered mixed views cited both advantages and disadvantages, or were unsure of the commercial viability of on demand services. Two respondents (from the aviation industry) were concerned that an air taxi service would be more expensive than scheduled flight options, with one suggesting that scheduled flights and air taxi services could not be offered together as one would compete with and reduce demand for the other - they felt that only one model could be offered at any time. Another respondent (a local authority/public body) saw benefits in providing services where scheduled flights would typically be cancelled due to lack of passengers but were concerned about how many air taxis could be funded. One respondent called for an impact assessment to be undertaken and for all options to be explored in order to develop the best service provision.

Those who were against the proposal generally cited either: environmental reasons; concerns about detrimental impacts on scheduled flight services; concerns that an on demand system would be expensive or would not provide value for money; and/or concerns that an air taxi service would only be affordable for a small minority:

“On-demand services could undermine the viability of scheduled services and/or make these more expensive. There would be equality issues regarding affordability of an on-demand service.”
(Transport Partnership)

Q15. What do you think about an open charter service?

There was relatively little feedback on the open charter service compared to other questions in the consultation, with mixed views being put forward.

Those who were positive about an open charter service viewed it as a way to provide financially viable and efficient services. Provisos again included the need for any services to operate fuel efficient/zero emission aircraft:

“Could be a good way to fill up flights and help them to be economically viable.” (Individual)

Two respondents, who were generally supportive of an open charter service option, stressed this should not compete with vital lifeline schedule flights, but could provide options in other circumstances:

“...we do not advocate for this as a replacement for scheduled flights, which should remain a critical lifeline for many communities, but should be considered as a serious option in those areas where demand would merit it or indeed where scheduled operators are unable to meet demand.” (Business Representative Body)

A few also highlighted that charter services already existed.

Those who were unsure or offered mixed views thought the option sounded complex or felt that such a service might work in some areas but not others or offer a seasonally mixed pattern of service provision.

Those who were generally against an open charter service largely preferred scheduled flights but felt that these needed to work harder to deliver flight times and routes that passengers wanted in order to maximise capacity. One respondent felt that an open charter was not the right option for their area, and another thought the proposal was unworkable:

“It seems to us that an open charter service has the potential to offer the worst of both worlds to customers. On the one hand, it presumably commands a high price, although one which is offset to some degree by opening up to other fee-paying customers. On the other, it loses to some degree the benefits currently enjoyed by charter passengers - privacy, exclusivity, convenience, and flexibility.” (Business Representative Body)

Q16. Apart from on demand and open charter services are there any operational models you think could be used? If so, what?

Again, there was relatively little feedback in response to this question and most respondents provided unique responses with no obvious themes emerging.

Among online respondents, a few simply indicated their preference for one model over another (e.g. for scheduled flights, or for a supporting air taxi model), or noted preferences for specific routes to be provided. One was interested to explore what a totally free service would look like, and one advocated that any model/provision should be market driven.

A few stressed the need for a joined up, integrated public transport system with integrated or combined ticketing. This was important between air services and onward travel modes, but also across public transport more generally, they felt.

One respondent suggested that wider service elements should be considered, such as information provision and booking systems, and that a more consistent and joined up approach was required between ferry and airline systems as passengers often tried to divert to the alternative mode when one was cancelled:

“It may be that it is not merely the physical operational model that should be considered but the way in which these services are advertised, booked etc... There should be a Scottish network approach as to how these two modes of transport [flight and ferry] are advertised so the general public know of their availability as alternatives.” (Local Authority/Public Body)

This same respondent also suggested there was potential to make better use of existing aircraft by combining routes, which were often considered to operate in isolation.

Another suggested exploring the potential for developing mixed models to accommodate seasonality:

“Potentially expand on the idea of a seasonally adjusted service where winter months are a mix of schedules and customer driven call off which is potentially a multi drop route.” (Aviation and associated industries (including representative bodies))

One respondent suggested that synergies and efficiencies could be explored with the Scottish Air Ambulance Service, while another indicated that partnerships could be explored between the Scottish Government, local authorities, private airlines and employers in the sector:

“There are examples in the provision of other major services such as utilities or housing where partnerships between authorities, private airlines and major private sector employers have been developed to bridge the funding gap and we believe there is merit in exploring where these models could add to the range of options for delivery of

sustainable aviation services in Scotland.” (Business Representative Body)

Among workshop participants, feedback on air taxis/on demand services included that:

- such services may meet the needs of certain people but the cost would be prohibitive for others;
- there may not be sufficient volume of passengers to make these services viable;
- such services may have a negative impact on scheduled passenger services by reducing their demand (although this risk could be mitigated by using air taxis on routes where there is no passenger service); and
- adopting pilots, trials or learning from the roll out of air taxi services in other countries first may be a prudent approach (to gain a better understanding of the opportunities/challenges ahead of roll out).

On open charter services, workshop attendees indicated that, while this was a good idea in principle, the practicalities may mean it was not feasible.

As with online consultation respondents, workshop stakeholders found it very difficult to suggest alternatives as they perceived that the traditional model worked well in many circumstances. More general comments from delegates included that:

- it was good to encourage competitiveness in the network where possible but there needs to be a driver of equity to support lifeline services;
- from a business travel perspective, reliability is very important and perhaps more so than frequency, as commuters need to be able to plan their journeys with certainty;
- price models may need to be looked at if there are going to be fewer future passengers (i.e. business travellers) willing to pay for the more expensive tickets which currently supports the provision of the less expensive tickets;
- airlines would always need a certain overall yield to make a route commercially viable and so any change in weightings between high price ticket payers and lower payers could impact overall service provision; and
- should the number of craft on the route network increase substantially, there would be a fundamental issue about a lack of available pilots.

Workshop delegates also said they would welcome a complete review of existing support mechanisms and questioned if existing spend was being used optimally to provide services that communities needed.

Q17. What are the strengths and weaknesses of the operational model set out in the table above?

Airport services for scheduled passenger air services in the Highlands and Islands are currently provided by HIAL, Shetland Islands Council, Orkney Islands Council and Argyll & Bute Council. A table illustrating the operational model was included in the discussion document (see [Appendix G](#)).

When asked about the strengths and weaknesses of the operational model, very few provided an answer to the question. Those who did commented on alternative operating structures rather than the current model, or compared a central model against the current arrangements.

While several strengths of the current model were outlined, these were typically mentioned by just one or two respondents each. These included comments that:

- it facilitates commercial competition;
- each organisation understands the needs of its area and can ensure services are suitably tailored, including the provision of integrated travel options;
- it provides direct control over day-to-day operations;
- it allows quick response to local issues;
- it could provide better flight times; and
- many remote communities are served by an air service.

Similarly, while weaknesses were identified, these were largely only mentioned by a single respondent each. The weaknesses were considered to include:

- a complex and confusing landscape regarding who is responsible for each airport;
- different bodies have different requirements for passengers;
- current operators do not have the ability/authority to 'invest speculatively';
- unable to maximise resources, such as staff;
- four separate operations doing the same business with no economy of scale for purchasing;

- each operator needs to develop and employ its own internal aviation and airport expertise;
- no allowance for bundling of routes or for available aircrafts to be utilised in the most efficient way;
- funding inequality;
- current lack of integration with other modes of travel - e.g. ferries; and
- airports operated by public bodies were felt to be less efficient and operate at a loss.

In relation to economies of scale, however, a few respondents suggested that linked or joint procurement could be undertaken to improve this situation. One respondent suggested that PSOs could potentially be grouped together with Transport Scotland taking ownership to achieve price efficiency.

Other respondents suggested simplifying or centralising the operational model so that all airports were operated by one organisation. Again, pros and cons were discussed with this model, with some suggesting this would simplify the landscape, offer operational benefits (e.g. with staff being able to work between locations, greater route options, etc.) and offer greater purchasing powers. Others, however, were concerned that centralisation would lead to a few larger airports being prioritised and risk local lifeline services:

“Having multiple airport managers means these bodies have more direct control over day-to-day operations. Consolidating airport operations through one organisation, however, might prove to be more efficient, leading to more streamlined operations, potential cost savings in terms of economies of scale, as well as standing ground in negotiations for new routes and attracting airlines to operate in Scotland. One operation model also provides greater potential for integrated flights and more flexibility for organising flight schedules on a more on-demand basis (such as air taxi) in the future.”
(Transport Partnership)

“If all airports were centrally run then there is theoretically the potential to reduce costs by removal of duplicated service and a centralised control system for standards. However, centralisation would undoubtedly favour the larger airports. The smaller communities where the airport supports a lifeline service rather than a convenient hub would be in danger of being under the control of management who may have little understanding of supporting fragile communities with particular community needs.” (Aviation and associated industries (including representative bodies))

Lack of familiarity with local communities and the need for democratic control in an alternative model were also cited as potential barriers.

Five respondents who provided comments, did not answer the question set. One outlined issues with their local airport, one identified desired route alterations, two suggested airports should be closed, and one felt the consultation was too detailed and that different questions should have been asked of different respondent types.

Q18. What changes, if any, do you think should be made to these governance arrangements to improve services?

When asked what changes should be made to the current governance arrangements to improve services, few respondents provided a substantive response.

A small number either suggested that having one single operator/body responsible for all airports and routes, or at least having more central oversight, might be beneficial, both in simplifying the landscape and providing more efficient and effective services (although risk management and mitigation was again encouraged in cases where a single operator may fail):

“Having one airport operator in the Highlands and Islands might help making the running of these services more streamlined and integrated, which would help improve services.” (Transport Partnership)

“Rules should be standardised and regulated centrally to ensure all customers get the best service and that safety standards are monitored.” (Individual)

It was suggested that consolidating responsibility for and the management of all airports and airstrips under one organisation may lead to certain efficiencies, particularly in the areas of regulation, staffing, training, equipment, etc.

Another respondent suggested a more co-ordinated approach (such as the model provided by Network Rail) could be explored.

One respondent suggested that the HIAL airports should be reduced to the ‘big five’ of Inverness, Sumburgh, Kirkwall, Dundee and Stornoway, and that the others should be operated by a more local body in the same way as other areas in order to prioritise local needs. Three respondents suggested that local authorities should not be in charge of airports; two preferred private operators while the other simply wanted the operator to be independent of local authorities but supported via central

government funding. One respondent also wondered whether certain airports/areas could be transferred into community ownership/control.

Four respondents were content with the current arrangements and did not think changes were required:

“Given our experience of working with local Councils serving fragile communities we would say it is essential that local councils retain the ability to control the needs of the air services. They are undoubtedly best placed to assess the needs of the local population. We therefore do not believe changing local governance would be of benefit to the communities they serve.” (Aviation and associated industries (including representative bodies))

One respondent stressed that there needed to be a review of the current air services before any decisions could be taken regarding changes:

“...there needs to be a fundamental review of current airport infrastructure and all public funding that currently supports the operation of airports and air services across Scotland. It's back to basics - what type of aircraft can use the runway, where are refuelling points on the network, which services could be linked, are there seasonal variations, various airport opening times on the network, etc. Only then can we then start to consider what services are required to support our fragile island communities and remote mainland communities and how these can be better procured to offer best value for money through the infrastructure that exists.” (Local Authority/Public Body)

Again, two respondents felt that local communities, businesses and service users should be consulted rather than seeking input more broadly.

Q19. What changes, if any, do you think should be made to these governance arrangements to reduce running costs?

When asked to suggest changes which could be made to the current governance arrangements to reduce running costs, there was little consensus among online respondents.

A few, again, suggested that a single body/organisation should operate all airports, while others suggested that the Scottish Government could be more involved, in order to provide greater support/purchasing powers and nullify risks:

“...having one airport operator in the region can help achieve better economies of scale, and therefore reduce running costs. Lower running costs may contribute to making air travel for local communities more affordable.” (Transport Partnership)

“Transport Scotland could operate a model where they themselves act as the back-up service operator if the current single operator fails, and in future operate the low emission aircraft rather than leasing to commercial airlines to nullify the risk...” (Local Authority/Public Body)

One respondent suggested that better procurement procedures were needed, although they did not outline how they thought this could be achieved:

“Better procurement is key, not just for the air services themselves but for all type of works - runway maintenance (e.g. white lining), procurement of new fire appliances, maintenance machinery, training for staff, advertising, etc.” (Local Authority/Public Body)

Another respondent highlighted that many operating costs were fixed and therefore it was important to attract a wide range of airlines and routes, and that it was important to recognise the significance of regional airports as drivers of economic growth, jobs provision, social wellbeing and fairness:

“Many of the costs of running a regional airport... are fixed - it is therefore essential that resources are made available to attract commercial operators and more destinations, particularly hub airports.” (Transport Partnership)

One respondent, while recommending that local services should remain in local control, outlined several suggestions. This included the provision of support from the Scottish Government to purchase low carbon aircraft and infrastructure, and that some charges (which are ultimately recharged to local authorities under the service level agreements) should be waived. They also noted that any changes to a centralised model of ownership would incur significant costs, and suggested that significant economies of scale were already provided:

“Given the level of expertise required to run an airline or airport authority there would be costs associated with any move to centralise the management of either services and considerable costs would be incurred to duplicate these outside this environment. Markup by the airlines is currently limited through the current processes and local councils undoubtedly benefit from economies of

scale with significantly reduced costs of operations.” (Aviation and associated industries (including representative bodies))

Again, one respondent noted there was no need to change the status quo, two felt that local communities, business and service users should be consulted, one argued against regional airports, and another felt that costs should not be reduced as this could increase travel which would be contrary to the environmental crisis.

A specific workshop was also run to consider the Highlands and Islands governance arrangements and feedback included:

Benefits

- local authority operation of airports provides a high level of democratic accountability and an ability to respond quickly to local issues and concerns;
- airport infrastructure is also a critical part of island sustainability, which can be built into wider community planning;
- HIAL has a close working relationship with Transport Scotland which allows HIAL to react quickly to challenges within its network and to deliver Transport Scotland's objectives. In contrast, councils do not have a close relationship with Transport Scotland and are not therefore able to exert the same strategic influence.

Challenges

- aviation is a specialist and disproportionately resource intensive area as seen, for example, in the regulation by and relationships with the Civil Aviation Authority (CAA). Local authority officers may be spending disproportionate amounts of time on aviation whilst also having to deal with ferries, bus, roads, etc.;
- population trends on some islands can make it difficult to recruit and maintain appropriate airport staff. Decoupling pay scales from standard 'civil service' scales may help to create a wider pool of people by more accurately reflecting the market for these types of jobs; and
- specific infrastructure challenges, for example, that the length of some runways restricts the type of aircraft that they can accommodate.

There were also more fundamental questions about the nature of the current networks and whether they represent simply the accumulation of practice over decades, rather than being the most effective service model for Scotland. It would be

useful to examine (and be more transparent about) how much public money from councils and Transport Scotland is subsidising airports, it was suggested.

Participants saw merit in establishing a coherent, pan-Scotland approach to dealing with the complexities of ensuring connectivity and effective resource management. They perceived that there were opportunities to achieve standardisation in the provision of certain services across airports in the Highlands and Islands, for example, training and recruitment, infrastructure, fire services, operating hours, insurance, uniforms, etc. This could help to achieve economies of scale.

It was also suggested that having one accountable manager for relationships with the CAA could lead to a more straightforward relationship between the airports and their Regulator as well as driving a more consistent approach to operations and compliance with regulatory requirements. It could also enable a more effective response to proposed changes in the Regulatory Regime such as the CAA's modernisation plans.

The opportunity to simplify the complex administration of Public Service Obligations (PSOs), which are let by various local authorities, was also raised. However, the risk of adopting a 'one size fits all', overly centralised approach was highlighted.

The need for some kind of central innovation driver was suggested, as all air services, no matter how remote or specialist, will have to take action to deal with environmental demands. However, local airports are not large enough to drive the technological changes required.

While there was support for some kind of standardisation, particularly within the context of budget constraints, it was stressed that local authorities would be strongly against any change perceived as being about centralisation and would want to ensure that local influence was retained under any new model. There was also a recognition that changing the current model alone would not be sufficient to address some of the challenges local authorities face with the delivery of airport services.

Delegates also suggested that there was a danger of believing that the new model should involve either everything being done centrally, or everything being done in local communities. Rather, there may be an opportunity to create a new model that incorporates the local influence and realises the benefits of being part of a larger organisation. Local communities could retain responsibility for matters such as air services, including local flight timetables, while the day-to-day operation of airports could be managed separately. One suggestion was that a peer network would allow the bodies involved to benefit from each other's knowledge and expertise, and work together when needed.

Participants considered that there was merit in Transport Scotland making initial, more detailed proposals for how any new model could work. This could involve analysing existing infrastructure; public funding; and whether current arrangements are optimal for a strategic Scottish air network.

Finally, stakeholders warned that there was a disconnect between Transport Scotland’s second Strategic Transport Projects Review and aviation. There has to be integration between the Aviation Strategy and the proposed islands connectivity plan, rather than transport modes being considered in isolation.

Q20. Do you think the Scottish Government should encourage airlines to offer plane plus train tickets?

Respondents were asked whether they thought the Scottish Government should encourage airlines to offer plane plus train tickets. The aim of these tickets is to make it easier for people to combine different modes of transport in order to reduce the total emissions from the journey).

The valid percentage, in the table below, shows the proportion of respondents who said ‘yes’, ‘no’ or ‘don’t know’ once the non-responses were removed. This provides a more accurate account of the strength of feeling among those who answered the set question. Among those who answered the question, two thirds (67%) supported this proposal.

Response	Number of respondents	Percentage of respondents	Valid %
Yes	44	48%	68%
No	4	4%	6%
Don't know	17	18%	26%
No response	28	30%	-
Total	93	100%	100%

Table 3: Number and percentage of respondents who agreed that the Scottish Government should encourage airlines to offer plane plus train tickets

Q21. If yes, how do you think the Scottish Government could best do this?

Respondents were also asked how the Scottish Government could best encourage airlines to offer plane plus train tickets. While only those who had supported the proposal were asked for comments, a number of these respondents did not answer

while a number of those who indicated they did not know or did not answer the closed question above, provided qualitative comments here.

Suggested ways of encouraging use

Several respondents suggested that the Scottish Government could work directly with transport operators to provide joined-up ticketing.

Several respondents felt that, in order to provide integrated ticketing options relevant to Scotland's infrastructure, such an offer would need to be extended to incorporate bus/coach, tram, car clubs, e-bike/bike hire and ferry, as well as rail, (especially in remote communities):

"...this should be extended to other modes - especially bus (e.g., airport shuttle bus), inter island ferries, car clubs or bike/e-bike hire that are more relevant to island economies, and could be booked through an integrated platform offering low carbon surface transport options."

A few suggested that the Scottish Government could draw on the existing train plus bus model to support onward travel.

A few respondents suggested that the Scottish Government should consider successful applications in other countries and learn from these models, however, again, a few also cautioned that Scotland's infrastructure does not match some of those of countries where this is successfully implemented:

"Only through careful planning with the companies involved and as part of a well put together tourism campaign could such a venture succeed on a large scale. Scotland does not match the characteristics of some other countries where this is a more widespread practice used by the local populace." (Individual)

Effective advertising of such ticket options was suggested by a few. This included offering the plane plus train option when booking flights, and by working with and incentivising the travel industry/travel agents to develop and support this option:

"...the Scottish Government could be working with travel agencies across the country to facilitate this and provide incentives for doing so. Travel agencies can tailor-make itineraries and could include rail as part of a collaborative strategy." (Aviation and associated industries (including representative bodies))

A few also suggested that such a ticket option would need to be based on a simplified rail service and ticketing options to make this easier to navigate, and that the currently high rail fares would need to be addressed for this to be attractive to travellers:

“Make sure its affordable. A train journey should be a one price transparency, not the myriad of fares we have at present.”
(Individual)

Two respondents noted that plane plus train tickets should remain a commercial arrangement between transport operators, although one suggested this could be incentivised by the Scottish Government, i.e. to encourage airlines to adopt such an arrangement, the Scottish Government would offer a financial incentive for each plane/train ticket sold. Meanwhile, a few questioned how liability would work in the event of issues that led to delays/cancelations.

One respondent noted that such an offer could be incorporated as part of the Mobility as a Service, Smart Ticketing projects and Islands Connectivity Plan, as well as connections being needed to the Scottish Government Concessionary Travel Scheme.

One respondent suggested that demand modelling would be needed as well a pilot scheme to assess and better understand demand.

Other comments

Despite general support for the Scottish Government encouraging airlines to offer plane plus train tickets, several respondents stressed that the current services provided in some areas (including across the Highlands and Islands, as well as some of Scotland’s major airports) may not currently provide the linked-up provision that was intended. As such, it was felt that these ticket options may have limited applicability:

“Realistically in a rural setting, with the exception of Inverness and even Oban airport... this is unlikely to achieve any significant benefits. Even offering plane plus bus tickets is unlikely to be a success in a rural setting given the infrequency of services.” (Local Authority/Public Body)

Finally, a few respondents again suggested greater promotion of/incentives for alternative (non-flight) travel options wherever possible while others stressed that such a scheme should not divert rail passengers to internal flights.

Freight

The Scottish Government aim for airfreight is: “To help achieve the commitment in the National Transport Strategy to promote efficient and sustainable freight transport.”

The final section of the discussion document set out a number of actions designed to help achieve the commitment in the Scottish Government’s National Transport Strategy to promote efficient and sustainable freight transport, and views were sought on what else the Scottish Government could do to help achieve this aim.

Q22. What more, if anything, do you think the Scottish Government can do to help promote efficient and sustainable airfreight transport?

Several respondents simply stated that they were supportive of the proposals and aspirations set out in the discussion document in relation to freight:

“Enabling and supporting Scotland’s air freight sector will support new international connectivity to established and emerging markets.”
(Business Representative Body)

Safeguarding (and better understanding) freight travel in remote and fragile island economies in particular was seen as essential:

“Review the crucial role of airfreight to many businesses in the Highlands and Islands, and to work with Scottish Government and HIE to understand how changes may reduce both the cost of airfreight, but also improve the logistics and timescales involved.”
(Local Authority/Public Body)

The Highlands and Islands was cited as a region that would benefit significantly from enhanced airfreight capacity and operations, with both online and workshop contributors highlighting that the increases in online shopping may make this increasingly commercially viable. Delivery of freight to Scotland’s large airports with onward distribution to regional hubs (including island airports), either by drone or electric/hybrid aircraft was welcomed. This had the added advantage of dramatically reducing HGV traffic on small local roads, it was pointed out. Workshop delegates also suggested that the Scottish Government could ask UK Government to ensure the CAA has the capacity necessary to enable use of UAVs (drones) and the required airspace change.

The use of SAF was also seen as potentially benefitting freight aviation more than passenger aviation:

“... the air freight sector, which tends to use older aircraft and work to different business models, will also benefit hugely from the introduction of SAF, at higher volumes and at competitive prices. SAF works in existing aircraft engines, it does not require significant new airport infrastructure, and will play a major role in decarbonising both commercial and cargo aviation in the years and decades ahead.” (Aviation and associated industries (including representative bodies))

Financial penalties and rewards were again suggested, i.e. offering tax relief for activities relating to sustainable low-carbon airfreight and imposing levies on carbon-based airfreight:

“Incentivisation of appropriate airfreight could be achieved by the [Scottish Government] through taxation or environmental consideration ensuring that freight is carried by the most appropriate mode, relative to its value, urgency and carbon impact, also including consideration of capacity within scheduled passenger flights.” (Transport Partnership)

There was support for re-establishing pre-COVID passenger routes which also carried freight.

Several comments were made (both in online responses and at the workshop) about seeking ways to reduce Scotland’s reliance on English airports to act as transit points in the transport of freight to/from Scotland. There were opportunities for a significant increase in the amount of freight being flown from Scottish airports, it was suggested as currently, large volumes travel by road to England and is then flown out, particularly through Heathrow:

“Scotland’s economy faces the challenge of geographical peripherality, and it is therefore vital that its freight transport and logistics links are organised and structured to prevent this geographical peripherality becoming an economic challenge.” (Aviation and associated industries (including representative bodies))

A reasonable number of respondents (of different types) stressed that alternative modes, e.g. rail and water, should be considered ahead of air freight as a way of minimising both costs and emissions:

“In most cases there will be road/rail/ferry alternatives which will be both cheaper and have far less environmental adverse impact.”
(Individual)

Others indicated that while they welcomed moves to support and enable air freight to the benefit of Scottish airports, expansion should not be at the cost of increased carbon emissions.

A small number of respondents explained that, while they welcomed use of spare capacity on scheduled passenger flights for freight travel, they would wish to see purely freight flights being minimised.

A small number urged consideration of ways to improve the road and rail infrastructure to support efficient and sustainable airfreight transport:

“With Scotland too far north to be a main port of call, it is therefore reliant on quality road and rail links to these hubs. Improving Scotland’s aviation and shipping supply chain is not exclusively about airports and ports in Scotland.” (Aviation and associated industries (including representative bodies))

A specific recommendation was made to support development of airport facilities/infrastructure where this could enable improved air freight connectivity for Scotland. A suggestion was also made to consider expansion of air freight routes and introduce policies that support the development of new and existing airport cargo terminals:

“Alongside passenger route development - of which freight can play a role - the Scottish Government should look to work with businesses to identify specific freight routes that can help support firms build upon existing trade patterns and open up new export opportunities.” (Business Representative Body)

There were mixed views in relation to drone use for moving freight. Some organisations offered support for the innovative use of this technology (albeit the volume of freight to be transported may restrict this option in some cases) while others (mainly individuals) did not support increased drone use (mainly due to concerns around noise and practicalities linked to bad weather):

“For new smaller air freight movements again there are opportunities to lead the way in the development/deployment of zero-emission unmanned / small sized zero emission aircraft.” (Aviation and associated industries (including representative bodies))

Again, if developed, use of unmanned aircraft for freight may be particularly beneficial for remote communities, it was suggested:

“The paper rightly notes that developments in unmanned aircraft may create new opportunities in air freight. Given the potential improvement in service to remote communities these could offer, the Government should support the trial and deployment of new types of aircraft in Scotland. This could be through grant funding as well as in the planning system.” (Aviation and associated industries (including representative bodies))

A small number of individual respondents urged restricting or stopping night-time flights and the consideration of increasing freight travel during the day, to minimise health and social impacts (e.g. night time noise disturbance, etc.):

“Currently many of the aircraft used for air freight are older and much noisier than many passenger aircraft and their timings can often cause disruption to the local community... Newer aircraft should be incentivised which would reduce emissions and noise levels. (Organisation, Other)

Other very specific suggestions for the strategy to consider in relation to freight, put forward by just one or two respondents each, included:

- policies that focus on the implementation of a fully Digitised Single Window as part of the eFreight concept, that allows for agile Border Control Management that promotes and facilitates exports and imports (e.g. veterinary, phytosanitary, trading standards, prohibitions/restrictions);
- policies that focus on removing or reducing unnecessary cross border trade barriers including aviation and non-aviation areas;
- development of trade relationships through free trade agreements;
- ensuring Scottish airports make provision in their masterplans for future air freight growth;
- incentivising freight forwarders to establish a Scottish-based presence and operations; and
- working with growing e-commerce airlines as well as existing integrators to develop links to Scotland.

Some suggested that it was necessary to provide clarity and support to allow airports to develop the facilities required for sustainable air freight (with suggestions that there was currently very little understanding of the air freight sector among some

parties). Others simply urged continued and ongoing working between the Scottish Government and other relevant stakeholders in taking forward this part of the strategy. It was suggested (both in online responses and during the workshop) that a wider discussion involving all freight modes, not just aviation, and freight forwarders was needed in order to deliver real change:

“Scotland’s businesses recognise that there are significant opportunities for increasing the amount of freight being flown to and from Scottish airports and it’s vital the Scottish Government work with businesses to ensure that goods leaving or bound for Scotland arrive here as quickly as possible to reduce supply chain challenges and speed up the transport of goods... [Organisation] supports calls to establish an export working group to enable government, producers, freight forwarders and airports to collectively shape a freight forwarding model that would deliver for industry.” (Business Representative Body)

Finally, workshop attendees noted that other parts of the Scottish Government were also interested in increasing direct exports from Scotland, and the Aviation Strategy and associated policies must be joined up going forwards.

Additional Feedback

While the discussion document set out the key themes linked to the vision for aviation in Scotland, it also made clear that the Scottish Government was open to other ideas on what the Aviation Strategy should try to achieve.

Q23. What else do you think the Aviation Strategy should try to achieve?

Although a large number of respondents responded to this question, many simply reiterated their interests and priorities as noted in response to earlier questions. This included calls for the strategy to set out clear plans for clean energy solutions, phasing out of old non-efficient fleets, investment in/development of short haul electric technology and hydrogen/electric flights, investment in research, development and training and creating a skilled Scottish workforce to support and deliver the changes to aviation that lie ahead.

Noise pollution

Several respondents stated that the absence of any questions or narrative linked to noise pollution was a significant omission and argued that measures to deal with noise should form a central part of the Aviation Strategy:

“Any strategy that does not mention [aircraft noise] is not addressing all the issues surrounding aviation. Evidence of the impact of noise on health is gradually accumulating, especially in regard to night noise from aircraft. This strategy should have a clear statement that all measures should be taken to route aircraft away from major population areas even if that resulted in a marginally longer flight path.” (Individual)

A number of proposals for inclusion in the strategy were posited to help achieve reductions in aviation noise and reduce negative social and health impacts associated with noise pollution (including, for example, monitoring noise pollution and incentivising those in the aviation industry to address it).

Demand reduction

Another key area which several online respondents felt should be given greater attention in the Aviation Strategy was demand reduction and in particular, discussion around what more can be done to make bus, train, ferry, etc. viable alternatives to

aviation and encourage modal shift. Reducing overall demand for aviation was seen as key to achieving climate change targets:

“Any strategy for aviation, within and to/from Scotland, that does not set out a strategic vision of how much aviation there should be in the future - and demand management policies to achieve such a (reduced) level - is not a coherent strategy. It would also not be consistent with the Scottish Government’s climate change targets and policies.” (Environmental NGOs/representative bodies)

During workshops, environmental NGOs also commented that the discussion document was lacking a strategic consideration of how much aviation there should be in future and the role that demand management needs to play in reducing aviation emissions. Environmental NGOs also suggested that the Scottish Government should approach decarbonising aviation as it does waste (i.e. reduce, reuse, recycle). Firstly, the government should seek to reduce air travel, then for the air travel which cannot be avoided use low/zero-emission aircraft and finally, for routes where hydrogen/electric aircraft are not feasible, SAF should be used:

“The first priority should always be to reduce demand, then use technological innovation to reduce emissions for the remaining flights. This should focus on genuine low-carbon innovation, and should not rely on measures such as offsetting.” (Environmental NGOs/representative bodies)

Integrated transport network

A third omission noted by a smaller number was the need for the strategy to focus on how the wider public transport system (e.g. bus, rail, ferry) can be better integrated with aviation. Specifically, proposals could be included for how to improve public transport infrastructure to better support travel by air, including access to and from airports, it was suggested:

“The Aviation Strategy should explicitly include the Scottish Government’s plans to improve surface transport to ensure sustainable public transport options are included in future investment plans.” (Business Representative Body)

Other comments

A number of other suggestions from online consultation respondents were given (often presented by just one or two respondents each), and some of these were areas which were already covered in the strategy (suggesting that they were not

omissions, but rather areas where more focus may be needed). These included proposals that the strategy should:

- consider how more balanced and environmentally efficient forms of taxation can be achieved/sustained longer term (including consideration of how funds raised could be ring fenced to drive decarbonisation of aviation);
- ensure that aviation policy prioritises support for those islands/regions where surface transport does not offer a competitive alternative to air links;
- include very clear plans for how Scotland will manage Air Passenger Duty and Air Departure Tax going forward;
- include details of an aviation restart fund, additional support for route development and financial support for regional airports across Scotland;
- explore how to achieve more efficient flight operations/scheduling, including more discussion of the economic role that night flights play within the UK economy and how these could be maintained whilst also meeting noise pollution reduction aspirations;
- discuss military aviation, recognising the role that it plays currently in Scotland;
- have a greater focus on General Aviation (GA) including potential for investment in research into the economic value of the Scottish GA sector, funding and recruitment of GA apprenticeships, and raising awareness of GA in general;
- explore how best to support aviation linked to tourism, including the possibility of having shorter routes to more regional airports;
- include plans for supporting and investing meaningfully in route development and Scotland's international connectivity;
- explore airport infrastructure changes to help support the wider aspirations of the Aviation Strategy;
- consider the contribution of the outbound travel sector (including outbound leisure) and the value that this produces for the Scottish economy;
- consider how to promote/protect passenger safety;
- include a focus on maintenance, repair and overhaul;
- include plans to tackle idling of aircraft and other vehicles associated with aviation;
- explore ways of reducing the burden on public funds/exploration of community inspired private sector investment and development;

- ensure that proposed taxation regimes are fair to both regional and more central/larger airports/operators; and
- ensure that any infrastructure/supply chain strategy is looked at alongside any relevant UK Government strategy.

Suggestions from workshop delegates were not dissimilar to those raised online and included that:

- the Aviation Strategy needed to have a clear vision and be clear on expected outcomes. Delegates stressed that aviation policy cannot be developed in isolation and that full cross-sectoral/ cross-government support was required;
- the Aviation Strategy should recognise that different parts of the Scottish Government have a direct or indirect interest in aviation, or make decisions that can affect the future of the sector; and
- there needs to be joined up decision making between national government and local authorities on all things linked to aviation including, for example, decisions on access roads to/from airports.

A very specific request was also made for the strategy to set out clear guidelines on plans for COVID-19 recovery with a consistent and co-ordinated approach across the UK:

“... aviation’s recovery from the pandemic will be protracted and it will take years to return to pre-pandemic levels. It is imperative that the Aviation Strategy sets out how Scottish Government will better engage with the industry and ensure there is alignment across the four nations in the event we are faced with further variants and potential restrictions on travel.” (Aviation and associated industries (including representative bodies))

More general cross-cutting suggestions were to ensure that the Aviation Strategy was inclusive and accessible (especially of the islands and more rural/remote communities and businesses), that there should be greater focus on domestic travel and domestic connectivity across the UK, and that service users were involved in its onward development. Others urged continuous review of evidence and research to inform the strategy, as well as ongoing and systematic consideration of all other relevant policy developments and mandates for aviation to ensure that Scotland’s Aviation Strategy remains congruent and well aligned:

“...the Scottish Government should ensure that the Aviation Strategy is aligned to other relevant strategies that have been developed. These include the strategies for tourism, net zero, strategic transport, national planning, trade, inward investment and capital

investment.” (Business representative Body)

Again, several respondents reiterated the importance of the climate crisis and stressed that everything possible should be done in the strategy to assist in meeting emission reduction targets including deprioritising air travel and exploring ways of reducing unnecessary flights, both personal and business related. One respondent specifically expressed disappointment around the lack of reference to the environment in the discussion document.

Conclusions and Next Steps

Conclusions

The findings from the consultation suggest that there is much support for the development of a dedicated Aviation Strategy for Scotland, and also for ongoing involvement of all relevant stakeholders in its development and implementation. Many working in the public and private sectors welcomed the proposals set out in the discussion document and viewed that there were significant opportunities for Scotland to embrace new technologies to help meet net-zero targets.

Next Steps

The feedback from both the online consultation and the stakeholder workshops, together with other evidence, will inform the development of the Scottish Government's Aviation Strategy, which is expected to be published in late 2022 or early 2023.

Appendix A: Note of Stakeholder Workshop on International Connectivity and Freight

Introduction

As part of the Scottish Government's [consultation on developing an aviation strategy](#) officials held a series of virtual meetings with aviation stakeholders to discuss the key themes set out in our discussion document: aviation's transition to net-zero, Scotland's international connectivity, Scotland's domestic connectivity and air freight.

This note summarises the main points from the stakeholder workshop on Scotland's international connectivity and airfreight, held on the 2nd of December 2021, where participants discussed relevant questions from the consultation document. A summary of each discussion is provided below.

The feedback from all of the stakeholder workshops, together with the responses to the SG's online consultation, will inform the development of the Scottish Government's aviation strategy, which is expected to be published in 2022.

Participants

The following organisations participated in the workshop:

- Airlines UK
- Highlands and Islands Airports Limited (HIAL)
- Scottish Chambers of Commerce
- Edinburgh Airport
- VisitScotland
- AGS Airports Limited
- Scottish Development International (SDI)
- Scottish Enterprise

Context

The discussion document explains what the Scottish Government aims to achieve for international air connectivity, based on existing strategies and commitments:

“To help airports and airlines rebuild and grow Scotland's international air connectivity following COVID-19 to support inbound tourism and sustainable economic growth, whilst reducing the environmental impact of aviation in line with the Scottish Government's commitment to be a net-zero nation by 2045.

This includes achieving similar levels of global connectivity as leading peer nations and regions (e.g. Ireland and Catalonia) with the ultimate aim of being able to travel between Scotland and any major city in the world either directly or with, at most, only one stop. Such improvements in international connectivity support Scottish business and stimulate new markets for inbound tourism.”

The discussion document also explains the Scottish Government aim for airfreight: “To help achieve the commitment in the National Transport Strategy to promote efficient and sustainable freight transport.”

The discussion document contains more detailed information on both [international connectivity](#) and [airfreight](#). Brief extracts are provided below, in order to provide context to the stakeholder discussions.

Discussion

A summary of the main points arising from each discussion is provided below. Comments have been anonymised, as agreed with participants in advance.

Discussion 1: Considering future challenges and opportunities, what changes, if any, should we make to our approach to help achieve our aim for international connectivity?

Background: Transport Scotland, Scottish Development International, Highlands and Islands Enterprise and VisitScotland work in partnership to provide support to airlines and airports. Support to airlines can involve cooperative marketing packages and/or market intelligence and data on the potential of the Scottish market.

Stakeholder views:

- It was noted that the pre-covid ‘Team Scotland’ support to the sector for route development was good. However, we need to consider how the approach could change to respond to the pandemic.
- There was a consensus on the need for government to work with the sector to understand how support can best be targeted; intelligence on likely future trends around demand and capacity is needed as we develop the aviation strategy.
- While recognising restrictions around, for example, providing direct support to airlines, it was suggested that Scottish Government could allocate more resources and consider how to be more creative in its approach.

- One suggestion was risk share partnerships, another was exploring with the UK Government the feasibility of establishing short-term public service obligations to cover international flights to and from Scotland.

Discussion 2: Which countries should we prioritise in the short, medium and long term?

Background: The Scottish Government has compiled an initial list of priority countries for short and long haul air travel. The list is based on existing strategies and relevant data, and aims to ensure that work on helping to rebuild Scotland's air connectivity is as effective as possible.

Stakeholder views:

- Some suggestions were made for adjusting the list of priority countries, for example, by moving Ireland up the list, including countries from which Scotland is looking to attract workers; making the long haul list more aspirational by adding countries like India or Ethiopia; and widening out Australia to Australasia. It was noted that direct connectivity with Australia might impact on our global hub connectivity, which was also essential.
- Alternatively, it was proposed that the Scottish Government could focus more on connectivity and on its desired outcomes, and demonstrate greater flexibility in its approach, rather than establish a prescriptive list of countries. This would also entail a greater focus on hubs, which provide access to many countries. If such an approach were adopted, it was acknowledged that the Scottish Government would still require some kind of structure to govern its decisions, and that there would not be funding available to do everything.
- Transport Scotland may wish to have a more dedicated discussion on this proposal, to inform development of the aviation strategy.

Discussion 3: How do we incentivise the use of more efficient aircraft, whilst still ensuring that we secure the routes Scotland needs?

Background: The Scottish Government is committed to reducing the environmental impact of restoring international connectivity.

Stakeholder views:

- In providing route development support to the sector, 'Team Scotland' could seek to incentivise cleaner aircraft. However, the potential difficulty of turning

away a request for support because the aircraft being used was not the latest, cleanest model available was acknowledged.

- Advice provided to Ministers on route development business cases could include a description of the airline's environmental commitments. This would allow us to respond to later questions, particularly on spend, on the actions we've taken.
- It was also suggested that we could strengthen the narrative on ongoing actions and commitments to lowering emissions, and on airspace modernisation and its benefits, to increase public awareness.
- In any case, it was suggested that the market was already driving environmental improvements to aircraft without the Scottish Government necessarily having to develop any new policy or commit further resources to encourage this process.
- Encouraging the use of sustainable aviation fuel may be a far more productive and useful role for Scottish Government.

Discussion 4: What more, if anything, do you think the Scottish Government can do to help promote efficient and sustainable airfreight transport?

Background: The Scottish Government's National Transport Strategy sets out the importance of the effective movement of goods, including by air, for trade and sustainable economic growth. However, airfreight currently makes up less than 1% of total freight in Scotland.

Stakeholder views:

- There are opportunities for a significant increase in the amount of freight being flown from Scottish airports. Currently, large volumes travel by road to England and are then flown out, particularly through Heathrow.
- Government is already providing support on this, for example, by developing links between freight leads at airports and wider industry networks. But it was suggested that a wider discussion involving all freight modes, not just aviation, and freight forwarders was needed in order to deliver real change.
- Other parts of Scottish Government are also interested increasing direct exports from Scotland, so we need to be joined up.
- Specifically relating to the Highlands and Islands:
 - Scottish Government could ask UK Government to ensure the CAA has the capacity necessary to enable use of UAVs (drones) and the required airspace change.
 - An increase in online shopping in the region has helped to make airfreight from the highlands and islands more commercially viable.

Discussion 5: What else do you think the aviation strategy should try to achieve?

Background: While the discussion document sets out the Scottish Government's key themes, it makes clear that we are open to other ideas on what the Aviation Strategy should try to achieve.

Stakeholder views:

- The aviation strategy needs to have a clear vision and be clear on expected outcomes. Aviation policy can't be developed in isolation. One stakeholder considered that aviation does not always receive the full cross-sectoral/ cross-government support required.
- The aviation strategy also needs to recognise that different parts of the Scottish Government have a direct or indirect interest in aviation, or make decisions that can affect the future of the sector. For example:
 - It was suggested that the next national planning framework (NPF4) may not include airport enhancements as being of national importance, but it was not known why and there may impacts on the sector;
 - There needs to be a join up between national government and local authority decisions on how, for example, access roads to airports are made.

Appendix B: Note of Stakeholder Workshop on Low/zero Emission Aviation

Introduction

As part of the Scottish Government's [consultation on developing an aviation strategy](#) officials held a series of virtual meetings with aviation stakeholders to discuss the key themes set out in our discussion document: aviation's transition to net-zero, Scotland's international connectivity, Scotland's domestic connectivity and air freight.

This note summarises the main points from the stakeholder workshop on the transition to low and zero emission aviation, held on the 3rd of December 2021, where participants discussed relevant questions from the consultation document. A summary of each discussion is provided below.

The feedback from all of the stakeholder workshops, together with the responses to the SG's online consultation, will inform the development of the Scottish Government's aviation strategy, which is expected to be published in 2022.

Participants

The following organisations participated in the workshop:

- Airlines UK
- Stop Climate Chaos
- Petroineos
- Edinburgh Airport
- AGS Airports Limited
- Knowledge Transfer Network
- Transform Scotland
- Friends of the Earth
- Highlands and Islands Enterprise
- Aerospace Technology Institute

Context

The [discussion document](#) explains what the Scottish Government aims to achieve in this area:

“To reduce the environmental impact of aviation, in line with the Scottish Government’s commitment to be a net-zero nation by 2045.

For Scotland to benefit economically from the transition to low and zero emission aviation.”

The discussion document also contains more detailed information on what activity is already underway in this area, for example [CORSA](#), the [UK ETS](#) and the R&D support currently available.

Discussion

A summary of the main points arising from each discussion is provided below. Comments have been anonymised, as agreed with participants in advance.

Discussion 1: What more does the Scottish Government and industry need to do to enable the transition to low and zero-emission aviation?

Background: The Aerospace Technology Institute shared some of their early findings from the FlyZero project, which indicate that hydrogen powered aircraft is the most feasible option for short haul aviation. They also outlined the support available for the development of more efficient, as well as low and zero emission, aircraft.

Stakeholder views:

- Recognition of the challenges of switching to hydrogen/ electric aircraft and that they would not be suitable for a lot of Scotland’s international routes.
- Stated the importance of both private and public sector investment in order to bring these new types of aircraft to market.
- It was suggested that international standards could help speed up the use of these types of aircraft and one environmental NGO suggested that a government mandate on their use would also be needed.
- The need to invest in the supporting infrastructure was highlighted and aviation representatives suggested that government could support airports to put this in place.
- The importance of considering the whole supply chain – from production to transportation to storage – was also stressed, as well as the need to consider how aviation’s demand for hydrogen/renewable electricity might impact on other sectors and policy aims.

- Another suggestion was to increase the environmental ambition of CORSIA and the UK Emissions Trading Scheme to incentivise airlines to use these aircraft.
- Scottish Government could play a coordinating role, to help bring the different strands of activity together to form a coherent, deliverable plan.

Discussion 2: What can the Scottish Government do to help increase the use of sustainable aviation fuels (SAF)?

Background: The Knowledge Transfer Network outlined the different feedstock and production processes used for sustainable aviation fuels and the proposed sustainability criteria under the UK Government's SAF mandate.

Stakeholder views:

- Saw the possible economic and environmental opportunities from the production of SAF in Scotland and suggested that there could be a role for government in starting this up/providing investors with the confidence to spend the large sums of money which would be needed.
- Referenced the work that the UK Government was doing in this area, including considering a 'Contract for Difference'-like mechanism for SAF as well as the SAF mandate consultation.
- Environmental NGOs welcomed the emphasis on high environmental criteria for SAF and noted the need to learn the lessons from the use of bio-fuels in other areas.
- Recognised the challenges around feedstock supply. Environmental NGOs suggested that demand reduction also needs to play a role here, as less SAF would be needed if there were fewer flights. Some aviation industry representatives suggested that power to liquid fuels using carbon capture, or ring-fencing a certain amount of feedstock for SAF could be the answer. The need to align with agricultural policy was also mentioned, as this could help with feedstock supply.

Discussion 3: What do you think the Scottish Government can do to help ensure a just transition for the Scottish aviation sector?

Background: Officials outlined what is meant by just transition principles and the [wider work](#) that the Scottish Government is doing in this area. The [Just Transition Commission](#) identified four components to achieving a just transition: pursue an orderly and managed transition which creates benefits and opportunities for people across Scotland; equip people with the skills and education they need to benefit from this transition; empower and invigorate our communities and strengthen local

economies; share benefits widely and ensure burdens are distributed on the basis of ability to pay.

Stakeholder views:

- Some considered that there may be different interpretations of what is meant by ‘just transition’ and what it would entail – it would be useful for the Scottish Government to clarify.
- Environmental NGOs suggested that just transition could not be done on a sectoral basis, but needs to be across the economy. So while there might be fewer jobs in aviation due to the need to reduce demand, government should seek to ensure that there are other good quality jobs that people can do instead and support them in acquiring the new skills they need to do this.
- Aviation industry representatives stressed that decarbonisation needs to be done in a way that does not deter/stop people from coming to Scotland – a lot of economic and social benefits arise from air travel.
- Have the skills in Scotland needed for SAF use and production. However, hydrogen is more challenging and, as well as needing the safety regulations in place, it would be helpful to have guidance to help organisations train their staff for its safe transportation, storage and refuelling.
- Too early to determine what skills workers might need for the use of electric/hybrid aircraft until it’s clear which kind of aircraft will be used and how they will be recharged.

Discussion 4: What else do you think the aviation strategy should try to achieve?

Stakeholder views:

- Environmental NGOs commented that the discussion document is lacking a strategic consideration of how much aviation there should be in future and the role that demand management needs to play in reducing aviation emissions.
- Reference was made to the Element Energy report on decarbonising the transport sector in Scotland and how the aviation strategy should consider where aviation sits in the sustainable travel hierarchy.
- Environmental NGOs suggested we should approach decarbonising aviation, like we do waste (reduce, reuse, recycle). First, we should seek to reduce air travel, then for the air travel which can’t be avoided we should use low/zero-emission aircraft and finally for routes where can’t use hydrogen/electric aircraft we should use SAF.

Appendix C: Note of Stakeholder Workshop on Scotland's Domestic Connectivity

Introduction

As part of the Scottish Government's [consultation on developing an aviation strategy](#) officials held a series of virtual meetings with aviation stakeholders to discuss the key themes set out in our discussion document: aviation's transition to net-zero, Scotland's international connectivity, Scotland's domestic connectivity and air freight.

This note summarises the main points from the stakeholder workshop on Scotland's Domestic Connectivity, held on the 8th of December 2021, where participants discussed relevant questions from the consultation document. A summary of each discussion is provided below.

The feedback from all of the stakeholder workshops, together with the responses to the Scottish Government's online consultation, will inform the development of the Scottish Government's aviation strategy, which is expected to be published in 2022.

Participants

The following individuals and organisations participated in the workshop:

- Highlands and Islands Airports Ltd
- Loganair
- Eastern Airways
- HITRANS
- Argyll & Bute Council
- Dundee City Council
- Shetland Islands Council
- Caithness Chamber of Commerce
- Highlands and Islands Enterprise
- Comhairle nan Eilean Siar (Western Isles Council)

Context

The discussion document explains what the Scottish Government aims to achieve for domestic connectivity, based on existing strategies and commitments:

“Between Scotland and other parts of the UK, and within Scotland, to have low/zero emission air services that meet the needs of communities and help deliver sustainable economic growth.

This includes decarbonising scheduled passenger flights within Scotland by 2040 and having air services in the Highlands and Islands which provide good value for passengers and the tax payer.”

The discussion document contains more detailed information in the [Domestic Connectivity](#) section. Brief extracts are provided below, in order to provide context to the stakeholder discussions.

Discussion

A summary of the main points arising from each discussion is provided below. All comments have been anonymised, as agreed with participants in advance.

Discussion 1: What do you think about the idea of the Scottish Government purchasing new zero emission aircraft and leasing them to any airline operating routes in the Highlands and Islands?

Background: The Scottish Government has committed to work to decarbonise scheduled passenger flights within Scotland by 2040. Electric and/or hydrogen powered aircraft will be key to achieving this. One option to help ensure the early use of these aircraft, is for the Scottish Government to purchase them as they become available on the market, then lease them to the airline(s) operating the routes.

Stakeholder views:

- Airlines and a number of other stakeholders questioned whether the Scottish Government buying and leasing zero emission aircraft would be needed as they expect that private sector aircraft leasing companies would do this more effectively. These companies operate at a far larger scale than the Scottish Government could, giving airlines greater flexibility to continually up-grade aircraft as technology develops.
- There is also a danger that the Scottish Government invests in a technology that turns out not to be appropriate and wastes public money.
- While other stakeholders supported the use of these aircraft on intra-Scotland routes, they had concerns about the practicalities of the Scottish Government buying and leasing aircraft, including how to ensure that the aircraft are suitable for the routes, equal access (if there are insufficient aircraft to meet demand how

would you decide who gets them) and the risks of inadvertently constraining airlines' ability to move their assets across their network. One airline said that, should such aircraft be used, the routes would need a PSO (public service obligation).

Discussion 2: What else can the Scottish Government do to achieve its aim of decarbonising scheduled flights within Scotland by 2040?

Background: Highlands and Islands Airports Limited outlined the work they are doing in partnership with others to understand what might be needed to decarbonise flights within Scotland and how they are helping to support the development of low and zero-emission aircraft through the Sustainable Aviation Test Environment at Kirkwall airport. They also reflected on the opportunities for improving air connectivity as a result of these new types of aircraft.

Stakeholder views:

- Saw a role for Scottish Government in helping to put in place the supporting infrastructure needed for these new types of aircraft to operate, including airport infrastructure but also the wider energy system (grid connection, lowering the cost of hydrogen production, hydrogen transportation and storage etc.).
- When considering the infrastructure needed and the best location for this, need to consider demand from other transport modes and other uses e.g. hydrogen for heating, and link into the work that is already underway in these areas. It was suggested that lessons could be learned from EV charging. Also, need to consider what infrastructure is needed at both ends of the route.
- Using a “contracts for difference” model was also suggested. Government paying the difference in cost between conventional operation and new operation would provide support in the early years but should then become commercially viable.
- The importance of passenger acceptance of these new types of aircraft was also highlighted – need to get the messaging right.
- While stakeholders recognised that the regulatory side is reserved to the UK Government, they stressed the importance of the regulatory process keeping up with technological development in order for these new types of aircraft to be able to operate.
- A few stakeholders suggested that improving public transport to and from airports could be a quick win in terms of reducing emissions.

Discussion 3: What air services are needed to meet the needs of communities in the future?

Background: To help consider what the needs of communities might be in future, three hypothetical scenarios were discussed: less demand, same level of demand and more demand for air services in the Highlands and Islands.

Stakeholder views:

Less demand

- Thought that some air travel would still be needed in this scenario, but perhaps the routes between central Scotland and London/the Midlands would no longer be needed.
- Highlighted the fact that the NHS is currently a heavy user of the existing air services, both in terms of patients travelling for treatment and NHS staff travelling for their work, and suggested that there needs to be a greater consideration of transportation when making decisions about the provision of health care.
- Suggested that smaller aircraft could be used, however, this would still need fire service provision etc., which means that meeting the on-going need for air travel would be challenging – as certain fixed costs could not reduce.
- Some stakeholders suggested that more PSOs would be needed as the reduction in passengers numbers, especially the reduction in business travel, would mean routes would not be commercially viable.
- Also mentioned that air taxis could provide a different way of meeting the remaining need for air travel (this is covered in more detail in subsequent discussion).

Same level of demand

- This premise was challenged as it was considered that demand would continue to be low for the foreseeable future as a result of Covid uncertainty, which is also making planning and data interpretation more difficult. It was suggested that making significant changes to PSOs could provide some support with these challenges.
- There is a difference between community expectations about the cost and frequency of flights in the Highlands and Islands, and what is feasible to deliver given volumes of passengers. Also, actual usage does not always reflect what people say they want from an air service.

More demand

- It was suggested that new technologies present new opportunities. While airframe costs may be higher, the marginal cost of operating additional services may be lower thereby incentivising the operator to maximise the use of the aircraft. This means more frequencies and possibly more routes. Services such

as Glasgow / Edinburgh to Inverness may be viable and environmentally better than the current alternatives.

- Frequency and availability are key. Using the car is very flexible and resilient. Frequency and reliability are important if air service is to be a viable alternative.
- Shouldn't be looking at this as 'higher demand needs more services'. It should be flipped around. There would be more visitors and residents if there was better connectivity. It should be an outputs based approach. Regional centres need day trips to main urban centres with reasonable time in each location. This should be the minimum service provision. Support mechanisms are needed to achieve that outcome.
- The number of destinations would be dependent on individual community needs. The core needs of communities are not currently being provided. Same day travel with a reasonable amount of time in each location are needed now.
- Focus can't just be on access to the central belt. Inter-regional is important as well.
- There also needs to be better integration between health and transport.

Discussion 4: other operational models (e.g. air taxis and open charter services)

Background: A number of companies are developing small, low/zero emissions aircraft that can take off and land vertically, and some are planning to use these to operate air taxis services. Passengers would decide what time and where they want to fly to (within the locations served) and then book the aircraft. Open charter services would allow members of the public to fly on an aircraft that has been chartered by an organisation, if there are spare seats.

Stakeholder views:

Air taxis/on demand services

- Saw opportunities and challenges from air taxi services – could meet the needs of certain people but the cost of using these services means that it would not be affordable for everyone.
- Might not have sufficient volume to make these services viable – would need to have enough people on both legs of the journey.
- Might also have an impact of the scheduled passenger services if less business travel used them, although this risk could be mitigated by using air taxis on routes where there is no passenger service.
- As air taxi services are rolled out in other countries, we will have a better understanding of the opportunities (or not) for their use in Scotland – could also do trials/ use cases.

Open charter services

- While a good idea in theory the practicalities mean it is not a feasible idea and is not, therefore, currently done.

Other

- Stakeholders found it very difficult to suggest alternatives as the traditional model works well in many circumstances.
- Mentioned that work was done a number of years ago on a Regional PSO network and said they would welcome a complete review of existing support mechanisms. Is existing spend used optimally to provide services that communities need?
- Good to encourage competitiveness in the network where possible but need a driver of equity to support lifeline services.
- From a business travel perspective, reliability is very important (strongest issue in Wick work). More so than frequency. Need to be able to plan your journey with certainty.
- Price models may need to be looked at if there are going to be fewer future passengers (i.e. business travellers) willing to pay for the more expensive tickets that currently support the provision of the less expensive tickets.
- Airlines need a certain overall yield to make a route commercially viable – lots of people flying cheaply versus a few people buying expensive tickets. The changing weightings could impact overall service provision.
- The general point was made in an earlier discussion that, should the number of craft on the route network increase substantially, there is a fundamental issue about a lack of available pilots.

Discussion 5: Most air services in the Highlands and Islands are delivered on a commercial basis. How can the Scottish Government best work with the private sector to deliver the air services you think are needed?

Stakeholder views:

- Airlines outlined what they needed to consider when deciding to operate a route (at a minimum covering their operating costs). This is slightly different to airports, which need passenger volumes. Also noted that some communities may, for example, want a 9 to 5 schedule, which conflicts with what airlines can provide.
- The importance of open and honest dialogue between communities, Scottish Government, airlines and airports was stressed, to find the right balance between what communities would ideally want, what is feasible, and the commercial imperatives involved in providing services.

Discussion 6: How effective do you think the Air Discount Scheme has been at addressing high airfares and how can the Scottish Government improve the Scheme?

Background: The [Air Discount Scheme](#) gives certain Highlands and Islands residents a discount on eligible routes.

Stakeholder views:

- There were mixed views on how effective the Air Discount Scheme had been. Some said it was very important to help reduce the cost of living for people in the Highlands and Islands, while others thought it had not achieved its aim and that the Scottish Government should consider whether there is a better way of achieving this.
- A number of stakeholders suggested that the Scottish Government should consider how it supports air services in the round (e.g. subsidy for airports, PSOs, air discount scheme, Air Passenger Duty exemption) and how it could use this money in the most effective way to achieve the stated aim of the air discount scheme.
- Others suggested changes to the current scheme, such as expanding it to cover business travel and having an “air discount scheme fare” which eligible people could book.
- Airlines said this idea would limit their flexibility to adjust prices and thus potentially undermine the viability of the route which in turn would have a negative impact on the community by reducing connectivity.

Appendix D: Note of Stakeholder Workshop on Highlands and Islands Governance Arrangements

Introduction

As part of the Scottish Government's [consultation on developing an aviation strategy](#) officials held a series of virtual meetings with aviation stakeholders to discuss the key themes set out in our discussion document: aviation's transition to net-zero, Scotland's international connectivity, Scotland's domestic connectivity and air freight.

This note summarises the main points from the stakeholder workshop on Scotland's Highlands and Islands governance arrangements, held on the 10th of December 2021, where participants discussed relevant questions from the consultation document. A summary of the discussion is provided below.

The feedback from all of the stakeholder workshops, together with the responses to the Scottish Government's online consultation, will inform the development of the Scottish Government's aviation strategy, which is expected to be published in 2022.

Participants

The following individuals and organisations participated in the workshop:

- Orkney Island Council
- Shetland Island Council
- Argyll and Bute Council
- Highlands and Islands Airports Limited (HIAL)

Context

The discussion document explains what the Scottish Government aims to achieve for domestic connectivity, based on existing strategies and commitments:

“Between Scotland and other parts of the UK, and within Scotland, to have low/zero emission air services that meet the needs of communities and help deliver sustainable economic growth.

This includes decarbonising scheduled passenger flights within Scotland by 2040 and having air services in the Highlands and Islands which provide good value for passengers and the tax payer”.

This particular workshop considered the specific issue of airport services for scheduled passenger air services in the Highlands and Islands, which are currently provided by HIAL, Shetland Islands Council, Orkney Islands Council and Argyll & Bute Council.

The consultation document notes that the “current model provides each body with direct control over the facilities they manage, however, having four different airport operators in the region means that it is more difficult to achieve economies of scale, for example, through bulk buying of equipment”.

Further information is available in the [consultation document](#).

Discussion

Participants considered some of the main advantages and disadvantages of the existing airport services and governance model. They then considered whether and how improvements could be made. All comments have been anonymised, as agreed with participants in advance.

Stakeholder views

- Council officers highlighted various advantages of the current airport model, primarily that local authority operation of airports provides a high level of democratic accountability and an ability to respond quickly to local issues and concerns. Airport infrastructure is also a critical part of island sustainability, which can be built into wider community planning.
- HIAL’s close working relationship with Transport Scotland was emphasised; it allows HIAL to react quickly to challenges within its network and to deliver Transport Scotland’s objectives. In contrast, councils do not have a close relationship with Transport Scotland and are not therefore able to exert the same strategic influence.
- Councils face various other challenges with the existing set up, particularly around funding. Aviation is a specialist and disproportionately resource intensive area as seen, for example, in the regulation by and relationships with the Civil Aviation Authority (CAA). Local authority officers are also having to deal with ferries, bus, roads, etc.
- Population trends on some islands can make it difficult to recruit and maintain appropriate airport staff. Decoupling pay scales from standard ‘civil service’ scales may help to create a wider pool of people by more accurately reflecting the market for these types of jobs.

- Specific infrastructure challenges were also noted, for example, that the length of some runways restricts the type of aircraft that they can accommodate.
- One participant questioned whether innovation in aviation actually exists in Scotland, suggesting we are duplicating effort that is happening elsewhere and are risk-averse.
- There are fundamental questions about the nature of the current networks and whether they represent simply the accretion of practice over decades, rather than being the most effective service model for Scotland. It would be instructive to examine – and be more transparent about – how much public money from councils and Transport Scotland is subsidising airports.
- Participants saw merit in establishing a coherent, pan-Scotland approach to dealing with the complexities of ensuring connectivity and effective resource management. There is a massive opportunity to achieve standardisation in the provision of certain service across airports in the Highlands and Islands, for example, training and recruitment, infrastructure, fire services, operating hours, insurance, uniforms, etc. This could help to achieve economies of scale.
- Having one accountable manager for relationships with the CAA could lead to a more straightforward relationship between the airports and their Regulator as well as driving a more consistent approach to operations and compliance with regulatory requirements. It could also enable a more effective response to proposed changes in the Regulatory Regime such as the CAA's modernisation plans.
- There could also be an opportunity to simplify the complex administration of Public Service Obligations (PSOs), which are let by various local authorities. However, the risk of adopting a 'one size fits all', overly centralised approach was highlighted.
- The need for some kind of central innovation driver was suggested, as all air services, no matter how remote or specialist, will have to take action to deal with environmental demands. However, local airports are not large enough to drive the technological changes required.
- While there was support for some kind of standardisation, particularly within the context of budget constraints, it was stressed that local authorities would be strongly against any change perceived as being about centralisation and would want to ensure that local influence were retained under any new model.
- There was also a recognition that changing the current model alone would not be sufficient to address some of the challenges local authorities face with the delivery of airport services.
- There is a danger of believing that the new model should involve either everything being done centrally, or everything being done in local communities. Rather, there is an opportunity to create a new model that incorporates the local influence and realises the benefits of being part of a larger organisation. Local communities could retain responsibility for matters such as air services, including local flight timetables, while the day to day operation of airports could be managed separately.
- One suggestion was that a peer network would allow the bodies involved to benefit from each other's knowledge and expertise, and work together when needed.

- Participants considered that there was merit in Transport Scotland making initial, more detailed proposals for how any new model could work. This could involve analysing existing infrastructure; public funding; and whether current arrangements are optimal for a strategic Scottish air network.
- Stakeholders warned that there was a disconnect between Transport Scotland's second Strategic Transport Projects Review and aviation. There has to be integration between the aviation strategy and the proposed islands connectivity plan, rather than transport modes being considered in isolation.

Appendix E: Priority Countries for Short and Long Haul Air Travel

Priority	Short haul	Long haul
1	Germany	USA
2	France	China
3	Netherlands	Canada
4	Italy	Australia
5	Norway	Japan
6	Spain	
7	Switzerland	
8	Belgium	
9	Sweden	
10	Ireland	

Appendix F: Hypothetical scenarios for future needs of communities in the Highlands and Islands

Less Demand for air services	Same level of demand for air services	More demand for air services
<ul style="list-style-type: none"> • Greater use of video-conferencing and other technology • Telemedicine • Focus on higher spending tourists rather than volume • Improved facilities on islands • High speed rail • Medical supplies and post delivered by drone • Improvement in ferry provision and/or fixed links 	<ul style="list-style-type: none"> • Around the same number of people living and working in the Highlands and Islands • No changes to current travel patterns • No changes to how goods are transported 	<ul style="list-style-type: none"> • More people living and working in the Highlands and Islands (e.g. because of growth of the energy sector, more home and remote working, more small business start-ups etc.) • More tourists • Lower costs as a result of using electric/hydrogen aircraft • Modal shift from ferry to plane • More goods transported in belly hold/ dedicated air freight

Appendix G: Airport management in the Highlands and Islands

Operator	HIAL	Shetland Islands Council	Orkney Islands Council	Argyll & Bute Council
Airports	Barra	Fair Isle	Eday	Coll
	Benbecula	Foula	North Ronaldsay	Colonsay
	Campbeltown	Out Skerries	Papa Westray	Oban
	Dundee	Papa Stour	Sanday	
	Inverness	Tingwall	Stronsay	
	Islay	Whalsay	Westray	
	Kirkwall			
	Stornoway			
	Sumburgh			
	Tiree			
	Wick John O' Groats			



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