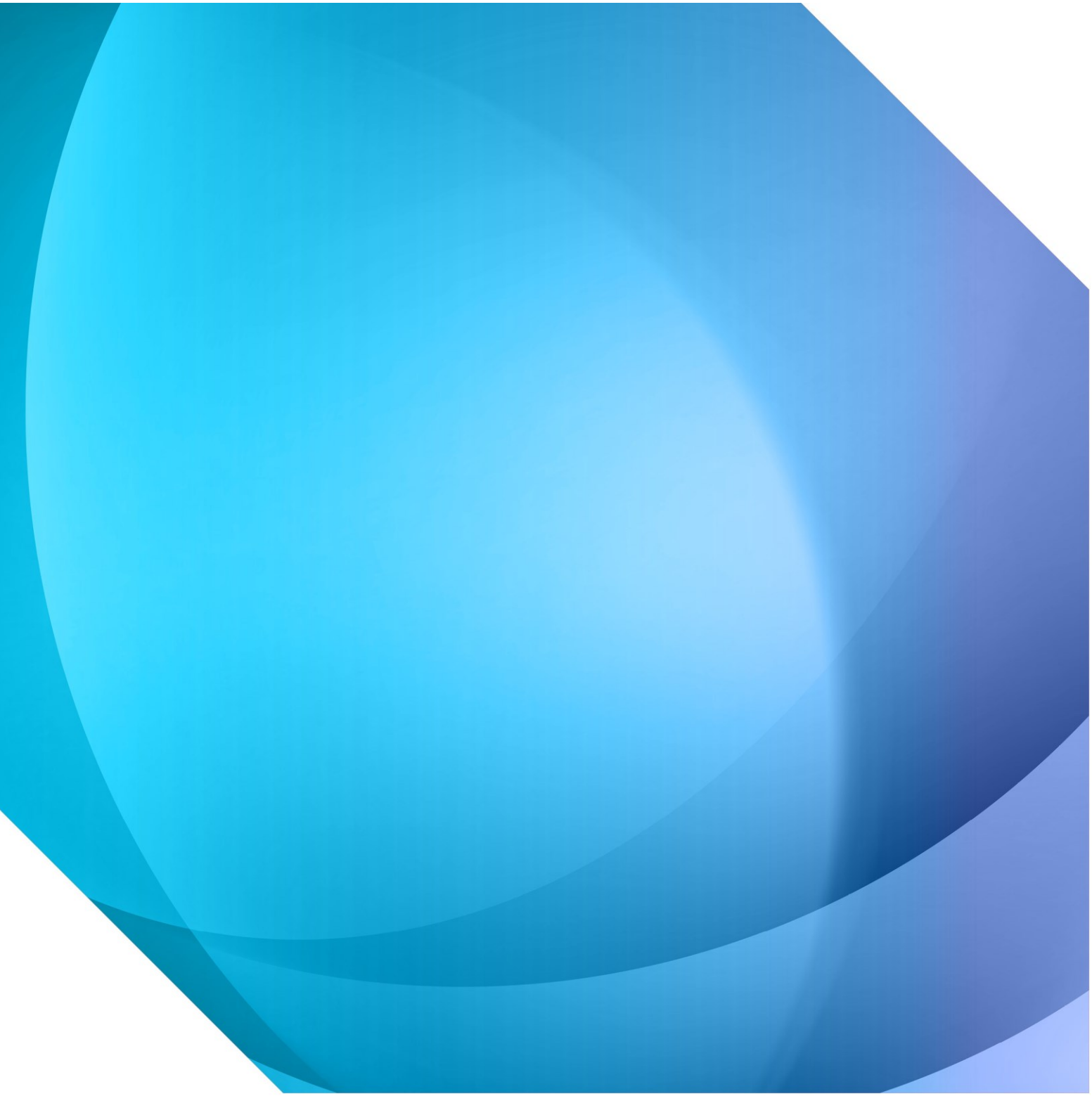
Bringing new light aircraft between 450-600kg under national regulation

Consultation Response Document

CAP 1920



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Executive Summary

- This paper outlines the CAA's response to a consultation undertaken in Autumn 2019 on whether the CAA should directly regulate categories of aeroplanes, helicopters and sailplanes of a greater weight than currently allowed by EU regulation.
- The proposal is for the UK to consider an 'opt out' from current European regulation in favour of national regulation. In the consultation, we asked whether the UK should opt out of this provision, and for aeroplanes, if these should be defined as 'microlights' or as 'light sport aircraft'.
- We received 1,379 responses, of which 91% (1,254) supported the opt-out choice. Based on this feedback, we undertook further analysis which has also led us to the following conclusions:
    - **Aeroplanes:** exercising this opt-out would increase the weight boundary that currently exists between national and EASA regulation from 450 to 600kg. We believe this would improve the availability to the UK market of many modern light two-seat single-engine aeroplanes that are currently certified up to 450kg Maximum Take-Off Mass (MTOM) but may be capable of operating up to 600kg MTOM. This streamlining of regulation should enhance the aeroplane market, and the benefits include modernising, refreshing and enlarging the UK light aeroplane fleet for pilots, operators and businesses.
    - **Sailplanes:** we do not intend to opt-out for sailplanes. There were no strong views expressed in the consultation, there was no inflexibility created by the current regulation of the sort we identified for aeroplanes, and we recognised that opting out would unintentionally deregulate a proportion of two-seat sailplanes. Finally, any benefits could be realised through other regulatory means.
    - **Helicopters:** we intend to opt out for this category. The UK does not currently have a sub-600kg helicopter fleet, so although there are no existing market distortions, there are no unintended consequences either, and opting out would permit future development of this market with minimal regulatory changes.
    - **Aeroplane category choice:** we intend to develop a revised 'microlight' definition, rather than introduce a new light sport aircraft category. This was strongly supported in the consultation, and we recognise that this choice would be simpler to implement in both legal, airworthiness and flight crew licensing terms.
- We are now developing a plan to implement these regulatory reforms at the earliest practical opportunity.

Chapter 1

Purpose and overall background

Purpose of this document

1.1 In October 2019, the CAA sought your views on whether it should directly regulate categories of aeroplanes, helicopters and sailplanes of a weight greater than currently allowed by EU regulation.

1.2 This paper explains how we have responded to your feedback to that consultation, and how we intend to progress this project. It is not seeking further views.

Background

1.3 The European Civil Aviation Basic Regulation [hereafter referred to as the 'EU Basic Regulation'][1] contains a provision allowing EU member states to voluntarily extend their national certification and oversight to a larger fleet of light aircraft[2]. Those member states would in effect be 'opting out' of a set of specific aircraft categories from the scope of the EU Basic Regulation, as set out in the following table.

Aircraft under scope of national regulation	**Current situation**	**Addition to national certification under the 'opt out' (new types only)**
Aeroplanes (two seat)	Maximum Take-Off Mass (MTOM) up to 450kg Stalling speed in landing configuration (V_{S0}) of not more than 35 knots	MTOM: up to 600kg V_{S0} of not more than 45 knots.
Helicopters (two seat)	MTOM up to 450kg	MTOM up to 600kg
Additional weight allowance for water operations: aeroplanes or helicopters	45kg	50kg
Sailplanes (two seat)	MTOM up to 400kg	MTOM up to 600kg

1.4 The purpose of this change is to help simplify the regulation of smaller aircraft by bringing them under the direct oversight of the national regulator. It only applies to

[1] Regulation (EU) 2018/1139 of the European Parliament and the Council on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, published in Official Journal 22 Aug 2018, entered into force 11 Sep 2018.

[2] EU Basic Regulation, article 2(8).

new types that do not already hold an existing certificate under the EU Basic Regulation (either existing or former) – ostensibly new designs. This means that existing EASA types remain regulated by EASA, regardless of whether the member state has chosen to opt that aircraft category out of EASA regulation.

1.5 The execution of this opt-out is still relevant despite the UK's decision to leave the EU. Parliament has passed an Act that will retain the EU Basic Regulation into national, domestic law, with modifications to reflect the UK's departure from the EU and this will come into force after the end of the transition period and last for at least the short term thereafter.

1.6 It is worth noting that, when a member state has opted-out, a manufacturer based in that member state could independently choose to 'opt back in' for the purpose of obtaining an EASA type certificate[3].

1.7 To date, five EU member states have formally taken up the opt-out provision for at least one category of aircraft[4]. We understand that several more states have indicated an intention to opt out and are in various stages of implementation.

1.8 To help us develop this consultation, we convened a working group of key General Aviation community representatives. They assisted us in reviewing this opt-out provision and its respective pros and cons.[5]

1.9 Between 18 October and 29 November 2019, we undertook a public consultation investigating the merits of the opportunities presented by this opt-out provision. The purpose of the consultation was to seek views on:

a) whether the UK should take up this opt-out provision for aeroplanes, helicopters and sailplanes; and if so

b) for aeroplanes, whether these should be defined as microlights or light sport aircraft.

1.10 This paper sets out the results of these two areas, our response, and our proposed next steps, starting in the next chapter with the decision to opt out.

[3] EU basic regulation, article 2(9).

[4] For an updated list of Member States that have enacted the 'Opt-Out', see 'EASA List of Art.2(8) of Regulation 2018/1139': https://www.easa.europa.eu/opt-out-article-28-211#group-easa-downloads

[5] A list of these representative organisations is set out in Appendix B.

Chapter 2

The decision to opt out

2.1 In this chapter we examine the results of the first consultation question regarding the overall decision to take up the opt-out.

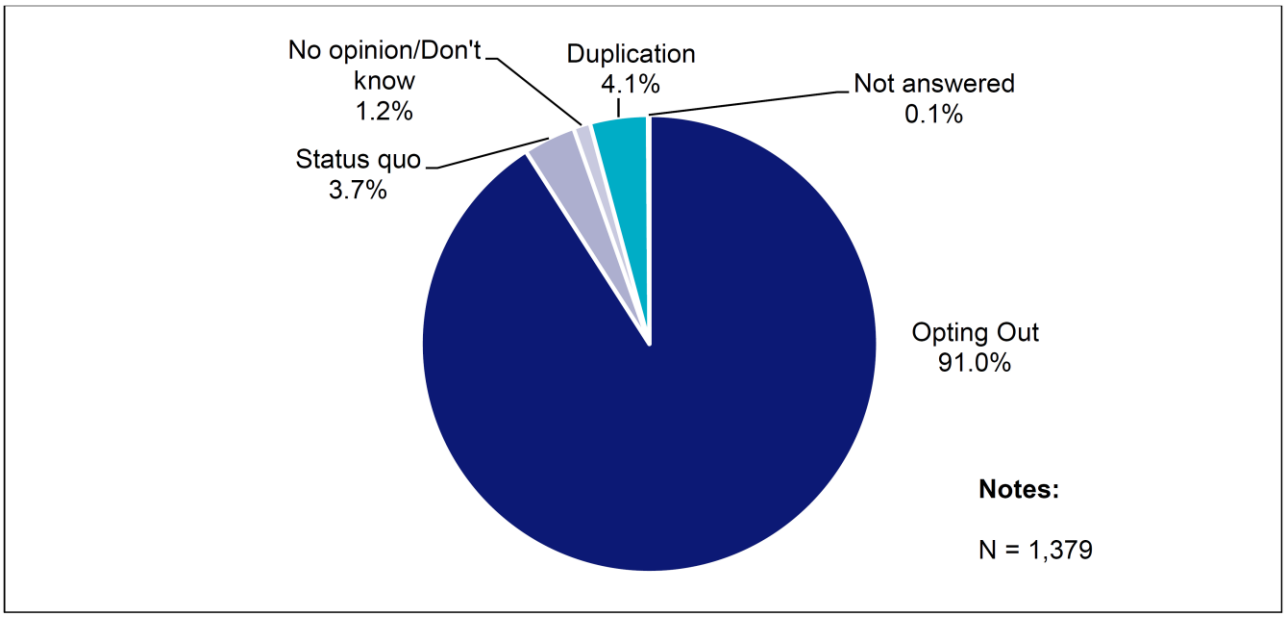
We asked

2.2 Having presented the advantages and disadvantages of taking up the opt-out (with respect of aeroplanes, sailplanes and helicopters), we posed the question of whether we should proceed. Respondents were given yes/no/don't know choices, and the opportunity to leave qualitative comments.

You said

2.3 We received 1,379 responses to the consultation, one of the largest response rates for a general aviation consultation in recent years. Of these, 91% (1,254) supported the opt-out choice. Among the others, around 4% supported the status quo option of keeping these aircraft within EASA regulation and a similar proportion were identified as duplicate responses and discounted.

Figure 1: Opt-Out Choices



2.4 We received 850 comments on the question of opting out. We read all the comments and categorised them into themes. The main reasons respondents gave for opting out were as follows:

- It would reduce cost of ownership
- It would allow more payload/fuel

- It would increase choice of aircraft available
- It would better reflect technical innovations
- It would add to the perception that the UK is more GA-friendly than EU

We did

2.5 We analysed the responses and explored in detail the practical implications for opting out of each of the three categories of aircraft involved.

Aeroplanes

2.6 Based on the consultation analysis which largely corroborated the CAA's own thinking, we believe there is a strong case for opting out for aeroplanes.

2.7 Opting out would move the arbitrary weight boundary separating factory-built light aeroplanes within the scope of national regulations from those under EASA regulation.[6] This current weight limit serves to effectively limit payload, fuel carriage, aircraft range and/or aircraft occupancy. By opting-out, the UK would be able to increase the weight limit on new, nationally-regulated, factory-built aeroplane designs from 450kg to 600kg, and in so doing would be able to simplify and consolidate the fleet as summarised in the following table

Current national regulation limit for factory-built 2-seat aeroplanes	**Revised regulation under the 'opt out' for new designs (maximum 2 seats)**
Maximum Take-Off Mass (MTOM) up to 450kg[7] Additional allowances for float/seaplanes [45kg] and Ballistic Parachute Recovery Systems (BPRS) [25kg] Stalling speed in landing configuration (V_{S0}) of not more than 35 knots	MTOM: up to 600kg Additional allowance for float/seaplanes [50kg]. V_{S0} of not more than 45 knots.

2.8 We believe this would improve the availability to the UK market of many modern light two-seat single-engine aeroplanes that are currently certified up to 450kg Maximum Take-Off Mass (MTOM) but may be capable of operating up to 600kg MTOM. This change of regulation should enhance the aeroplane market, and the benefits include modernising, refreshing and enlarging the UK light aeroplane fleet for pilots, operators and businesses.

[6] Note that amateur-built (including kit-built) aeroplanes are not affected by this regulatory boundary. They are already out of the scope of EASA regulation further to EU Basic Regulation Annex I (c): "Aircraft, including those supplied in kit form, where at least 51% of the fabrication and assembly tasks are performed by an amateur, or a non-profit making association of amateurs, for their own purposes and without any commercial objective."

[7] EU Basic Regulation, Annex I(e): 2-seat aeroplanes.

2.9 Although the UK will leave the EU on 31 December 2020, as the UK will adopt the full acquis of EU aviation law at that point, regulatory change will still be required to effect the opt-out.

Sailplanes

2.10 The case for opting-out for sailplanes was not as clear as for aeroplanes. First, the effect of current regulation that we described above for aeroplanes does not apply to sailplanes. There were also no strong views either way in the responses towards including this category in the scope of the opt-out. Of the total of 850 comments we received about opting out, only four mentioned sailplanes with any emphasis.

2.11 A further important reason not to opt-out sailplanes would be to avoid creating a more complicated regulatory split within the UK sailplane fleet. If the UK opted out for sailplanes, new designs certified domestically and those imported from EU member states that have themselves opted-out would be caught by the 'Non-EASA Glider' definition in the UK Air Navigation Order 2016 (ANO). This means that they would be deregulated in terms of registration[8], airworthiness[9] and flight crew licensing[10] under rules which historically apply to the current Annex I fleet as defined in the EU basic regulation.

2.12 For all other sailplanes, the UK gliding community have worked since 2008 to introduce and comply with new EASA regulations. This could be undermined if opting-out of sailplanes in the UK were to result in the development of a separate fleet of deregulated modern sailplanes. This would create a 'split fleet' situation whereby new types would have fundamentally different regulatory treatments just because of their state of certification. Additionally, there is not a compelling case for amending the ANO provisions described above so that opted-out sailplanes would be regulated as this would be in opposition to the core principles of better regulation.

2.13 Finally, any benefits from an opt-out for sailplanes could be realised through other regulatory measures that are more targeted than the opt-out provision. This could be pursued after the post-Brexit transition period.

Helicopters

2.14 We intend to opt-out for helicopters up to 600kg. The UK does not currently have an active fleet of sub-600kg factory-built[11] helicopters, and as such there was virtually no mention of this category in the responses to the consultation. There are no identified

[8] ANO art.24(2) provides that Non-EASA Gliders involved in non-public transport or non-commercial air transport operations over the UK only do not require aircraft registration.

[9] ANO art.33(2)(a) provides that Non-EASA Gliders non-public transport or non-commercial air transport operations are not required to hold a certificate of airworthiness or permit to fly.

[10] ANO art.146 provides that Non-EASA Gliders involved in non-public transport operations do not require a flight crew licence.

[11] See note 6 above. Amateur built aircraft are already in the scope of national regulation under EU Basic Regulation, Annex I(c).

reasons why we should not opt out and it would require minor regulatory change as most of the legal, airworthiness and flight crew licensing provisions are already in place.

2.15 The benefit of doing so would be to create a more attractive market environment in the UK by offering a lighter touch regulatory regime. Other countries already have ultra-light helicopters operating under national approvals, so the prospect of developing such an industry in this category in the UK is realistic.

Chapter 3

Defining aeroplanes: microlights or light sport aircraft?

3.1 Central to nationally implementing the opt-out for factory-built aeroplanes is determining how these should be legally defined, either by expanding the existing microlight aeroplane definition to encompass the higher weight limit/stalling speed for new designs; or by introducing a Light Sport Aircraft (LSA) category.

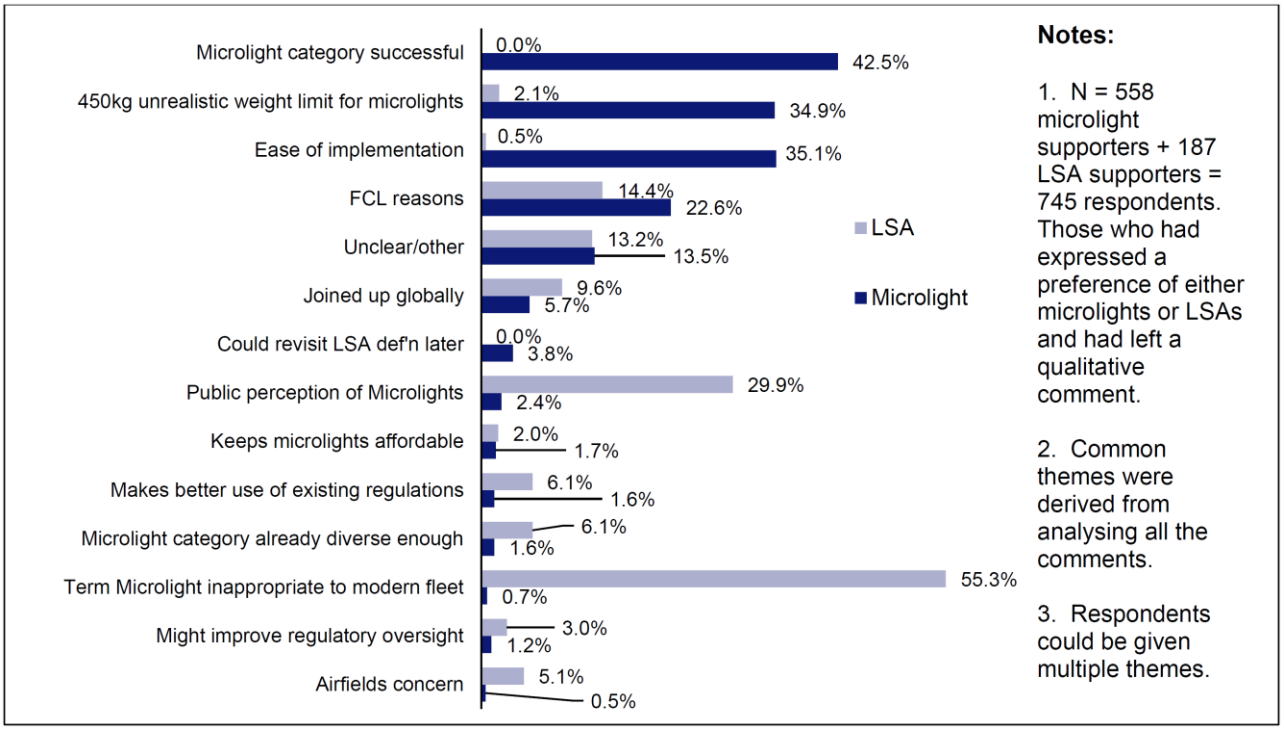
We asked

3.2 In the consultation we described the advantages and disadvantages of these two choices, and then asked respondents who supported the opt-out to indicate their preference, either microlights or light sport aeroplanes, and to leave comments if they wished.

You said

3.3 Of the 1,254 respondents who had supported opting out, 78% expressed a preference towards microlights, 20% LSAs, and 2% did not know or gave no opinion. We received 745 comments from respondents who made a microlight versus LSA choice, and we analysed all of them. The results are illustrated in Figure 2 below.

Figure 2: Analysed reasons for aeroplane category preferences



3.4 The reasons for the strong microlight support were as follows:

a) **Microlight category well established:** microlight category seems a well understood and long-established concept especially given its alignment with the ultralight category already used in many European states.

b) **450kg is an unrealistic weight limit for the current fleet:** the weight limit/payload constraints described in paragraph 2.7 above were replayed and respondents believed that some microlights are already capable of flying safely at the higher weight of 600kg.

c) **Ease of implementation:** amending an existing microlight category was easier and less confusing than introducing a new one.

3.5 We also noted that the main reasons given for the light sport aircraft category were:

a) **Perception of the term microlight:** the most commonly cited view was that the term 'microlight' is associated with the weight-shift/powered parachute categories, and not consistent with the three-axis fleet.

b) **Flight crew licensing (FCL) reasons:** if the microlight definition was used, this would be outside the privileges of the non-microlight fleet pilots unless they had completed differences training.

We did

3.6 Our consultation returned a clear preference towards an expanded microlight definition. We also conducted a more detailed exploration of the practical implications of the two choices, namely the legal implications of enacting each choice; the airworthiness practicalities of developing an appropriate certification basis and manufacturing standards; and the flight crew licensing implications.

Legal

3.7 We investigated the practical steps required to implement the aeroplane opt-out including ANO amendments. Both extending the microlight category or creating a new LSA category would require such measures, but on balance the microlight approach is more straightforward.

3.8 As explained in the consultation, extending the microlight category would require amending the existing ANO Schedule 1 definition of 'microlight aeroplanes' to include the larger designs. This would be a precise exercise as the new definition would need to do the following:

- Distinguish between *existing* type approvals for aeroplanes up to 450kg MTOM (plus allowances for float/seaplanes and a BPRS) and with a V_{S0} of not more than 35 knots; and type approvals *issued after the date the ANO definition of microlight aeroplanes is amended* up to 600kg MTOM (with an allowance for float/seaplanes only) and with a V_{S0} of not more than 45 knots.

- Specify that the extended category can only be non-EASA aircraft. This would be necessary to exclude new types from states that have not opted out, and new types from manufacturers in opted-out states that have 'opted back in' as described in Chapter 1 above.
- Specify that the extended category only applies to two-seat aeroplanes, therefore does not impact the single-seat deregulated microlights defined in ANO art.33(f).

3.9 For LSAs, although there is no basic need to define these aircraft in the ANO, a definition would be necessary for flight crew licensing purposes described below.

Airworthiness

3.10 From the perspective of design, certification and manufacturing standards, extending the microlight category would also be more straightforward than the creation of an LSA category.

3.11 The current design code used when seeking certification for new microlights is the CAA's British Civil Airworthiness Requirements (BCAR) Section S. This will need an amendment to reflect the higher weight limit and stalling speed. We understand from UK manufacturers and importers that BCAR Section S has some commonality with similar design codes used in other manufacturing states, which facilitates import/export. Going forward, we envisage the Light Aircraft Association (LAA) and British Microlight Aircraft Association (BMAA) working bilaterally with their counterparts in other European manufacturing states to develop reciprocal codes to maximise the potential for mutual recognition.

3.12 For an LSA category, manufacturers could make use of existing certification codes such as Certification Standards for Light Sport Aircraft (CS-LSA) or the more common Very Light Aircraft (CS-VLA).

3.13 The microlight definition is also favourable in relation to recertification of existing designs to take advantage of the higher certified weight limit. This would need to be done by the manufacturer as the type approval holder. If the type was originally certified using BCAR Section S, then this would be simpler and more cost effective than applying a different code.

3.14 Factory-built microlights on the UK register need to adhere to organisation design and manufacturing standards in accordance with BCAR Section A8-1. To smooth the process of bringing foreign manufactured aeroplanes onto the UK register, we would work in partnership with the LAA and BMAA to develop bilateral agreements for manufacturing conformity with other states.

3.15 For LSAs, the approval standard would be BCAR Section A8-21. The UK light aeroplane manufacturers intending to produce a 600kg aeroplane would have to

upgrade from their existing A8-1 design and manufacturing approval as A8-1 approvals are only applicable to microlight designs.[12]

Flight crew licensing

3.16 This is one of the more complex issues because the objective of this project is to open the opted-out aeroplanes to the widest possible group of pilots in terms of crediting hours for licence/rating maintenance. While both categories will require some actions, the conclusion still favours the microlight route.

3.17 Adopting the microlight category would allow microlight pilots [mainly NPPL(M) holders[13]] to fly and credit their time in the larger aircraft, subject to differences training. An ANO amendment would also allow UK non-microlight pilots [UK NPPL(A)s and PPL(A)s] to credit their time in microlights. The differences training would address safe handling such as if the aircraft is larger than the pilot is used to; or if they are accustomed to flying larger aircraft.

3.18 Another consideration is the population of non-microlight pilots who hold EASA licences, either LAPL(A)s [many of these converted from national NPPL(A)s] and PPL(A)s with an SEP rating.[14] In relation to crediting time in microlights for the revalidation of these licences/ratings, EASA has recently published an Acceptable Means of Compliance.[15]

3.19 Alternatively, creating a new LSA category would potentially benefit non-microlight pilots under UK licensing regulation, and allow EASA LAPL(A)s and PPL(A)s to fly and credit their time; but it would exclude the 5,000+ microlight pilots from doing so unless further ANO amendments were made, including:

- A new Schedule 1 definition of Light Sport Aeroplanes that are non-EASA aircraft and not microlight aeroplanes that have type approvals issued after the amendment came into force and that have an MTOM up to 600kg (650kg for sea/floatplanes), and a V_{S0} not exceeding 45 knots.
- Revised provisions in Schedule 8 adding Light Sport Aeroplanes and the requirement for differences training, namely Part 1, Chapter 3 on NPPL privileges, Part 2, Chapter 2 regarding Microlight and Simple Single Engine Aircraft class ratings plus Flight Instructor's Certificate.

[12] See CAP553, BCAR Section A, Introduction to A8, p.1 "Introductory note to Sub-Section A8 CAA Approved Organisations", which states that since Feb 2008, only microlight aircraft manufacturers can make new applications for A8-1 approvals, and all others should apply for an appropriate A8-21 approval.

[13] BMAA estimates there to be at least 5,000 valid NPPL(M) holders with the 3-axis controls rating.

[14] We estimate there are about 20,000+ valid licences between these two groups, of which only a proportion would wish to fly microlights.

[15] See EASA AMC and GM to Part-FCL – Issue 1, Amendment 9, 18 March 2020, 'AMC1 FCL.140.A; FCL.140.S; FCL.740.A(b)(1)(ii) Recency and revalidation requirements'. See also Explanatory Note to ED Decision 2020/005/R, p.6.

3.20 These amendments could however give rise to confusion over licence-holder privileges. Microlight pilots would only be able to fly and credit time in 450-600kg aeroplanes that have a type approval issued after that date.

3.21 In conclusion, the arguments and evidence support an expanded microlight definition rather than the establishment of a new LSA category. This would be simpler and quicker to implement, and with the EASA decision would benefit both groups of pilots.

Chapter 4

Implementing this change of regulation: next steps

Implementation project

4.1 We have concluded that opting out of EASA regulation for aeroplanes and helicopters of up to 600kg Maximum Take-Off Mass and defining the aeroplanes as microlights as opposed to LSAs, would be in the best interests of the UK general aviation community.

4.2 The change of regulation necessary to take up this opt-out cannot be formally enacted until all necessary measures are in place, and we are initiating an implementation project in collaboration with the BMAA and LAA. The key tasks are anticipated to be:

a) Amend the ANO definition of 'Microlight Aeroplanes' with an interim exemption.

b) Amend the ANO to allow NPPL(A)s and UK PPL(A)s to credit their time in microlights, with a permission for the interim.

c) Revise, consult on and publish a new edition of BCAR Section S to provide certification basis for opted-out aircraft.

d) Develop a programme for re-certifying existing microlight types.

e) Develop a communications plan for implementation with the community, including airworthiness and flight crew licensing roadmaps.

f) Undertake a review of existing non-UK regulatory frameworks for design and production with an aim of maximising mutual recognition and thus easing the burden of entry into the UK market.

Undertaking the opt-out

4.3 Whilst we intend to adopt these certification requirements as soon as practically possible, it will not be feasible to complete this process prior to the end of the UK's transition period to leave the EU.

4.4 Therefore rather than formally opting out of the EU regulation under Article 2(11) of the EU Basic Regulation, we will be using new regulatory powers provided by the EU legislation that has been retained in UK law to adopt those certification requirements.

APPENDIX A

Abbreviations

Abbreviations	
ANO	Air Navigation Order 2016
BPRS	Ballistic Parachute Recovery System: an airframe-mounted system comprising a rocket-deployed parachute capable of safely recovering to the ground the entire aircraft including occupants in the event of an emergency.
BCAR	British Civil Airworthiness Requirements
BMAA	British Microlight Aircraft Association
CS-LSA	Certification Standard for Light Sport Aircraft
CS-VLA	Certification Standard for Very Light Aircraft
DfT	Department for Transport
EASA	European Aviation Safety Agency
FCL	Flight Crew Licensing
LAA	Light Aircraft Association
LAPL	Light Aircraft Pilot's Licence
LSA	Light Sport Aircraft
MTOM	Maximum Take-Off Mass: the maximum possible weight of the aircraft before take-off, including fuel at take-off, fluids, pilot, and payload (passengers and luggage)
NPPL(A)	National Private Pilot's Licence (Aeroplanes)
NPPL(M)	National Private Pilot's Licence (Aeroplanes) with a Microlight rating
PPL(A)	Private Pilot's Licence (Aeroplanes)
SEP	Single-Engine Piston [rating for a PPL(A)]
V_{S0}	Stalling speed in landing configuration (expressed in knots of calibrated airspeed)

APPENDIX B

Working group stakeholder organisations

Aircraft Owners & Pilots Association

British Gliding Association

British Microlight Aircraft Association

Flylight Airsports Ltd

Light Aircraft Association

Light Sport Aviation

P & M Aviation

The Light Aircraft Company Ltd

W-Planes