
	<b>Clean Aviation Joint Undertaking</b>  Ex-post Audit	
Ex-post audit Report 2021 – final version		
<p><i>Written by:</i>  Yolanda Garcia Castillo  Ex-post Audit Officer</p> <p><i>Reviewed by:</i>  Bettina Dittmann  Internal Audit and Quality Management Officer</p>		Date: 04/05/2022  Ref. : EPA 02 (2022)

## I. Introduction

Clean Aviation JU was established as a new European Partnership under the Horizon Europe Programme through the EU Council Regulation (EU) 2021/2085, becoming effective 30<sup>th</sup> November 2021. The new partnership has taken over the execution of the Clean Sky 2 programme, including the ex-post audit activities for H2020 projects until the finalisation of the H2020 programme.

For the Clean Aviation programme, the audit strategy will be developed in the year 2022.

The purpose of this Ex-post Audit Report is to provide input to the assurance on the legality and regularity of the CAJU operational expenditure of the year 2021 for the Executive Director.

In this context, the report describes the results of the ex-post audits performed until today, which aim to support the confirmations given in the annual assurance declaration 2021 by the Director, i.e.:

- The information provided in the Annual Activity Report (AAR) 2021 gives a true and fair view
- Resources have been used in the year 2021 for the intended purpose
- Resources have been spent in accordance with the principle of sound financial management
- The underlying transactions are legal and regular
- No information, which could hamper the interest of the JU, is missing in the AAR 2021

The results of the EPA process represent a significant element of the Internal Control System of CAJU and need to be described in the AAR. Therefore, this report presents key information regarding the EPA process, which should be summarised in the AAR 2021 in the section related to Internal Controls.

The main objectives of the ex-post audits are:

- 1) To assess the legality and regularity of the validation of cost claims performed by the JU's management through the achievement of a number of quantitative targets,
- 2) To provide an adequate indication on the effectiveness of the related ex-ante controls
- 3) To provide the basis for corrective and recovery activities, if necessary

The scope of the audits performed during the year 2021 comprised H2020 Clean Sky 2 grant agreements.

The audit activities for all H2020 grants are fully centralised in the Common Audit Service (CAS) of DG R&I. This contributes to a consistent harmonised audit approach for the totality of the H2020 projects and aims at reducing the audit burden for beneficiaries, who participate in projects with

several granting authorities of the H2020 Research family<sup>1</sup>. The implementation of the audit results remains under the responsibility of the individual granting authorities.

On the basis of the H2020 Audit Strategy and in line with the related JU implementing procedure, CAJU is establishing its specific audit results for the H2020 programme applying to its individual samples drawn from the population of Clean Sky 2 grants.

In addition, cost claims pertaining to Clean Sky2 projects also form part of the Common Representative Sample (CRS) of the Common Audit Service of DG R&I (CAS), which is the basis for calculating the results of the ex-post audits for the entire H2020 Research family.

Furthermore, cost claims of Clean Sky 2 projects are included in various samples of corrective (risk based) audits established by the CAS.

Taking into account the above mentioned audit layers the following samples are considered relevant for the assurance of the Executive Director of Clean Aviation JU for the year 2021:

- (A) *Specific sample of Clean Sky 2 projects (including only representative audits)*
- (B) *Sample of corrective (risk based) audits of the Common Audit Service of DG R&I (CAS) covering Clean Sky2 projects*
- (C) *Common Representative Sample (CRS) of the CAS covering H2020 projects for all H2020 stakeholders, including Clean Aviation JU*

The Common Representative Sample of the CAS (CRS) provides an estimate, via a representative sample of cost claims, of the **overall level of error** in the Research Framework programmes, across all services involved in its management.

Whilst the CRS is therefore a basic indicator of legality and regularity for the Framework Programme as a whole, Clean Aviation JU aims to assess its particular population to provide specific assurance on the legality and regularity regarding the JU's individual operational expenditure.

Due to the specific samples taken for the Clean Sky 2 population of grants, as described in the following sections, explicit evidence has been made available to draw conclusions on the error rate prevailing in the expenditure incurred by the CleanSky 2 JU.

## **II. Scope of the audit exercise 2021 and coverage**

For the calculation of the audit coverage, the accumulated H2020 projects audited value covered by the EPA exercises 2016 to 2021 is compared to the accumulated total amount of validated cost claims for H2020 projects at the end of the year 2021.

### **(A) Specific Clean Aviation JU sample**

The audit sample for 2021 was established in line with the methodology provided in the H2020 Audit Strategy and the JU implementing procedure. It comprises the following elements:

---

<sup>1</sup> Group of Commission services, Agencies and Joint Undertakings implementing the H2020 programme

- Representative sample
  - Most significant cost claims selected at random (the population was stratified to achieve a certain coverage of the most significant cost claims).
  - Cost claims from previous representative samples<sup>2</sup>
- Risk based sample
  - Cost claims selected following a specific risk assessment

The scope of the audits covers CS2 projects from the years 2016 to 2020 from both, Partners and Members:

45 new audits for H2020 projects stemming from the 2021 JU representative sample, covering 70 cost claims, were launched until November 2021, out of which, 25 final audit reports have been issued until the date of this report.

2 additional beneficiaries were selected in the year 2021 on a risk based approach comprising three cost claims and amounting to € 2,707,348. These audits will be executed in the year 2022.

Additionally, the results of nine final audits from previous years are included in the 2021 reporting, one audit stemming from the 2019 representative sample and eight audits stemming from the 2020 representative sample.

The total audited value of the JU specific sample reported in 2021 was € 52,557,025.46 (reported validated project costs).

**Table 1:**

Audits included in EPA exercise 2021 H2020 Programme		
	Total value of audited project costs	Number of audits
(A.1) H2020 Audits launched before 2021	19,184,301	9
(A.2) H2020 Audits launched during 2021	33,372,724	25
(A) Total final H2020 audits included in EPA exercise 2021	52,557,025	34

Based on the results of the final audit reports, extrapolation of systematic errors has been performed and recoveries of finally validated errors have been achieved to a high percentage. Final representative and residual error rates have been calculated and contribute to the Declaration of Assurance for 2021 of the Executive Director. The scope of the audits covers H2020 projects from the years 2016 to 2020 from both, Partners and Members:

<sup>2</sup> The audit of some participations of earlier selections had to be postponed, as the concerned beneficiaries had been subject to audit shortly before, either by CS2JU or other granting authorities of the H2020 program.

**Table 2a: scope of audit exercise 2021**

Audit exercise 2021 H2020	Totals	GAMs & GAPs				
		2016	2017	2018	2019	2020
(A.2/1)	9 Remaining audits from EPA exercise 2020 (Batch 4 and Batch 5) on GAMs and GAPs					
audited value	19,184,301	252,543	15,139,084	3,335,042	457,632	
number of cost claims	13	1	8	3	1	
number of audits	9	1	4	3	1	
(A.2/2)	25 out of 45(*) Audits launched in 2021 (Batch 6) on GAMs and GAPs					
audited value	33,372,724		201,909	28,522,153	3,802,169	846,493
number of cost claims	39		1	21	13	4
number of audits	25		1	9	11	4
total						
audited value	52,557,025	252,543	15,340,993	31,857,195	4,259,801	846,493
number of cost claims	52	1	9	24	14	4
number of audits	34	1	5	12	12	4

Out of the 34 audits included in the EPA exercise 2021, 5 audits launched in 2020 and 12 audits launched in 2021, include projects from partners. The audited value of these 17 audit reports on GAPs amount to € 10,332,583 (reported validated project costs).

The overall accumulated coverage achieved for the H2020 projects (GAMs and GAPs) at the end of the year 2021 is 16.81% as shown in the following table:

**Table 2b: audit coverage based on audits fully finalised**

Accumulated audit coverage based on audits fully finalised until end of 2021	
	Euro
Total audited value from EPA exercises 2016 to 2021 (a)	257,666,947
Total amount of validated cost claims (b)	1,533,162,809
Coverage (a) / (b)	16.81%

**(B) Sample of corrective (risk based) audits of the Common Audit Service of DG R&I (CAS) covering Clean Sky 2 H2020 projects**

In addition to the Clean Aviation JU representative samples, cost claims pertaining to Clean Sky 2 projects have also been audited as part of the corrective (risk based) samples selected by the CAS. The JU does not consider them as representative for the specific Clean Aviation JU error rate calculation.

In 2021, 9 audits were launched by the CAS on Clean Sky 2 projects, covering 13 validated cost claims stemming from GAMs and GAPs from year 2015 to 2019. Additionally, 4 audits on CS2 GAMs

stemming from the 2019 and 2020 corrective samples of the CAS are included in the 2021 reporting.

**Table 2c: scope of audit exercise 2021 – corrective (risk based) audits**

Audit exercise 2021 H2020	Totals	GAMs & GAPs				
		2015	2016	2017	2018	2019
(B.2/1)	4 Remaining audits from EPA exercise 2020 (Batch 4, Batch 5) on GAMs					
audited value	9,822,600	3,474,123	6,000,698	235,474		112,305
number of cost claims	7	3	2	1		1
number of audits	4	1 <sup>3</sup>	1 <sup>4</sup>	1		1
(B.2/2)	9 out of 9 Audits launched in 2021 (Batch 6) on GAMs and GAPs					
audited value	12,012,949			170,427	6,238,326	5,604,196
number of cost claims	13			1	8	4
number of audits	9			1	6	2
total						
audited value	21,835,549	3,474,123	6,000,698	405,901	6,238,326	5,716,501
number of cost claims	20	3	2	2	8	5
number of audits	13	1	1	2	6	3

The total annual value of audits stemming from the corrective CAS samples reported in 2021 was € 21,835,549 (validated project costs). The total accumulated value of audits stemming from the corrective CAS samples on CS2 projects since the beginning of the H2020 programme audits until 2021 was € 71,344,785.

Through these samples, an additional coverage for the Clean Sky 2 projects related operational payments of 4.65% could be achieved.

### III. Audits launched, on-going, closed

Because of the COVID-19 pandemic crisis and related travel limitations during 2021, the Common Audit Service had to postpone a number of on-the-spot missions during the years 2020 and 2021. This has delayed the delivery of final results.

Audit results received at present and used for the error rate calculation include final results for 34 audits launched in year 2021 and before.

25 out of 45 audits launched in 2021 (56%) have been included in the final audit results for 2021 EPA exercise. These 25 audits account for € 33,372,724 audit value (reported validated project costs), corresponding to 66% of the total audited value launched in 2021.

<sup>3</sup> The audited value of year 2015 corresponds to top-up cost claims added by CAS to 2017 JU selected cost claims

<sup>4</sup> The audited value of year 2016 corresponds to top-up cost claims added by CAS to 2017 JU selected cost claims

All audits stemming from previous audit samples, corresponding to year 2020 and before, have been finalised until the date of this report, except for one case which is expected to be closed until the end of year 2022.

**Table 3:**

Status of current H2020 audits launched in 2021 and before	Number	Share of total launched
Audits launched for the representative sample 2020 and before	10	
Total number launched	10	100%
Pre-final reports received	9	100%
Final reports received	9	90%
Audits included in the final audit results 2021	9	100%
Audits launched for the representative sample 2021	45	
Total number launched	45	100%
Pre-final reports received	25	56%
Final reports received	25	56%
Audits included in the final audit results 2021	25	56%

IV. Table 4: Adjustments and error rates of the CAJU

Audit exercises - individual and accumulated until 2021 (all representative)	Total Audited value (100% costs) of reports received	Adjustment	Adjustment in favour of CAJU	Adjustment in favour of the beneficiary	Detected error rate in favour of the beneficiary	Detected error rate in favour of CA JU	Systematic error in favour of JU	Systematic error rate in favor of JU	Total unaudited cost claims of audited beneficiaries (E )
<b>2016 RESULTS</b>									
Results audit exercise 2016 (all representative)	13,067,875.10	-129,320.98	-148,803.72	19,482.74	0.15%	-1.14%	-50,543.52	-0.39%	2,032,186.36
<b>2017 RESULTS</b>									
Results audit exercise 2017 (all representative)	27,132,195.87	-373,888.03	-527,965.16	154,155.92	0.57%	-1.95%	-143,185.38	-0.53%	59,275,139.67
<b>2018 RESULTS</b>									
Results audit exercise 2018 (all representative)	21,112,705.41	-103,512.27	-207,015.67	103,503.40	0.49%	-0.98%	-148,295.93	-0.70%	75,806,533.02
<b>2019 RESULTS</b>									
Results audit exercise 2019 (all representative)	46,038,348.19	262,520.66	-512,589.45	775,110.12	1.68%	-1.11%	-409,565.89	-0.89%	117,681,332.31
<b>2020 RESULTS</b>									
Results audit exercise 2020 (all representative)	97,758,797.09	-662,226.28	-1,891,853.48	1,229,862.42	1.26%	-1.94%	-1,476,128.94	-1.51%	213,994,389.33
<b>2021 RESULTS - TOTAL</b>									
Results audit exercise 2021 (all representative)	52,557,025.46	-1,170,086.71	-1,326,710.55	156,623.84	0.30%	-2.52%	-1,212,393.15	-2.31%	141,358,326.73
<b>SUMMARY -ACCUMULATED</b>									
Accumulated results all audit exercises (all representative)	257,666,947.12	-2,176,513.60	-4,614,938.03	2,438,738.43	0.95%	-1.79%	-3,440,112.80	-1.34%	610,147,907.41



### Error rates:

The representative error rate is an indicator of the quality of the ex-ante controls as it gives an estimate of errors that remain undetected after the ex-ante controls have been performed.

As no results of risk based audits have been available for the EPA results 2021, the representative error is identical to the detected error. Based on the results of the final audit reports, detected errors are corrected and extension of systematic errors is calculated and implemented following the related rules of the Clean Sky 2 grant agreements. Under the assumption of a full implementation of the audit results, the residual error rate is calculated. This indicator is relevant for the assurance on the legality and regularity of the Clean Aviation JU's operations.

As mentioned before, the audit results received at present and used for the error rate calculation include final results for 34 audits.

The accumulated representative error rate in favour of Clean Aviation JU for the H2020 programme expenditure, identified in the audited cost claims of the audit exercises of the years 2016 to 2021, amounts to 1.79%.

The corresponding rate for the individual audit exercise of the year 2021 is at 2.52%.

The residual error rate indicates the 'net-errors' that remain in the total population after implementing corrective actions resulting from the ex-post controls including extension of systematic errors to non-audited cost claims. The following formula is applied:

$$\text{ResER}\% = \frac{(\text{RepER}\% * (P-A) - (\text{RepER}_{\text{sys}}\% * E))}{P}$$

P =	Total population
A =	Audited population
E =	total non-audited cost claims of audited beneficiaries
RepER% =	Representative error rate
RepER <sub>sys</sub> % =	Systematic error rate
ResER% =	Residual error rate

Taking into account the systematic errors identified by the auditors, the following residual error rates are calculated:

**Table 5a:**

Calculation of H2020 accumulated residual error rate (ResER%) 2016-2021	
Total population (P) =	1,533,162,809
Audited population (A)=	257,666,947
total non-audited cost claims of audited beneficiaries (E ) =	610,147,907
Representative error rate (RepER%) =	-1.79%
Systematic error rate (RepERSys%) =	-1.34%
ResER% =	-0.96%

**Table 5b:**

Calculation of annual residual error rate (ResER%) 2021	
Total population (P) =	321,639,478
Audited population (A)=	52,557,025
total non-audited cost claims of audited beneficiaries (E ) =	141,358,326
Representative error rate (RepER%) =	-2.52%
Systematic error rate (RepERSys%) =	-2.31%
ResER% =	-1.10%

Accumulated error rates reported for the year 2021 confirm the level of error as identified in the previous years for the CS2 projects. On the level of the programme and the actual year 2021, the residual error stays well below the targeted threshold of 2%.

## V. Extension of audit findings

The extension of audit findings stemming from H2020 audits is performed according to common criteria for the entire H2020 Research Family. This means that systematic errors identified in individual cost claims of H2020 projects are corrected in all projects of the concerned beneficiaries including those funded by other granting authorities. For efficiency reasons, the minimum threshold for the audit extension is an average systematic error of 2% identified in the individual audits.

The initiation of the audit extension must be agreed by all affected granting authorities in dedicated meetings on each case. Only after a positive decision, the audit extensions are launched by the CAS. The implementation is then performed by the individual granting authorities.

In the 198 audits concerning beneficiaries of Clean Sky 2 JU finalised until end of 2021, extension of systematic audit findings has been launched in 44 cases. 89% of these cases have been successfully closed until the closure of the JU Final Accounts.

**Table 6: H2020 extension of audit findings until EPA 2021**

	<b>Finalised Audits</b>	<b>Value of audited cost claims</b>	<b>Extension of audit findings launched (numbers of cases)</b>	<b>Value of corrected unaudited cost claims after extension</b>	<b>Extension of audit findings Implemented<sup>5</sup> (% of numbers of cases)</b>
EPA 2016	6	13,067,875	-	-	-
EPA 2017	16	27,132,196	4	3,720,391	100%
EPA 2018	28	21,112,705	6	5,455,076	100%
EPA 2019	72	46,038,348	18	18,354,067	100%
EPA 2020	42	97,758,797	7	5,965,956	100%
EPA 2021	34	52,557,025	9	61,487,535	44%
<b>Total</b>	<b>198</b>	<b>257,666,947</b>	<b>44</b>	<b>94,983,025</b>	<b>89%</b>

The implementation of the open extension cases stemming from the year 2021 is on-going and it will be closely monitored. In addition to the above cases of audit extension, CAJU implemented the correction of systematic errors also in seven further cases, following audits of Clean Sky 2 beneficiaries, which had been audited by the CAS for other than Clean Sky 2 projects.

## **VI. Materiality applied for specific audit exercises**

The control objective is to ensure for the Clean Sky 2 programme that the residual error rate, which represents the level of errors which remains undetected and uncorrected, does not exceed 2% of the total expense recognised until the end of the programme. 2% is therefore the materiality level set for the JU. A detailed description of the materiality criteria applied for the assessment of the audit results with a view to the assurance declaration of the Executive Director of the JU is provided in a dedicated Annex of the AAR 2021.

<sup>5</sup> The implementation of the correction is done by CAJU, in the case of on-going projects, through withholding the overpaid amounts from the next payment to the coordinator and, in the case of closed projects, through recovery orders directly sent to the beneficiary.

## VII. Implementation of H2020 audit results

Overpayments identified in the EPA exercise 2020 for H2020 projects had been implemented until the closure of the JU's Final Accounts 2020 at a rate of 83%. The implementation rate has meanwhile improved further to 94%.

**Table 7a:**

ACCUMULATED Total corrective action for H2020 EPA exercise 2016- 2020 - implementation achieved				
Audited value (of audited and unaudited cost claims)	Adjustments (detected error and extension of findings) in favour of CAJU	related overpayment	recovered overpayment (€) (i.e. adjustments booked in the system for next payment or RO issued)	recovery rate (%)
657,082,225	-5,060,043	-3,677,174	-3,469,653	94.36%

For overpayments detected in H2020 audits of the ex-post audit exercise 2021, the implementation rate is at 77% in May 2022 and is expected to arrive at 100% until the end of 2022, when the extension of audit finding cases will have been assessed and closed by the dedicated unit in the Common Audit Service.

**Table 7b:**

Total corrective action for H2020 EPA exercise 2021 - implementation achieved				
Audited value (of audited and unaudited cost claims)	Adjustments (detected error and extension of findings) in favour of CSJU	related overpayment	recovered overpayment (€) (i.e. adjustments booked in the system for next payment or RO issued)	recovery rate (%)
193,915,352	-3,448,509	-2,407,374	-1,852,540	76.95%

At the time of this report, the accumulated corrections implemented for the H2020 programme represent 87% of the total impact of detected errors and extension of audit findings.

**Table 7c:**

ACCUMULATED Total corrective action for H2020 EPA exercise 2016- 2021 - implementation achieved				
Audited value (of audited and unaudited cost claims)	Adjustments (detected error and extension of findings) in favour of CSJU	related overpayment	recovered overpayment (€) (i.e. adjustments booked in the system for next payment or RO issued)	recovery rate (%)
850,997,577	-8,508,552	-6,084,548	-5,322,193	87.47%

**VIII. Results of non-representative ex-post audits pertaining to the sample of corrective (risk based) audits of the CAS covering Clean Sky 2 projects**

In the year 2021, a detected error rate resulting from the sample of corrective (risk based) audits selected by the CAS covering Clean Sky 2 projects has been established and amounts to 2.97%. The accumulated detected error for the years 2016 to 2021 of this type of sample currently amounts to 2.49%.

The representativeness of this error rate is limited as the selection of the samples has not been based on a consistent methodology for random sampling and the coverage achieved is only at 4.65% (see section II above). Nevertheless, the results contribute to the cleaning of the JU expenditure from detected errors and thus add to the assurance obtained from the audits.

## **IX. Results of the Common Representative Sample (CRS) of the CAS covering H2020 projects for all H2020 stakeholders, including Clean Sky 2 projects**

The **main indicators** used by the European Commission on legality and regularity of EU Framework Programmes for Research and Innovation are:

- Representative detected error rate, based on errors detected by ex-post audits on a Common Representative Sample of cost claims across the R&I Family.
- Cumulative residual error rate, which is the extrapolated level of error after corrective measures have been implemented by the Commission services following the audits, accumulated on a multi-annual basis

The **targets** set by the Commission for the Horizon 2020 programme are to ensure that the cumulative residual error rate remains within a range of 2-5 % aiming to be as close as possible to 2%.

Progress against Horizon 2020 targets is assessed annually, based on the results of the implementation of the ex-post audit strategy and taking into account the frequency and importance of the detected errors along with cost-benefit considerations regarding the effort and resources needed to detect and correct the errors.

The Commission points out, that due to its multi-annual nature, the effectiveness of the control strategy of the R&I Family can only be measured and assessed fully in the final stages of the EU Framework Programme, once the ex-post control strategy has been fully implemented, and errors, including those of a systematic nature, have been detected and corrected.

In the context of the annual reporting, this assessment needs to check in particular whether the scope and results of the ex-post audits carried out until the end of the reporting period are sufficient and adequate to meet the multiannual control strategy goals in the future as foreseen.

Due to the COVID-19 pandemic crisis and related travel limitations during 2021, the Common Audit Service (CAS) – in line with the instructions of the Commission – could not carry out the necessary on-the-spot missions and had to postpone some of them.

The following table presents the error rates calculated by the Commission for the H2020 Framework programme by the end of 2021:

	HORIZON 2020 EX-POST AUDITS
REPRESENTATIVE DETECTED ERROR RATE <sup>6</sup>	2.29%
CUMULATIVE RESIDUAL ERROR RATE	1.60%

Despite the above-cited caveats, the Commission considers the 2021 cumulative residual error rate for Horizon 2020 to fall within the target range (2-5%), and therefore a reservation is not necessary for the Horizon 2020 expenditure.

Since Horizon 2020 is a multi-annual programme, the error rates, and the residual error rate in particular, should be considered within a time perspective. Specifically, the cleaning effect of audits will tend to increase the difference between the representative detected error rate and the cumulative values of the residual error rate, with the latter finishing at a lower value.

These error rates are calculated on the basis of the audit results available when drafting the Annual Activity Report. They should be treated with caution as they may change subject to the availability of additional data from audit results.

The decrease of the error rates in year 2021 could be due, among other reasons, to the beneficiaries' increased knowledge of the eligibility rules and its inherent learning curve, as well as to the results of the communication campaigns, targeted webinars and trainings, addressed in particular to newcomers and SMEs.

**With the objective of further reducing the error rates, the Commission will focus on enhancing risk based ex-ante controls in dedicated grant management tools.**

#### **X. Assessment of the ex-post audit results of CAJU and conclusion for the assurance declaration of the Executive Director in the AAR 2021**

As described in the materiality criteria in the dedicated Annex of the AAR 2021, the control objective of the JU is to ensure, that the residual error rate, which represents the remaining level of errors in

---

<sup>6</sup> In response to previous observations of the European Court of Auditors, in 2020 the Commission re-defined its methodology for calculating the Horizon 2020 error rate. In order to quantify any potential understatement mentioned by the Court, the Commission applied a new methodology for all audits closed as from 01 January 2020. The main change in the methodology is that the denominator used in the error calculation is the sum of costs actually audited and not the sum of all accepted costs. In this respect, an additional 0.37 % (calculated on H2020 audit participations by difference with the previous methodology) has been used to top up the cumulative detected error rate for the Common Representative Sample for 2021.

payments made after corrective measures, does not exceed 2% of the total expense incurred until the end of the H2020 programme.

The audit approach for H2020 grants is based on the H2020 Audit Strategy and the related JU implementing procedure<sup>7</sup>.

The present final results of the ex-post audit exercises 2016 to 2021 pertain to validated cost claims for GAMs and GAPs of the years 2014 to 2020 for the CS2 programme. As such, the results of the EPA process 2021 provide information on the legality and regularity of the validation process for GAM and GAP execution 2014 to 2020 for the CS2 programme and do not directly relate to the entire expenditure incurred by the JU until the end of 2021. However, the JU's annual EPA strategies are implemented through an on-going process, which produces accumulated results applicable to the entire expense incurred for the Clean Sky 2 programme.

The cumulative audit coverage achieved in the EPA exercises until 2021 represents 17% of the validated financial statements pertaining to GAMs and GAPs of the years 2014 to 2020.

The additional coverage achieved through corrective audits launched by the CAS on Clean Sky 2 grants is 5%.

The accumulated results established in the CS2 samples until the end of 2021 reflect a representative error in favour of Clean Aviation JU in the validated operational expense -before correction measures are taken- of 1.79%, compared to 1.60% for the accumulated audit exercises until 2020.

The CS2 accumulated residual error rate stemming from the 6 annual audit exercises until 2021 amounts to 0.96%, maintaining the same level as in the previous year.

In view of the moderate errors detected, the level of assurance provided through these audit results is considered adequate for the reporting of the year 2021.

The results from audits pertaining to the specific samples carried out on the Clean Sky 2 projects as well as the samples of the CAS (CRS and other corrective audits), indicate, that over the multiannual period, and especially considering the envisaged level of the overall audit coverage, the residual error rate will stay below 2% on programme level.

### **Conclusion**

The error rates for the audited population of H2020 stay below the materiality level of 2%, a reservation in the Assurance Declaration of the Executive Director for the AAR 2021 is not considered necessary.

---

<sup>7</sup> Clean Sky 2 JU Procedure for implementing the H2020 Ex-post Audit Strategy, dated 01.12.2016