


	<p>Clean Sky Joint Undertaking</p> <p>Ex-post Audit</p>	
<p>Ex-post audit Report 2017 – final version</p>		
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I. Introduction

The purpose of this Ex-post Audit Report is to provide input to the annual assurance declaration for the year 2017 of the Executive Director of the CSJU.

In this context, the report describes the results of the ex-post audits performed until today, which potentially provide support or put in doubt the confirmations given in the assurance declaration by the Director, i.e.:

- The information provided in the Annual Activity Report (AAR) 2017 gives a true and fair view
- Resources have been used in the year 2017 for the intended purpose
- Resources have been spent complying with 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 2017

The results of the EPA process represent a significant element of the Internal Control System of the JU and need to be described in the AAR. Therefore, this report summarises key information regarding the EPA process, which should be summarised in the AAR 2017 in the section related to Internal Controls.

The main objectives of the ex-post audits are:

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

The scope of the audits performed during the year 2017 comprised of FP7 and H2020 grant agreements and their expenditure. Audit activities and their results are presented per programme.

Whilst the audit process for FP7 projects are being carried out under responsibility of Clean Sky 2 JU, the audit activities for H2020 grants are fully centralised in the Common Audit Service (CAS) of DG RTD. This contributes to a consistent harmonised audit approach for the totality of H2020 projects and aims at reducing the audit burden for beneficiaries who participate in projects with several granting authorities of the H2020 Research family¹. The implementation of the audit results remains under the responsibility of Clean Sky 2 JU.

On the basis of the Clean Sky Ex-post Audit Strategy for FP7, the H2020 Audit Strategy and in line with the related Clean Sky 2 JU Procedure for implementing the H2020 Ex-post Audit Strategy the JU is establishing its specific audit results for the two programmes on the basis of its individual representative samples drawn from the CSJU population of grants.

In addition, cost claims pertaining to Clean Sky 2 projects also form part of the Common Representative Sample (CRS) of the Common Audit Service of DG RTD (CAS), which is the basis for calculating the results of the ex-post audits for the entire H2020 Research family.

¹ Group of Commission services, Agencies and Joint Undertakings implementing the H2020 programme

Furthermore, cost claims of Clean Sky 2 projects will be 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 Sky 2 JU for the year 2017:

- (A.1)** *Specific sample of Clean Sky 2 JU for FP7 projects (including representative and risk based audits)*
- (A.2)** *Specific sample of Clean Sky 2 JU for H2020 projects (including only representative audits)*

- (B)** *Sample of corrective (risk based) audits of the Common Audit Service of DG RTD (CAS) covering Clean Sky 2 H2020 projects*
- (C)** *Common Representative Sample (CRS) of the CAS covering H2020 projects for all H2020 stakeholders, including Clean Sky 2 JU*

The Common Representative Sample (CRS) provides an estimate, via a representative sample of cost claims across the Research and Innovation family, 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 Sky 2 JU also examines the results of controls in its particular population to provide specific assurance on the legality and regularity regarding the JU's individual operational expenditure. Due to the different specific samples taken for the Clean Sky 2 JU 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 specific population of grants of the Clean Sky 2 JU.

II. Ex-post audits performed during the year 2017

II.1 Status of launched audit batches

In the year 2017, cost claims pertaining to the execution of grant agreements related to both the FP7 and H2020 programs were subject to audits.

For FP7 cost claims two new audit batch assignments have been launched in the year 2017, only one of them is still on-going.

The FP7 batch assignments EPA 18/2017 and EPA 19/2017 were launched between August 2017 and September 2017 by sending the announcement letters to the selected beneficiaries. The scope of the assignments included 5 audits covering 3 FP7 Grant Agreements for Members and 2 FP7 Grant Agreements for Partners. The audits were assigned to two external audit firms. We have received 3 Final Audit Reports out of the 5 audits launched. For the remaining 2 audits, Draft Audit Reports have been received but the results are not final.

The total audited value of these audit batches was Euro 3,523,826 (reported validated project costs) and Euro 2,275,757 (requested JU contribution).

In addition to the FP7 audits launched in the year 2017, the results of 3 audits stemming from the previous EPA exercise of the year 2016 are considered in the exercise of the year 2017. The concerned audit reports were finalised by the audit firms with a delay and results could not be reflected in the calculation of error rates of the year 2016.

The total audited value of these 6 audits considered in the 2017 EPA results was Euro 9,783,759 (reported project costs) and Euro 5,317,257 (requested JU contribution).

The second H2020 batch assignment EPA 2/2017 was launched between December 2016 and September 2017 by sending the announcement letters to the selected beneficiaries. The scope of the assignments included 18 audits, comprising 23 participations covering 6 Grant Agreements for Members. 6 audits were performed in house by the Common Audit Service of the European Commission and the remaining 12 audits have been assigned to external audit firms. Final Audit Reports have been received during 2017 for 16 out of the 18 audits of this batch.

The total audited value of this audit batch was Euro 29,008,521 (reported validated project costs) and Euro 21,761,522 (requested JU contribution). The audited value of the 16 audits finalised until today amounts to Euro 27,132,195,87 these are included in the 2017 EPA results.

Table 1a:

EPA exercise 2017 FP7 Program		
	Total value of audited project costs	Number of audits
Final FP7 Audits launched in 2017	2,482,785	3
Final FP7 Audits launched before 2017	7,300,974	3
Total FP7 audits included in EPA exercise 2017	9,783,759	6

Table 1b:

EPA exercise 2017 H2020 Program		
	Total value of audited project costs	Number of audits
Final H2020 audits included in EPA exercise 2017 (all launched in 2017)	27,132,196	16

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 based on the Final Audit Reports and contribute to the final Declaration of Assurance for 2017 of the Executive Director.

II.2 Audit sample and coverage

(A.1) Specific sample of Clean Sky 2 JU for FP7

The FP7 samples were established according to the methodology described in the CSJU Ex-post Audit Strategy considering the following elements:

- Most significant cost claims (all CCs until a certain coverage starting from the biggest ones)
- Representative sample selected at random (by counting)
- Risk based sample

In the year 2017 8 audits were carried out on FP7 projects, out of which 6 were final. 1 of the 6 audits was risk based, the others formed part of the representative sample.
The total audited value of these audits was Euro 9,783,759 (reported validated project costs).

The FP7 sample considered in the ex-post audit exercise 2017 and included in the calculation of the FP7 error rates 2017 is composed of two parts:

(A.1/1) 3 remaining audit stemming from the EPA exercise 2016 on GAMs not included in error rates 2012 to 2016

(A.1/2) 3 audits launched between August 2017 and September 2017 (with final audit results)

Table 2a:

FP7 Audit exercise 2017

Audit exercise 2017 FP7	Totals	GAMs & GAPs 2014	GAMs & GAPs 2015	GAMs & GAPs 2016
(A.1/1)	3 Remaining audits from EPA exercise 2016 (Batch17) on GAMs			
audited value	7,300,974	7,300,974		
number of cost claims	4	4		
number of audits	3	3		
(A.1/2)	3 out of 5 Audits launched in 2017 (Batches 18 & 19) on GAPs & GAMs			
audited value	2,482,785		781,272.83	1,701,512.00
number of cost claims	3		2	1
number of audits	3		2	1
total				
audited value	9,783,758.97	7,300,974.14	781,272.83	1,701,512.00
number of cost claims	7	4	2	1
number of audits	6	3	2	1

For the calculation of the audit coverage, the accumulated audited value covered by the EPA exercises 2011 to 2017 is compared to the accumulated total amount of validated cost claims at the date of the closing for the Annual Accounts 2017.

Table 2b:

FP7 audit coverage based on audits finalised:

Accumulated FP7 audit coverage based on audits finalised until end of 2017		
		Euro
Total audited value of the years 2011 to 2017	(a)	304,339,504
Total amount of validated cost claims (GAMs and GAPs)	(b)	1,379,376,462
Coverage	(a) / (b)	22.06%

The specific audit coverage for FP7 Grant Agreements of Partners (GAPs) stemming from the year 2017 and previous audit exercises amounts to 4%.

(A.2) Specific sample of Clean Sky 2 JU for H2020 projects (including only representative audits)

The H2020 sample for 2017 was established in line with the *H2020 Audit Strategy* and the *Clean Sky 2 JU Procedure for implementing the H2020 Ex-post Audit Strategy*. It comprised of the following elements:

- Representative sample
 - Most significant cost claims selected at random (the population was stratified to achieve a certain coverage of the most significant cost claims)
 - Remaining cost claims selected at random.
- No risk based sample was selected

The sample consisted of cost claims pertaining only to Members. In the first two audit exercises (2016 and 2017) no audits on Grant Agreements for Partners (GAPs) have been performed yet, as auditable cost claims were only available by the end of 2017.

For H2020 projects, 18 audits covering 26 cost claims were launched between December 2016 and September 2017, out of which **16** audits could be finalised until the closure of the final accounts 2017.

The total audited value of the **finalised audits** was Euro 27,132,196 (reported validated project costs).

Table 3a:

H2020 Audit exercise 2017

EPA exercise 2017 H2020 programme – finalised audits			
	Totals	GAMs 2014	GAMs 2015
audited value	27,132,195.87	4,956,726.86	22,175,469.02
number of cost claims	19	2	17
number of audits ²	16	2	15

For the calculation of the audit coverage the same approach is taken as described above for the FP7 indicator (audited value covered by the EPA 2017 is compared to the accumulated total amount of validated H2020 cost claims at the date of the closing for the Final Accounts 2017):

Table 3b:

H2020 audit coverage based on audits finalised:

Accumulated H2020 audit coverage based on audits finalised until end of 2017		Euro
Total audited value from EPA exercises 2016 and 2017	(a)	40,200,071
Total amount of validated cost claims	(b)	256,236,028
Coverage	(a) / (b)	15.69%

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

In addition to the H2020 Clean Sky 2 JU representative samples, cost claims pertaining to Clean Sky 2 JU projects have also been audited as part of the corrective (risk based) samples selected by the CAS.

These non-representative H2020 Clean Sky 2 audits launched in 2017 consisted of 17 audit engagements covering 24 validated cost claims from Clean Sky 2 GAMs stemming from the years 2014 and 2015. Out of these, 15 audits covering 22 cost claims have been finalised until today. The total audited value of this audit sample was Euro 4 266 303 (reported validated project costs). Through these samples, an additional coverage for the Clean Sky 2 H2020 expenditure of **1.66%** could be achieved.

² The total number of audits is lower than the sum of the split-up columns, as some audits comprise of cost claims pertaining to 2014 and 2015

II.3 Status of audits and results (error rates) of the specific samples of Clean Sky 2 JU

III. Quantitative audit results (indicators):

III.1 Audits launched, on-going, closed

Table 4:

Status of on-going audits launched in 2017 and before (FP7 & H2020)	number	share of total launched
FP7 audits		
Total number launched	8	
Final reports received	6	75%
H2020 audits		
Total number launched	18	
Final reports received	15	83%
Audits included in the final audit results 2017 ³	16	89%

³ The Final Audit Report had already been established but not yet been sent to the Beneficiary and to Clean Sky 2 JU

III.2 Adjustments and detected error rates

Table 5a:

FP7 Audits

Audit exercises - individual and accumulated until 2017	Audited value/requested contribution including not received reports	Total audited value/requested contribution of reports received	Adjustment	Adjustment in favour of CSJU	Adjustment in favour of the beneficiary	Detected error rate in favour of CSJU	Representative error rate in favour of CSJU	Systematic error in favour of CSJU	Systematic error rate in favour of JU	Unaudited cost claims of auditees	Unaudited requested contribution of auditees	Total unaudited cost claims of audited beneficiaries (€)
Results audit exercise 2011 to 2016 (detected results incl. non representative)	391,390,473.51	294,555,745.45	-5,371,117.80	-10,266,219.48	4,895,101.67	-3.49%		-8,279,985.79	-2.81%	453,082,536.73	6,492,070.63	461,398,517.78
Results audit exercise 2011 to 2016 (representative results excl. risk based items)	340,438,673.14	262,644,799.88	-3,991,587.03	-8,124,094.30	4,132,507.26	-3.09%	-3.09%	-7,325,049.49	-2.79%	412,332,738.56	6,492,070.63	418,638,973.67
Results audit exercise 2017 (detected results incl. non representative)	10,824,800.19	9,783,758.97	-500,568.74	-500,568.74	185,585.20	-5.12%		-510,995.21	-5.22%	20,332,944.04	0.00	20,332,944.04
Results audit exercise 2017 (representative results excl. risk based items)	8,769,423.67	8,082,246.97	-203,880.41	-203,880.41	185,585.20	-2.52%	-2.52%	-214,306.88	-2.65%	19,305,129.78	0.00	19,305,129.78
Accumulated results all audit exercises (detected results incl. non representative)	402,215,273.70	304,339,504.42	-5,871,686.54	-10,766,788.22	5,080,686.87	-3.54%		-8,790,981.00	-2.89%	473,415,480.77	6,492,070.63	481,731,461.82
Accumulated results all audit exercises (representative results excl. risk based items)	349,208,096.81	270,727,046.85	-4,195,467.44	-8,327,974.71	4,318,092.46	-3.08%	-3.08%	-7,539,356.37	-2.78%	431,637,868.34	6,492,070.63	437,944,103.45

Table 5b:
H2020 audits

Audit exercises - individual and accumulated until 2017	Total Audited value (100% costs) of reports launched	Total Audited value (100% costs) of reports received	Adjustment	Adjustment in favour of CSJU	Adjustment in favour of the beneficiary	Detected error rate in favour of CS JU	Representative error rate in favour of CSJU	Systematic error in favour of JU	systematic error rate in favor of JU	Unaudited cost claims of auditees	Total unaudited cost claims of audited beneficiaries (E)
Batch H2020 1/2016 (all representative results)	13,067,875.10	13,067,875.10	-129,320.98	-148,803.72	19,482.74	-1.14%	-1.14%	-50,543.52	-0.39%	2,032,186.36	2,032,186.36
Batch H2020 2/2017 (detected results incl. non representative)	28,998,413.67	27,132,195.87	-373,888.03	-527,965.16	154,155.92	-1.95%		-143,185.38	-0.53%	59,275,139.67	59,275,139.67
Batch H2020 2/2017 (representative results excl. risk based items)	28,998,413.67	27,132,195.87	-373,888.03	-527,965.16	154,155.92	-1.95%	-1.95%	-143,185.38	-0.53%	59,275,139.67	59,275,139.67
Accumulated results all audit exercises (all incl. risk based)	42,066,288.77	40,200,070.97	-503,209.01	-676,768.88	173,638.66	-1.68%		-193,728.89	-0.48%	61,307,326.03	61,307,326.03
Accumulated results all audit exercises (representative results excl. risk based items)	42,066,288.77	40,200,070.97	-503,209.01	-676,768.88	173,638.66	-1.68%	-1.68%	-193,728.89	-0.48%	61,307,326.03	61,307,326.03

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.

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 and Clean Sky 2 grant agreements. Under this assumption, residual error rates are calculated and contribute to the Declaration of Assurance of the Executive Director on the legality and regularity of the Clean Sky 2 JU's operations.

FP7 error rate

The **accumulated (ex-post) detected error rate**⁴ in favour of Clean Sky 2 JU identified in the audited cost claims of FP7 projects amounts to **3.54%**. The rate represents a weighted average of the individual rates detected⁵.

The corresponding rate for the individual audit exercise of the year 2017 is **5.12%**. **The high error rate is mainly caused by one risk based audit.**

After excluding the results of the risk based audits, the **accumulative representative error rate** is established, which indicates the error rate applicable on the entire FP7 expenditure of the JU before corrective measures. It amounts to **3.08%**; the individual annual result for the year 2017 is 2.52%.

The **(ex-post) residual error rate** indicates the “net-errors” that remain in the total population after implementing corrective actions resulting from the ex-post controls including extrapolation of systematic errors to non-audited cost claims. The residual error rate is calculated according to the following formula:

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

⁴ Errors actually detected in the audited sample related to the total amount of the sample

⁵ According to the CSJU Audit Strategy, the average representative error rate is calculated as simple average of all individual rates detected. In our view, the result of this simple average error rate is misleading. Using a non-weighted average of all error rates discovered in each of the cost claims, irrespective of the value of the total amounts involved, would require a sufficiently big sample size and population to arrive at a meaningful representative result.

Taking into account the systematic adjustments proposed by the auditors in the audits performed in the year 2017 so far, the following provisional residual error rates are calculated.

Table 6a:

Calculation of FP7 residual error rate (ResER%): Accumulated 2008 to 2017	
Total population (P) =	1,379,376,461
Audited population (A)=	270,727,047
total non-audited cost claims of audited beneficiaries (E) =	437,944,103
Representative error rate (RepER%) =	-3.08%
Systematic error rate (RepERsys%) =	-2.78%
ResER% =	-1.59%

Table 6b:

Calculation of FP7 residual error rate (ResER%): 2017	
Total population (P) =	126,851,157
Audited population (A)=	8,082,247
total non-audited cost claims of audited beneficiaries (E) =	19,305,130
Representative error rate (RepER%) =	-2.52%
Systematic error rate (RepERsys%) =	-2.65%
ResER% =	-1.96%

The error rates reported for the year 2017 – accumulated and annual – confirm the level of error as identified in the previous years for the FP7 projects of Clean Sky. On the level of the programme and the actual year 2017, the residual error stays below the targeted threshold of 2%.

In 2017, FP7 expenditure amounts to only 1% of the total Clean Sky 2 operational expenditure incurred in the year.

H2020 error rate

The provisional **accumulated (ex-post) detected error rate** in favour of Clean Sky 2 JU and the **representative error rate**⁶ identified in the audited cost claims of H2020 projects for the accumulated audit exercises of the years 2016 and 2017 amount to **0.63%**. The corresponding rate for the individual audit exercise of the year 2017 is currently at **0.24%**.

Taking into account the systematic errors identified by the auditors in the H2020 cost claims, the following provisional residual error rates are calculated:

Table 6c:

Calculation of H2020 accumulated residual error rate (ResER%): 2017	
Total population (P) =	256,236,028
Audited population (A)=	40,200,071
total non-audited cost claims of audited beneficiaries (E) =	61,307,326
Representative error rate (RepER%) =	-1.68%
Systematic error rate (RepERsys%) =	-0.48%
ResER% =	-1.30%

Table 6d:

Calculation of H2020 residual error rate (ResER%): 2017	
Total population (P) =	173,711,910
Audited population (A)=	27,132,196
total non-audited cost claims of audited beneficiaries (E) =	59,275,140
Representative error rate (RepER%) =	-1.95%
Systematic error rate (RepERsys%) =	-0.53%
ResER% =	-1.46%

⁶ Since all audits launched in 2017 belong to the CSJU representative sample, the detected error rate corresponds to the representative error rate for the year 2017.

The error rates reported for the year 2017 – accumulated and annual – confirm the level of error as identified in the previous year for the H2020 projects of Clean Sky. On the level of the programme and the actual year 2017, the error stays below the targeted threshold of 2%.

In 2017, H2020 expenditure amounts to 99% of the total Clean Sky 2 operational expenditure incurred in the year.

III.3 Extrapolation

For FP7 beneficiaries, extension of systematic audit findings is performed for all audits which have identified a net systematic error rate of all cost claims included in the individual audit of a beneficiary exceeding 1% (in favour of the JU).

The extrapolation of systematic errors for the audit exercise 2017 has been launched during the months February to April 2018. For details see section IV. *Implementation of audit results*.

The extension of audit findings stemming from H2020 audits is done according to common criteria for the entire H2020 Research Family⁷. This means, that unlike the approach applied for the FP7 audits, systematic errors identified in individual cost claims of H2020 projects will be corrected in all cost claims of the concerned beneficiaries including those stemming from different granting authorities.

In the EPA exercises performed until now for H2020 projects concerning beneficiaries of Clean Sky 2 JU, several cases of extension of systematic audit findings occurred. The implementation of the correction is done through withholding the overpaid amounts from the next payment to the beneficiaries.

III.4 Materiality

The control objective is to ensure for the CS programmes (FP7 and H2020), 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 2017 AAR.

The following materiality thresholds have been agreed with the audit firms for the FP7 audits launched until 2015:

Overall materiality for qualification of the auditors opinion: 2% of total audited value of cost claims included in the audit report

Reporting materiality for adjustments to be listed in the audit reports: Euro 150

Sampling approach:

First sample layer: Selection of significant cost items in all cost categories (i.e. individual items with a value equal or above 10 % of the total costs declared in the individual cost claim (Form C))

Second sample layer: In addition, a random, statistical or judgemental sample of the residual amounts will be drawn and tested.

⁷ The common criteria and harmonised implementation are currently developed by the Common Audit Service of DG RTD.

For all FP7 audits launched during the years 2016 and 2017, materiality levels applied by the audit firms have been agreed with DG RTD. Overall materiality level is also 2%, but no audit opinion is expressed by the auditors.

For the H2020 program, the CAS applies common materiality criteria, applicable to the entire Research Family, which aims to exclude with reasonable assurance the risk of undetected errors higher than 2%.

IV. Implementation of audit results

EPA exercise 2016:

Overpayments identified in the ex-post audits carried out in the year 2016 for FP7 projects, have been recovered during the year 2017 directly from the audited beneficiaries.

Likewise, the financial effect of the extrapolation of systematic errors detected in the ex-post audits 2016 on unaudited cost claims has been recovered. As already reported in detail in the AAR 2016, FP7 overpayments identified in the EPA exercise 2016 had been recovered until the closure of the JU's Final Accounts 2016 at a rate of 78.78%. The recovery rate has meanwhile improved further from 78.78% to 96.04%:

Table 7a:

FP7 overpayments recovery rate.

Total corrective action for FP7 EPA exercise 2011-2016 – 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 (€)	recovery rate (%)
728,094,318.05	-21,397,287.71	-10,693,407.79	-10,270,341.57	96.04%

H2020 overpayments identified in the EPA exercise 2016 had been implemented until the closure of the JU's Final Accounts 2016 at a rate of 51.31%. The implementation rate⁸ has meanwhile improved further from 51.31% to 100%:

Table 7b:

H2020 overpayments recovery rate.⁹

Total corrective action for H2020 EPA exercise 2016 implemented (fully implemented in the system)				
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)	recovery rate (%)
15,100,061.46	-148,803.72	-104,162.60	-104,162.60	100%

⁸ Following Article 21.5 of the H2020 GA, the CSJU implements audit adjustments in on-going projects through deducting the rejected costs from the payment to the project coordinator for the next reporting period.

⁹ According to the Article 42.3 of the H2020 GA, the recovery of detected overpayments can only be deducted "from the total eligible costs declared, for the action, in the next periodic summary financial statement or in the final summary financial statement." Therefore, the JU considers the overpayments as corrected, when the related adjustments are booked in the grant management system.

EPA exercise 2017:

For overpayments detected in FP7 audits of the ex-post audit exercise 2017, the implementation rate is 98%.

Table 7c:

Total corrective action for FP7 EPA 2017 exercise implemented				
Audited and extrapolated value	Adjustments in favour of CSJU for audited and extrapolated reports (100%)	related overpayment (50 % of total adjustment)	recovered overpayment (RO issued or ex-ante correction)	recovery rate for overpayments (%)
30,102,858.01	-1,035,899.06	-614,245.06	-604,544.74	98.42%

The corrections implemented for the entire FP7 programme represent 99% of the detected errors.

Table 7d:

ACCUMULATED Total corrective action for FP7 EPA exercise 2011- 2017- implementation achieved				
Audited value (of audited and unaudited cost claims)	Adjustments in favour of CSJU per audit reports	related overpayment	recovery of overpayment - (€)	recovery rate for overpayment -
758,197,176.06	-22,433,186.77	-11,307,652.86	-11,211,274.56	99.15%

For overpayments detected in H2020 audits of the ex-post audit exercise 2017, the implementation rate is 66% at the end of May 2018 and is expected to arrive at 100% until July 2018 - following the timing of the next validation of cost claims (for 2017 periods) .

Correction of audited and unaudited financial statements for EPA exercise 2017 all batches						
Audited and extrapolated value	Adjustments in favour of CSJU for audited and extrapolated reports on total cost level	related overpayment (related JU contribution)	corrected overpayment (adjusted in JU system per 29/05/2018)	recovery rate for overpayments (%)	expected corrected overpayment until end of validation exercise 2018 (July 2018)	recovery rate for overpayments (%)
86,407,335.54	-527,965.16	-487,945.39	-322,223.69	66.04%	-487,945.39	100.00%

V. Results of non-representative ex-post audit results stemming from the sample of corrective (risk based) audits of the CAS covering Clean Sky 2 H2020 projects

A detected error rate resulting from the sample of corrective (risk based) audits of the CAS covering Clean Sky 2 H2020 projects has been established and represents **3.43%** of the audited CS2 H2020 expenditure.

The representativeness of the 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 very low (**1.66%**) (see section II.2 above).

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

Given the stage of the programme lifecycle, a limited number of cost claims totalling 4.1 billion euros of requested funding had been received by all granting authorities of the H2020 programme by the end of 2017. The first Horizon 2020 audits were launched in the middle of 2016 and further audits were launched in 2017. The first Common Representative Sample (CRS), a Common Risk Sample and an Additional Sample¹⁰ have been selected. In total, by December 2017, 625 participations had been selected for audit, covering all the services signing grants in Horizon 2020.

In total, the audit of 392 participations has been finalised (385 on 2017 selection of 625 participations and 7 on the 2018 selection). This includes 110 out of 142 selected in the first CRS.

The error rate on 31/12/2017 is:

Overall detected error rate based on 392 participations: **1,54 %**

The detected error rate based on 110 out of 142 participations selected in the first **CRS** is **1,6%**.

However, if the draft audit reports are taken into account, the expected representative error rate for the full sample will be around **2,82%**.

Residual Error Rate for the research family: the rate amounts to **1,44 %** for audits finalised until the end of 2017, but is expected to rise to around **2.24%** when taking into account the draft audit reports.

Residual Error Rate derived from the **CRS** for Clean Sky 2 JU: the rate amounts to **0,54 %** for audits finalised until the end of 2017.

The error rates set out above **can only be a preliminary estimation and must be treated with care**. The CRS is not yet complete, and so is not yet fully representative of the expenditure that it covered. In addition, the first CRS was taken at an early stage of the programme in order to provide an early indication of the error rate and, also, whether the simplifications introduced in Horizon 2020 had been effective. The nature of expenditure in the first years of the programme may not be

¹⁰ This last sampling accommodates special needs of certain stakeholders with regard to audit coverage and selection method. In addition, top ups, which are participations of selected beneficiaries which are added to the selected participations, are included in the total participations selected.

totally representative of the expenditure across the whole period of expenditure. And the programme is in any case multi-annual, so the error rates, and especially the residual error rate, must be considered over time. In particular, the cleaning effect of audits over time will tend to increase the difference between the representative/detected error rate and residual error rate, with the residual error rate finishing at a lower rate.

VII. Summary and conclusion for the Assurance declaration of the Executive Director in the consolidated AAR 2017 (version June 2018)

The present preliminary results of the ex-post audit exercises 2011 to 2017 pertain to validated cost claims for GAMs and GAPs of the years 2008 to 2016 for the FP7 and H2020 programmes. As described in the materiality criteria included in the Annex of the 2017 AAR, the control objective of the JU is to ensure for the two individual CS programmes, that the residual error rates, which represent the remaining level of errors in payments made after corrective measures, does not exceed 2% of the total expense incurred until the end of the individual programmes.

The audit approach for FP7 grants is based, as in the years before, on the CSJU ex-post Audit Strategy as approved by the GB in 2011. For the H2020 grants Clean Sky 2 JU follows the H2020 Audit Strategy and the related Implementing procedure of the JU.

The results of the EPA process 2017 reflect the legality and regularity of the validation process for GAM execution 2008 to 2016 for the FP7 and H2020 programs. Thus, they do not directly relate to the entire expenditure incurred by the JU until the end of year 2017. However, the JU's EPA strategies are implemented through an on-going process, which produces accumulated results applicable to the entire expense incurred for the CS programs until a certain point of time. At present we have results for payments incurred for GAMs and GAPs 2008 to 2016. The accumulated audit coverage of the validated financial statements pertaining to GAMs and GAPs for the years 2008 to 2016 is 22% for the FP7 program and nearly 16% for the H2020 program. The additional coverage achieved through corrective audits launched by the CAS on Clean Sky 2 grants remained insignificant for the year 2017 (1.66%).

In total, FP7 expenditure amounts to 1% of the total Clean Sky 2 operational expenditure incurred in 2017, 99% corresponds to expenditure incurred for H2020 grants.

FP7 program:

At the end of 2017, the results established in the FP7 audit samples, stemming from 7 annual exercises carried out in the years 2011 to 2017; reflect a stable accumulated representative error in favour of the JU in the validated FP7 operational expense of **3.08%** (compared to **3.1%** for the accumulated exercises until end of 2016).

After finalizing the EPA exercise 2017 in May 2018, the accumulated residual error for the FP7 expenditure amounts to **1.59%**, the corresponding residual error rate for the EPA exercise 2017 only is **1.96%**.

Hence, in the EPA exercise 2017, the low level of the previous years is maintained .

The FP7 population of GAPS has been covered by two specific samples covering cost claims of the years 2012 and 2013, which resulted in representative and residual error rates below 2% and hence did not indicate a significant risk for overpayments to Partners.

The corrective measures for the 7 annual FP7 audit exercises, carried out in the years 2011 to 2017, have been fully implemented.

The FP7 EPA coverage and identified error rates have to be evaluated with a view to the multiannual EPA strategy, which has evolved as an on-going process during the duration of the program from the beginning until now. Under this multi-annual aspect, we consider the accumulated results of the EPA process 2011 to 2017 relevant and appropriate to provide assurance for the FP7 related operational expenditure as recognized in the Annual Accounts 2017.

H2020 program:

The accumulated results established from the first H2020 samples of the years 2016 and 2017, reflect a representative error in favour of Clean Sky 2 JU in the validated operational expense of - **1.68%** (compared to **1.14%** for the first exercise 2016).

The error rate can be considered representative, as the majority of the selected sample of the year 2017 are final and available for the error rate calculation.

The H2020 accumulated **residual error rate** stemming from the first two audit exercises amounts to **1.30%** (compared to 0.95% for the first exercise 2016).

The accumulated audit coverage of the validated H2020 financial statements pertaining to GAMs for the years 2014 to 2015 is **16%**. In view of the moderate errors detected in the first H2020 audits, the level of assurance provided through these audit results is considered as sufficient for the reporting of the year 2017.

Looking at the corporate results of the Common Representative Sample of the CAS covering H2020 projects for all H2020 stakeholders, including Clean Sky 2 JU, they seem to confirm the positive trend of the H2020 error rates compared to the FP7 programme, as identified in the specific samples of Clean Sky 2 JU. There is some evidence already at this point of time, that the simplifications introduced in Horizon 2020, as well as the increased experience of major beneficiaries, are reducing the number and level of errors made by beneficiaries. However, beneficiaries still make a number of errors, sometimes because of a lack of understanding of the rules, sometimes because of a non-respect of the rules. The Common Support Service of DG RTD has introduced subsequently several simplifications or clarifications in the H2020 Model Grant. The results of the first audits will be considered in a working group bringing together auditors from the Commission and the Court to see where additional simplifications and clarifications may be needed¹¹.

Considerable efforts have been made to ensure clear communication of the rules and guidance to participants and their auditors. By the end of 2017 a total of 75 communication events had been

¹¹ Note – this meeting was planned to occur in March 2018

organised in 26 different countries with a total of 6.600 participants. Clean Sky 2 JU has performed until now 2 workshops for its Members on the eligibility rules of the H2020 programmes.

The first audit results, from the CRS and other audits, e.g. also the specific samples carried out on the Clean Sky 2 expenditure, suggest that, over the multiannual period, and especially considering the high level of the overall audit coverage of Horizon 2020 expenditure that can be expected, the residual error rate will be below 2%. Additional evidence to support this conclusion will arrive in the coming reporting period. As of today, there are no indications that the residual error rates identified in the Clean Sky projects under FP7 – below 2% - will rise for Horizon 2020 projects.

Conclusion

The error rate for FP7 grants and for the so far audited population of H2020 stay below the materiality level of 2%. Therefore, a reservation in the Assurance Declaration of the Executive Director for the consolidated AAR 2017 is not considered necessary.