

# Forest Carbon Partnership Facility (FCPF) Technical Assessment of the Advanced ER-PD Draft Republic of Congo

## TAP Assessment, Version 20 Mai 2017

### I General Approach of the Review

The present TAP report constitutes the review of the Republic of the Congo's final ER-PD. In the process of the ER-PD development, the TAP reviewed a first draft ER-PD between June and August 2016. An advanced draft ER-PD was then reviewed in October/November 2016. In its review process, the TAP members assessed in each of their revisions the parts of the ER-PD in relation to a series of criteria and indicators that are in accordance with his/her professional experience. Telephone/skype exchanges were held to clarify doubts and divergence of opinions. The coordinator organized and supplemented where necessary the comments of the TAP members, and did the final editing of the text. Also, two TAP members carried out a country visit to Brazzaville to hold extended discussions with the ER-PD team and other stakeholders on June 26-29, 2016.

The final ER-PD dated 21 April was delivered to the TAP team in late April 2017. Each TAP member read the entire document and consequently reviewed the parts assigned to the particular TAP team member. As usual, the assessment was done based on the criteria and indicators developed in the Carbon Fund Methodological Framework (<https://www.forestcarbonpartnership.org/carbon-fund-methodological-framework>), based on the comments of the assessment made in October 2016. New comments provided by the TAP are in RED colour. All TAP members had the chance to review the entire draft TAP report before submitting the final TAP report on the final ER-PD officially to the FMT of the FCPF on May 20, 2017.

### PART 1 OF TECHNICAL ASSESSMENT: Summary

**Date of Current Assessment:** 20 May 2017

**Name of Assessment team members:**

Juergen Blaser (forestry and policy issues; coordination of the TAP review); Pacifique Mukumba (safeguards and socio-economic assessment; Till Neeff (carbon accounting and assessment of the methodological approaches; and Matthieu Wemaere (legal and institutional issues).

**Summary Assessment of the Quality and Completeness of the ER-PD:**

The Republic of the Congo has prepared an ambitious ER-PD for a large jurisdictional area of 12.4 million hectares out of which 11.7 million hectares are covered by natural forests. The program is designed with a long-term perspective of 20 years with an ER-PA period of 5 years (2018 – 2023). The budget includes US\$ 93 million in up-front investment finance and a potential of results-based payments for about 10 million tCO<sub>2</sub>e emission reductions over 5 years.

The Final ER-PD is a comprehensive document, and in most of the sections well written and concise,

<b>Indicators</b>
1 <sup>st</sup> full assessment October 2016
2 <sup>nd</sup> full assessment May 2017

<p>easy to read and to understand, and well-illustrated; inconsistencies and difficulties in understanding are encountered particularly in the carbon accounting section.</p> <p>The TAP appreciates also that the document builds on the Republic of Congo’s national REDD+ strategy and the country’s NDC. As mentioned in the prior assessments, the TAP underlines the challenging task in the jurisdictional areas to include a solid REDD+/ER Program approach and that aim to mitigate development plans in the region that include expansion of agricultural cash crops such as oil palm and cocoa, expansion of mining area, raw oil exploration and infrastructural development (roads). The TAP also notes that a policy process is currently underway to coordinate, through an inter-ministerial approach, the various sectoral development plans. Based on the information received, the TAP takes note of the country’s political will to conduct a solid REDD+ program in Sangha and Likouala that goes beyond the 5-years implementation of the ER-Program.</p> <p>The ER-PD proposes a combination of ER-activities to mitigate negative aspects of agribusiness and forest management, and also addressing mitigation of environmental issues related to mining. The TAP highlights that progress on land use planning, which – according to the ER-PD – will be prioritized in the National REDD+ Investment Framework and for a CAFI funding request, is important and should be continuously monitored.</p> <p>The proposed activities have been rated as feasible by stakeholders and it has been regarded as beneficial at the level of sustainable development. It is expected that ER-PD activities address deforestation dynamic around the rapidly growing villages and settlements that are developing through agro-industrial activities and supports long-term management of natural forests. The ER-Program is fully endorsed by local authorities and fulfills national and international safeguard policies. The ER Program contributes to improving land use and tenure rights’ recognition and protection and boosts the development of better legislation, while recognizing gaps in capacities and resources to implement and enforce the rule of law.</p> <p>The ER-PD’s approach to carbon accounting is overall sound, however, the ER-PD would benefit from further clarity and improvements on some issues, outlined as follows. It is based on an innovative combination of earth observation and field data and shows effort to establish coherency with approaches at the national level, as well as between the reference level and programme monitoring. The ER-PD proposes an important adjustment above historical emissions. The uncertainty analysis is still work in progress. Further clarity should be introduced on the quantification of reversals and on the relation to the national GHG inventory. Also, the TAP took a careful view of the approaches used to quantify the adjustment, although the TAP found them to comply with indicators.</p> <p>Land and forest governance and policies remain a challenge in the ER-Program area, although that the final ER-PD addresses the issues in general terms and a policy note has been prepared to confirm the country’s engagement for close inter-ministerial coordination. While the TAP understands that many of the issues will be dealt with in the implementation phase, the TAP notes that they will impact the results-based programme, in particular with regard to the following aspects: (i) the mentioned land use planning process that still needs time and which is related to CAFI funding (the PNAT is still not adopted yet); (ii) the need to agree on the legal basis for community-based forest management; (iii) the procedures for granting permits to convert forest in commercial palm oil plantations; and (iv) policy coordination in particular in respect to forest/ agriculture and mining links are underway.</p> <p>The question of non-permanence after the financing period of the Carbon Fund remains an issue that the TAP wants to highlight. The TAP nonetheless is conscious that this issue is not addressed in the methodological framework and thus is not only a problem of the present ER-PD alone.</p>			
<p><b>II. Level of Ambition → Criteria 1 – 2, including issues relating to legal aspects</b></p> <p>The ER-Program works at jurisdictional scale comprising the two northern provinces of the Republic of Congo, Sangha and Likouala and as such includes almost 60% of the national forest area. It</p>	<p>1.1 1.2 2.1</p>	<p>YES YES YES</p>	<p>YES YES YES</p>



<p>observes, however, that the reference level is not actually calculated based on the historical average emissions during that reference period. It is calculated from a model of likely future emission trends with several components. The TAP takes note that the model uses observed historical emissions during the period 2013-2015 as a point of departure and not observations from the reference period.</p>	13.2	YES	YES
	13.3	YES	YES
	13.4	YES	YES
<p>The ER-PD proposes an adjustment above historical emissions close to the allowable maximum. The need for the adjustment is well justified and the TAP has no specific concerns regarding its applicability or its magnitude (C13). The ER-PD undertakes a huge effort to estimate future emission trends through building a complex model based on factors such as data beyond the reference period, population density, increased development momentum, and increased access. Although the ER-PD complies with the applicable indicators, <b>the TAP, by reviewing the Final ER-PD, is still concerned</b> regarding the presented approach that is complex and could be misunderstood to provide robust estimates of future emission trends from land use and its changes. In the TAP's view, a <i>reliable and robust</i> prediction of future deforestation and forest degradation trends and their associated emissions is simply not feasible. <b>The TAP reiterates its recommendation that</b>, rather than building complex models, the ER-PD could include a much simpler approach, e.g., deriving a percentage adjustment above historical emission trends from simple ratio calculations. This would be transparent through its methodological simplicity.</p>			
<p><b>III (d) Reference Level, Monitoring &amp; Reporting on Emission Reductions → Criteria 14-16</b></p>			
<p>The ER-PD proposes a sound approach to measuring historical emission trends and for ongoing monitoring of emissions during the accounting period. It integrates ground-based measurements with advanced earth observation techniques, including for classification of forest areas and area changes, together with through the use of LIDAR (C14). Some of the approaches tested at the programme level are already being integrated into the national forest monitoring system (C15). Given the reliance of forest monitoring on earth observation there is only a small role given to communities in respect to monitoring and the ER-PD explains this well (C16).</p>	14.1	YES	YES
	14.2	YES	YES
	14.3	YES	YES
	15.1	YES	YES
	16.1	YES	YES
<p><b>III (e) Accounting for Displacement (leakage) → Criterion 17</b></p>			
<p>Drivers of deforestation and forest degradation are identified and displacement risks are systematically assessed. The TAP found it difficult to follow all individual risk ratings; e.g., some programme measures will lead to reducing commodity production volumes, notably conversion of logged to protected forests and reduced forest conversion in oil palm plantations. Such discussions are important but there is no requirement for the ER-PD to fully mitigate displacement risk, which would be very difficult in practice.</p>	17.1	YES	YES
	17.2	YES	YES
	17.3	N.A.	N.A.
	17.4	N.A.	N.A.
<p><b>III (f) Accounting for Reversals → Criteria 18 – 21</b></p>			
<p>A systematic assessment of anthropogenic and natural risks of reversals is undertaken which draws on the FCPF buffer guidelines and four broad categories of risks (stakeholder support, institutional capacity, long-term effectiveness and natural disturbances). The ER-PD arrives at an aggregate risk rating of 23%, which seems plausible in TAP's view. Currently, the ER-PD does not demonstrate how effective ER programme design and implementation will mitigate significant reversal risks beyond the term of the ER-PA although this would be an important sustainability criterion. The short time frame of ER-PA payments makes reversal risks beyond its duration very hard to check. The TAP recommends that this issue be addressed in close discussion with the Carbon Fund Participants (C18). It is further noted that the ER-PD proposes to rely on the buffer managed by the Carbon Fund to account for reversals (C19).</p>	18.1	YES	YES
	18.2	NO	NO
	19.1	YES	YES
	20.1	N.A	N.A.
	20.2	N.A	N.A.
	21.1	NO	NO
21.2	N.A	N.A	

<p>Finally, the ER-PD does not propose so far a credible procedure for reporting on reversals of emission reductions already accounted for; <b>the TAP reiterates its recommendation made on the its last review that this aspect needs to be rectified (C21).</b></p> <p><b>III (g) Accounting for ERs → Criteria 22 - 23</b></p> <p>The ER-PD follows the methodological framework in its accounting procedures for emission reductions (C22). The ER-PD takes overall measures to avoid double counting. A registry is in the process of being set up. Generally, there is only low risk of double counting with voluntary carbon market projects, as there is only one project present in the area, which will be become a beneficiary of the program’s benefit-sharing plan against ER program criteria. <b>The risk is limited today in as far as there is only one VCS project located in the accounting area so far. However, the TAP wants to point out at need to set up a mechanism or institutional arrangements to guarantee that there will be no double counting of emission reductions between the NDC and other project or programs activities whatsoever (C23). Accounting related to the country’s NDC will need further consideration as is the case in many countries.</b></p>	<p><b>22</b> <b>23</b></p>	<p><b>YES</b> <b>YES</b></p>	<p><b>YES</b> <b>YES</b></p>
<p><b>IV. Safeguards</b></p> <p><b>Actions undertaken to meet WB and Cancun Safeguards→ Criteria 24-26</b></p> <p><b>At national level, the RoC developed social and environmental REDD+ standards that need to be respected in the implementation of any REDD+ activity in the country. The standards are annexed to the ESMF as a basis for social and environmental impact analyses of ER-Program activities. The country carried out a SESA of the National REDD+ Strategy and has finalized the following six safeguards instruments: Environmental and Social Management Framework (ESMF), Indigenous Peoples Planning Framework, Resettlement Policy Framework, Pests and Pesticides Management Framework, Cultural Heritage Management Framework, and Process Framework. All these six safeguard instruments will be submitted to the World Bank for clearance and be made publically available. It also needs to be noted that national stakeholders validated the safeguard instruments in January 2017 and it is noted that comments made during the validation workshop have been incorporated in the final safeguard documents.</b></p> <p><b>The Strategic Environmental and Social Assessment (SESA) has been conducted in an iterative way together with the finalization of the national REDD+ strategy with participation from civil society and other stakeholders. The draft SESA report and safeguard documents are available online on the FCPF website. The TAP has had access to the SESA report and almost final safeguards instruments, which will all become available publically after clearance.</b></p> <p><b>The information provided in the reports will be made publically available and communicated through the national Safeguards Information Systems (SIS); it is understood that the institutional arrangements for the monitoring of safeguards implementation will include a safeguards monitoring unit, still to be created within the MEFDDE</b></p> <p><b>In respect to the feedback and grievance redress mechanism for the ER program (C26), the TAP notes that it is still being developed building on existing institutions, regulatory frameworks and mechanisms (C 26). The TAP thus could not review the contents of the mechanism but takes note on the progress of preparation. The legal TAP also noted that some more information could be made available on the legal/regulatory requirements of grievance mechanisms, but understands that the WB will carefully look at these in the due diligence process.</b></p>	<p><b>24.1</b> <b>24.2</b> <b>25.1</b> <b>25.2</b> <b>26.1</b> <b>26.2</b> <b>26.3</b></p>	<p><b>YES</b> <b>NO</b> <b>NO</b> <b>N.A</b> <b>NO</b> <b>YES</b> <b>YES</b></p>	<p><b>YES</b> <b>YES</b> <b>YES</b> <b>N.A</b> <b>YES</b> <b>YES</b> <b>YES</b></p>

V. Sustainable Program Design and Implementation			
<p><b>V. (a) Drivers and Land Resource Tenure Assessment → Criteria 27-28</b></p>			
<p>The causes and drivers of deforestation and forest degradation are well described, historically and in the recent past) (C27). The ER-Program design takes into account historical patterns of development, characterized by different land-use dynamics throughout the ER-Program Area. The main direct drivers of deforestation and forest degradation are commercial logging in natural forests (Likouala and Sangha), agro-industrial production, traditionally in the western region (Sangha). Recent developments are considerable in the program area altogether, including slash-and-burn agriculture by in-migrants (increasing through the improved road infrastructure and mining), particularly in Sangha and mining as an emerging driver throughout the area overall. Underlying causes of deforestation include weak governance at national and jurisdictional levels, lack of policy coordination and land use planning, poverty and insufficient enabling conditions for sustainable economic activities, population growth and infrastructure development (see also C34). The ER Program does not particularly identify the potentials of existing economic activities leading to reversal and increasing carbon stocks, e.g. certified forest concession management that potentially lead to enhancement of forest carbon stocks.</p> <p>The intervention strategy addresses the described drivers and proposes a combination of sectoral and enabling interventions that address both direct drivers of deforestation and forest degradation as well as underlying causes. The sectoral activities consist of two main intervention areas, (i) a forest pillar dealing with forest management and conservation, and (ii) an agricultural pillar, dealing with small scale/community/out grower schemes and commercially scaled agriculture. Enabling conditions relate to issues in sector governance in agriculture, forestry and to the co-habitation of REDD+ and mining operations.</p> <p>Institutionally, there is yet no functioning overarching framework in place for allocating and optimizing land use, prioritizing land use, or defining procedures in case of conflict between uses. The lack of legal clarity for forest conversion is a matter of concern to the TAP and indeed one of the underlying causes of deforestation, in particular because of conflicts between Forestry law and Mining law and the potential lack of coordination among competent authorities both at the national and local levels. However, based on a policy note that the TAP received in mid-May 2017, there are some encouraging signs in respect to the National REDD+ Committee (CONA-REDD), the ER-Program and wider policy coordination in in respect to land use. An inter-ministerial concertation meeting will be held still in May 2017 to analyze all mining concessions assigned in 2016 in the PR-Program area, to develop a guidance on future assignment of land in case of conflict of use (until a SNAT/PNAT is established) and to address the issues on new oil palm concessions after the signature of the APOI in March 2017. When writing the present TAP report this coordination meeting had not yet taken place. The CF participants will be informed on its outcomes prior to its June meeting by the GoC.</p>	<p>27.1 27.2 28.1 28.2 28.3</p>	<p>YES YES YES YES YES</p>	<p>YES YES YES YES YES * *</p>
<p><b>V. (b) Benefit sharing → Criteria 29 – 33</b></p>			
<p>At national level, a study was undertaken in 2015 and prepared a pathway for the legal orientation for REDD+ benefit sharing (<i>Mécanisme de partage des bénéfices multiples du processus REDD+ en République du Congo, Mars, 2015</i>). Up to today the national guidelines on benefit sharing have not yet been fully developed. However, at jurisdictional level in Sangha and Likoula, an intensive exchange of the proposed mechanism for sharing multiple benefits has taken place with stakeholders to ensure transparency and full and effective participation in the further preparation process for an ER-PA. A clear roadmap is provided in the final ER-PD describing how the benefit</p>	<p>29 30.1 31.1 32.1 33.1 34.1 34.2 35.1</p>	<p>YES YES YES N.A YES YES YES NO</p>	<p>YES YES YES N.A YES YES YES YES</p>



Of a total of 78 criteria and indicators **65 criteria or indicators are met (yes) and 4 are not met (no)**, including indicators 9.1, 10.3, 18.2 and 21.1. Nine indicators have been classified under do not apply (n/a) to the current assessment and need to be assessed later.

Most of the criteria and indicators are met from the perspective of the TAP, although the TAP made a number of observations and suggestions even in those indicators that have been rated with a “Yes”. This was done with the view of proposing possible alternative pathways for a number of specific issues (in particular indicators 5.1, 12.1, 13.3, 14.1, 14.2 and 17.1). For the indicators that have been rated with “No”, the TAP made specific recommendations for further consideration by the ER-PD team.

## PART 2 OF TECHNICAL ASSESSMENT: DETAILED ASSESSMENT

### C. 1 The proposed ER Program is ambitious, demonstrating the potential of the full implementation of the variety of interventions of the national REDD+ strategy, and is implemented at a jurisdictional scale or programmatic scale.

**Ind. 1.1** The ER Program Measures aim to address a significant portion of forest-related emissions and removals

**YES**

[Ambition and strategic rationale for the ER Program – 2.2]

Yes, the ER-Program aims to address a significant portion of forest-related emissions and removals.

The ER-Program works at jurisdictional scale comprising the two northern provinces of the Republic of Congo, Sangha and Likouala. It covers an area of 12.4 million hectares, out of which 11.7 million hectares are forests. The program covers nearly 60% of the national forest area, including all natural forest types with the highest carbon stocks per hectare. The ER programme measures include reducing degradation, controlling deforestation and enhancing carbon stocks. The objective of the ER-program for the period of 2018 to 2023 is to reduce 10,202,168 t CO2e from proposed REDD+ and aims at enhancing sustainable landscape management, improve and diversify local livelihoods and conserve biodiversity.

**Ind. 1.2** The ER Program is ambitious, uses new or enhanced ER Program Measures to reduce Emissions or enhance removals, is undertaken at a jurisdictional scale and/or takes a programmatic approach (i.e., involves multiple land areas, landowners or managers within one or several jurisdictions), and reflects a variety of interventions from the national REDD+ strategy in a coordinated manner.

**YES**

[Ambition and strategic rationale for the ER Program – 2.2, 2.3]

Yes, the ER-Program is ambitious and reflects the national REDD+ strategy and the country’s proposed NDC.

The country has been engaging in the REDD+ process since 2008. The REDD+ program for result-based payments in the Departments of Sangha and Likouala follows a multi-sectoral approach and is aligned with all four pillars of the National REDD+ Strategy. The program area includes 17 forest concessions including Community Development Zones (CDZ), two agro-industrial concessions and one mining concession, three national parks and one community reserve. The ER-Program puts a particular focus on public-private partnership in an area that is considered by the country as a primary development area for national development.

The ER-Program area is characterized by a number of particular features that need careful attention when designing and implementing the ER-Program. First there are geographically two well distinguished zones, (i) west and south Sangha that experienced longer-term presence of migrants and some agricultural development in the past and (ii)

East Sangha and Likouala that up to today is mainly a forested area, with the frontier of long-term timber concessions and protected areas. In order to stay competitive as a land use, the long-term and large scale timber concessions on the permanent forest estate will need to further improve their sustainable forest management approaches and contribute through added forest products transformation to the economic development in the region. With the expansion and improvement the access road from Brazzaville and Pointe-Noire (fully functional since 2012) to the proposed ER-Program area and the construction of the new road that will link in future the Dept. of Sangha with the ports in Cameroon, new economic development will certainly happen and more migrants will reach the area. Agro-business investment (particularly oil palm and cocoa), mining (for minerals and fuel), hydro-energy and subsistence agriculture are expected to increase in the proposed long-term period of 20 years of a continuous ER-program.

The ER-PD well describes the projected future development in the region. Its emphasis is on sustainable forestry through certified natural forest concession management and active management of protected areas (forests and wetlands), certified agro-business development (cocoa, oil palm), improved environmental standards in mining operations and the promotion of sedentary, small-scale agriculture by promoting agroforestry concepts and out grower schemes for palm oil and cocoa production.

The final ER-PD carefully addresses the issues relating to agro-business development. The Government “will consider” (page 31) a moratorium on new palm oil plantations in the forest area and instead orient them towards savannah area”. The GoC signed a TFA Memorandum on sustainable Palm Oil Production on March 21, 2017 and will organize workshops in August 2017 on national principles and action plans (p. 32 of the ER-PD). The final ER-PD further developed on the challenges that the mining sector in particular poses to its REDD+ agenda and described a number of measures that have been and will be undertaken to address the important land-use issues. In a policy review document that the TAP has received in mid-May, an inter-ministerial meeting will take particularly care on these issues. The outcome of that process will be delivered directly by the GoC to the Carbon Fund participant meeting.

**C. 2 The Accounting Area matches a government- designated area that is of significant scale**

<p><b>Ind. 2.1</b> The Accounting Area is of significant scale and aligns with one or more jurisdictions; or a national-government-designated area (e.g., ecoregion) or areas. [Accounting Area of the ER Program – 3.1]</p>	<p><b>YES</b></p>
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Yes, the accounting area is of significant scale and aligns with two jurisdictions.  
The area covers two departments in Northern Congo which are considered as the most promising development areas of the country in the future. The proposed ER-Program will serve as a model for sustainable development in the two departments, which covers 12.4 million hectares, 11.7 million hectares of which are forests (59% of the national forest area).

**C. 3 The ER Program can choose which sources and sinks associated with any of the REDD+ Activities will be accounted for, measured, and reported, and included in the ER Program Reference Level. At a minimum, ER Programs must account for emissions from deforestation. Emissions from forest degradation also should be accounted for where such emissions are significant.**

<p><b>Ind. 3.1</b> The ER Program identifies which anthropogenic sources and sinks associated with any of the REDD+ Activities will be accounted for in the ER Program [Description of Sources and Sinks selected – 8.1]</p>	<p><b>YES</b></p>
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Yes, the ER-PD identifies the REDD+ activities to be accounted for, next to a set of sources and sinks. It accounts for deforestation and forest degradation and excludes carbon stock enhancements (see indicators 3.2 and 3.3).

The Final ER-PD does not further explain the exclusion of carbon stock enhancement. Earlier versions of the ER-PD had pointed to the low significance of carbon stock enhancements to explain their exclusion, estimated at less than 1% of emissions. In the TAPs view, carbon stock enhancement can be relevant if sustainable silvicultural approaches are used in certified natural forest management. However, the methodological framework does not require including carbon stock enhancements or providing a justification for excluding it.

The ER-PD uses a distinction between ‘planned’ and ‘unplanned’ activities to identify sources and sinks for the REDD+ activities. Deforestation is broken down as “planned deforestation” (i.e., included in **management plans of large-scale agricultural and mining concession holders**), and “unplanned deforestation” (i.e., not included in management plans of concessions holders and due to activities of smallholders). Forest degradation is also broken down as “planned degradation” (i.e., logging activities of concession holders) and “unplanned degradation” (largely activities of smallholders contributing to biomass loss in forests).

Language on planned and unplanned activities is also being used in the national forest reference emission level submitted to the UNFCCC and it is common in a context of project development for the voluntary carbon markets. **The TAP report on the advanced ER-PD draft had already expressed doubts around such terminology. Only in some parts of the Final ER-PD document, this distinction has been removed in response to comments received, but this was not done consistently.**

**The TAP reiterates its early observation that it is somewhat misleading that this terminology represents activities as “planned degradation” even in those forest concession where great efforts are being undertaken to manage forests sustainably, including FSC certified forest management. While the document refers in the text to “strengthen SFM practices through REDD+ incentives” to FSC certified forest management companies (page 26 §4)” the option in include a REDD+ SMF strategy is not further explored for those companies.**

<p><b>Ind. 3.2</b> The ER Program accounts for emissions from deforestation. [Description of Sources and Sinks selected – 8.1]</p>	<p><b>YES</b></p>
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Yes, the ER Programme accounts for emissions from deforestation.

<p><b>Ind. 3.3</b> Emissions from forest degradation are accounted for where such emissions are more than 10% of total forest-related emissions in the Accounting Area, during the Reference Period and during the Term of the ER-PA. These emissions are estimated using the best available data (including proxy activities or data). [Description of Sources and Sinks selected – 8.1]</p>	<p><b>YES</b></p>
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Yes, the ER Programme accounts for emissions from forest degradation.

**C. 4 The ER Program should account for, measure and report, and include in the ER Program Reference Level, significant carbon pools and greenhouse gases, except where their exclusion would underestimate total emission reductions.**

<p><b>Ind. 4.1</b> The ER Program accounts for all Carbon Pools and greenhouse gases that are significant within the Accounting Area, both for Reference Level setting and Measurement, Monitoring and reporting (MMR). [Description of Carbon Pools and greenhouse gases selected – 8.2]</p>	<p><b>YES</b></p>
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Yes, the ER-PD includes the significant carbon pools and greenhouse gases, namely carbon dioxide emissions and carbon removals in above-ground biomass and below-ground biomass.

<p><b>Ind. 4.2</b> Carbon Pools and greenhouse gases may be excluded if:</p> <ol style="list-style-type: none"> <li>I. Emissions associated with excluded Carbon Pools and greenhouse gases are collectively estimated to amount to less than 10% of total forest-related emissions in the Accounting Area during the Reference Period; or</li> <li>II. The ER Program can demonstrate that excluding such Carbon Pools and greenhouse gases would underestimate total emission reductions.</li> </ol> <p>[Description of Carbon Pools and greenhouse gases selected – 8.2]</p>	<b>YES</b>
<p>Yes, the ER-PD provides convincing justification of the choice of pools and gases. It is explained that excluding deadwood, litter and soil-organic carbon, as well as greenhouse gases other than carbon dioxide, will likely be conservative and lead to underestimating total emission reductions.</p>	
<p><b>C. 5 The ER Program uses the most recent Intergovernmental Panel on Climate Change (IPCC) guidance and guidelines, as adopted or encouraged by the Conference of the Parties as a basis for estimating forest-related greenhouse gas emissions by sources and removals by sinks.</b></p>	
<p><b>Ind. 5.1</b> The ER Program identifies the IPCC methods used to estimate emissions and removals for Reference Level setting and Measurement, Monitoring and reporting (MMR).</p> <p>[Description of method used for calculating the average annual historical emissions over the Reference Period – 8.3]</p> <p>[Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area– 9.1]</p>	<b>YES</b>
<p>Yes, the ER-PD identifies the IPCC methods used and uses the IPCC 2006 guidelines as a basis for estimating emissions and removals as far as practicable.</p> <p>The TAP interprets the wording under criterion 5, “as a basis”, to mean that methods largely use the same basic concepts of emission factors and activity data, the same basic equations, the same set of approaches to land representation, and matching of emission sub-categories to REDD+ activities. This allows for a certain deviation from the guidelines. In the TAP’s view, using IPCC guidelines “as a basis” also implies the need to identify the specific methods used and to point out deviations where they occur.</p> <p>The ER-PD methods follow the same basic concepts as the IPCC 2006 guidelines. It makes ample reference and draws on many of its equations, its emission factors and approaches. Incomplete application of the IPCC guidelines is, however, common in a REDD+ context, including in the REDD+ reference level submissions to the UNFCCC; the ER-PD thus also deviates in some aspects. For example, the ER-PD focuses on emissions and removals from land-cover/land-use changes that occur during the reference period or during the accounting period. It excludes legacy emissions from land-cover / land-use changes that occurred before the reference period.</p> <p>The TAP considers the incomplete application of the IPCC guidelines unavoidable and common practice in a REDD+ context, and thus acceptable.</p> <p><b>The TAP reiterates its remark made in its former assessment that the ER-PD could be further improved by pointing out deviations more systematically than it currently does.</b></p>	
<p><b>C. 6 Key data and methods that are sufficiently detailed to enable the reconstruction of the Reference Level, and the reported emissions and removals (e.g., data, methods and assumptions), are documented and made publicly available online. In cases where the country’s or ER Program’s policies exempt sources of information from being publicly disclosed or shared, the information should be made available to independent reviewers and a rationale is provided for not making these data publicly available. In these cases, reasonable efforts should be made to make</b></p>	

summary data publicly available to enable reconstruction.	
<p><b>Ind. 6.1</b> The following methodological steps are made publicly available:</p> <ol style="list-style-type: none"> <li>I. Forest definition;</li> <li>II. Definition of classes of forests, (e.g., degraded forest; natural forest; plantation), if applicable;</li> <li>III. Choice of activity data, and pre-processing and processing methods;</li> <li>IV. Choice of emission factors and description of their development;</li> <li>V. Estimation of emissions and removals, including accounting approach;</li> <li>VI. Disaggregation of emissions by sources and removal by sinks;</li> <li>VII. Estimation of accuracy, precision, and/or confidence level, as applicable;</li> <li>VIII. Discussion of key uncertainties;</li> <li>IX. Rationale for adjusting emissions, if applicable;</li> <li>X. Methods and assumptions associated with adjusting emissions, if applicable.</li> </ol> <p>[Forest definition used in the construction of the Reference Level 9.2]  [Description of method used for calculating the average annual historical emissions over the Reference Period 8.3]  [Activity data &amp; emission factors used for calculating the average annual historical emissions over the Ref. Period 8.3]  [Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 9.1]</p>	<b>YES</b>
<p>Yes, these methodological steps are part of the ER-PD, which is publicly available on the FCPF webpage. The ER-PD itself summarizes this information as follows.</p> <ul style="list-style-type: none"> <li>• Forest definition – section 8.2.</li> <li>• Definition of classes of forests – section 8.2.</li> <li>• Choice of activity data, and pre-processing and processing methods – sections 8 and 9.</li> <li>• Choice of emission factors – sections 8 and 9.</li> <li>• Estimation of emissions and removals – section 8.4.</li> <li>• Disaggregation of emissions by sources and removal by sinks – section 8.4.</li> <li>• Estimation of accuracy, precision, and/or confidence level – section 12.</li> <li>• Discussion of key uncertainties – section 12.</li> <li>• Rationale for adjusting emissions – section 8.4.</li> <li>• Methods and assumptions associated with adjusting emissions – section 8.4.</li> </ul>	
<p><b>Ind 6.2</b> For the following spatial information, maps and/or synthesized data are displayed publicly, and reasonable efforts are made to explain how these were derived from the underlying spatial and other data, and to make key data sets or analyses publicly available:</p> <ol style="list-style-type: none"> <li>I. Accounting Area</li> <li>II. Activity data (e.g., forest-cover change or transitions between forest categories)</li> <li>III. Emission factors</li> <li>IV. Average annual emissions over the Reference Period</li> <li>V. Adjusted emissions</li> </ol> <p>Any spatial data used to adjust emissions, if applicable.</p> <p>[Forest definition used in the construction of the Reference Level 9.2]  [Description of method used for calculating the average annual historical emissions over the Reference Period 8.3]  [Activity data &amp; emission factors used for calculating the average annual historical emissions over the Ref. Period 8.3]  [Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 9.1]</p>	<b>YES</b>

Yes, such information is made available at <https://www.forestcarbonpartnership.org/supporting-documents-republic-congo-erpd>. At the time of writing, the information there still needs to be updated for latest revisions.

**C.7 Sources of uncertainty are systematically identified and assessed in Reference Level setting and Measurement, Monitoring and reporting**

**Ind 7.1** All assumptions and sources of uncertainty associated with activity data, emission factors and calculation methods that contribute to the uncertainty of the estimates of emissions and removals are identified.

**YES**

[Activity data and emission factors used for calculating the average annual historical emissions over the Reference Period 8.3]

[Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 9.1]

[Identification and assessment of sources of uncertainty 13.1]

Yes, the ER-PD assesses sources of uncertainty in a systematic manner. The assessment separates between activity data and emission factors to identify a detailed list of error sources.

The uncertainty assessment does not include an uncertainty assessment for the adjustment, there are no processes laid out for minimizing error and aggregate errors are also not reported. The TAP believes that an uncertainty assessment for the adjustment is not feasible because the adjustment is more based on qualitative reasoning than on robust quantification (see indicator 13.3). In the TAP's view, it is therefore acceptable that the uncertainty assessment excludes this part.

**Ind 7.2** The sources of uncertainty identified in Indicator 7.1: are assessed for their relative contribution to the overall uncertainty of the emissions and removals.

**YES**

[Identification and assessment of sources of uncertainty 13.3]

Yes, the ER-PD contains information on the magnitude of individual error sources and errors for individual variables. Such information is required input for aggregating errors and the Monte-Carlo analysis that the ER-PD undertakes.

The TAP interprets indicator 7.2 to ask for undertaking an effort to quantify individual error sources where feasible, e.g., providing individual error estimates through coefficients of variation or similar for the most important variables. This does not necessarily imply a comprehensive item-by-item quantification of all error sources for all variables. Nor does this entail quantifying the relative contribution of error sources to the aggregate error, which could only be done through a complex and technically demanding sensitivity analysis. (Such a sensitivity analysis apportions overall uncertainty between factors. It tracks how aggregate estimates change when varying individual factors.)

**C 8 The ER Program, to the extent feasible, follows a process of managing and reducing uncertainty of activity data and emission factors used in Reference Level setting and Measurement, Monitoring and reporting.**

<p><b>Ind 8.1</b> Systematic errors are minimized through the implementation of a consistent and comprehensive set of standard operating procedures, including a set of quality assessment and quality control processes that work within the local circumstances of the ER Program.</p> <p>[Activity data and emission factors used for calculating the average annual historical emissions over the Reference Period, 13.2]  [Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area]</p>	<b>YES</b>
<p>Yes, the ER-PD includes an approach for minimizing systematic error both regarding emission factors and regarding activity data.</p> <p>Minimizing systematic error in the measurement of deforestation and forest degradation areas is part of the quality control process for remote sensing results, i.e., the accuracy assessment. It is explained above under indicator 14.2 how area measurements for deforestation and forest degradation area are drawn from sample-based measurements and not from wall-to-wall mapping. Such a process is equivalent to measuring bias of wall-to-wall mapping results through samples and correcting for the bias. The approach could be described more clearly in the ER-PD, but the way it was explained during the assessment process it complies with commonly accepted good practices.</p> <p>Some aspects of the bias-correction procedure are not laid out in detail in the ER-PD. The ER-PD team clarified during the review that the calculations applied a bias-correction factor to translate the map pixel counts into calculate deforestation and forest degradation areas. Although the ER-PD does not describe this process, the results are summarized in Table 34 on page 153. It is unclear to the TAP why then the total deforestation areas in Table 34 do not match those in Table 72 on page 235 (divided by ten to get to annual estimates). Both of these should reflect the results from the sample-based measurement of deforestation area.</p> <p>Systematic errors are also identified and corrected for regarding the measurement of forest biomass density from LIDAR data (see indicator 14.3).</p>	
<p><b>Ind 8.2</b> Random errors and other uncertainties are minimized to the extent practical based on the assessment of their relative contribution to the overall uncertainty of the emissions and removals.</p> <p>[Activity data and emission factors used for calculating the average annual historical emissions over the Reference Period 10, 13]  [Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 9.1]  [Identification and assessment of sources of uncertainty 13.1]</p>	<b>YES</b>
<p>Yes, the ER-PD describes well the effort to minimizing random errors. For each error source, structured information is provided on how errors are minimized.</p> <p>This detailed effort for minimizing random error is not actually based on a quantification of the relative contribution of error sources to the overall uncertainty of emissions and removals. In fact, the ER-PD does not currently assess relative contributions in a systematic way nor does it prioritize further data collection accordingly (see indicator 7.2).</p> <p>In the TAP's view, the ER-PD could be further improved by considering further data collection and iterative improvement of estimates based on a systematic assessment of error sources for their relative contributions to overall error.</p>	
<p><b>C 9 Uncertainty of activity data and emission factors used in Reference Level setting and Measurement, Monitoring and reporting is quantified in a consistent way, so that the estimation of emissions, removals and Emission Reductions is comparable among ER Programs</b></p>	

**Ind 9.1** Uncertainty associated with activity data and emission factors is quantified using accepted international standards, for example by providing accuracy, confidence interval, distribution of error, and propagation of error. Where errors in data and methods are considered large as defined in IPCC Guidelines, Monte Carlo methods (numerical simulations) should be used to estimate uncertainty

[Activity data and emission factors used for calculating the average annual historical emissions over the Reference Period 13.1]  
[Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 9.1]

**NO**

No, it cannot be confirmed that the ER-PD applies accepted international standards for uncertainty analysis.

The uncertainty analysis applies commonly accepted good practice on many aspects. For the key variables accuracies and confidence levels are specified. Errors are propagated drawing on simulation techniques and distributional assumptions. The ER-PD proposes an aggregate conservativeness factor of 8% although the estimated total error would have corresponded to a lower 4% conservativeness factor.

Despite the clear effort to apply commonly accepted good practice, the TAP believes that the ER-PD underestimates total error with the current 16.98% of mean historical emissions at the 90% level. The TAP identified the following issues surrounding the approaches to error aggregation:

- It was surprising that Table 73 on page 244 has an activity data error of 4% only (at 90% confidence level). Table 72 on page 235 shows an error of about 10% (standard deviation over mean) for forest degradation and about 28% (standard deviation over mean) for forest degradation, which together gets to about 10% of the mean at 90% confidence level. A possible explanation for the discrepancy might be that the accuracy assessment considered a map with broad class of "deforestation" and "forest degradation". Disaggregating this into more granular classes (e.g., PFD-BAR and about a dozen others) and then re-aggregating it through error propagation underestimates the total error.
- The Monte Carlo analysis for error aggregation used a uniform error distribution and not the normal distribution that is the default in these contexts. The functions in MATLAB for both distributions are easy to confuse ("rand()") and "randn()") and there may be a coding mistake here that has led to significantly underestimating error.

Beyond these doubts on the magnitude of error estimates, the TAP found that the ER-PD's uncertainty analysis was hard to understand. For one, those parts addressing the (otherwise very well conducted) uncertainty analysis of LIDAR-based estimation of forest biomass stocks seem to have been written for a very knowledgeable technical audience only. The ER-PD would benefit from editing some of the text to make it better accessible to a less specialized audience. Secondly, some parts of the uncertainty analysis were carried out in specialized scripting software (MATLAB) and are therefore not accessible to anyone but a small group of experts. The TAP points out that the methodological framework requires using Monte Carlo analysis for aggregating error, which is hardly implementable without recourse to specialized software. It is therefore difficult to propose a more transparent solution.

It seems that the Monte Carlo analysis was conducted using a preliminary dataset of area estimates and related errors that was available in the second half of 2016 already when the analysis was conducted. This is why the output shows different means and standard deviation from the activity data actually used in calculations. Otherwise, the outputs would have been expected to have the same distribution that was input in the first place. Usually, the TAP would have expected the uncertainty analysis to look at the actual data used for emission estimation and not preliminary datasets.

In the view of the TAP, such issues surrounding the uncertainty analysis only have limited impact on expected total emission reduction estimates. They may have no impact at all, since the ER-PD already proposes an 8% conservativeness factor instead of the 4% that corresponds to the current error estimates. The TAP nonetheless

<p>finds it important to estimate errors correctly to provide an accurate notion of what accuracy is achievable in estimating forest-sector emissions.</p>	
<p><b>Ind 9.2</b> Uncertainty of the estimate of Emission Reductions is quantified using Monte Carlo methods. Underlying sources of error in data and methods for integrated measurements of deforestation, forest degradation and enhancements (e.g., as in a national forest inventory) are combined into a single combined uncertainty estimate and are reported at the two-tailed 90% confidence level</p> <p>[Quantification of uncertainty in Reference Level setting 13.2]</p>	<p><b>YES</b></p>
<p>Yes, the uncertainty analysis relies on simulation techniques among other things and uses uncertainty estimates with confidence levels at 90% confidence level. The ER-PD combines uncertainties into a single uncertainty estimate.</p> <p>In an apparent effort to comply with the requirements of this indicator, the ER-PD includes a Monte Carlo analysis for the final error aggregation between emission factors and activity data to arrive at error in emission estimates. The TAP points out that such aggregation could easily have been done using much simpler and therefore more transparent error propagation techniques. Simulation techniques are more useful than error propagation is, where an effort is undertaken to model more complex error composition. Albeit not for the activity data, the ER-PD undertakes this for its emission factors. Using simulation techniques for the final error aggregation between emission factors and activity data seems unnecessary.</p>	
<p><b>Ind 9.3</b> Uncertainty of Emissions Reductions associated with deforestation, forest degradation and enhancements are reported separately if measured through separate (i.e., non-integrated) approaches and when degradation is estimated using proxy data.</p> <p>[Quantification of uncertainty in Reference Level setting 13.2]</p>	<p><b>YES</b></p>
<p>Yes, the uncertainties are assessed separately for deforestation and forest degradation. These are also measured through separate approaches</p>	
<p><b>C 10 The development of the Reference Level is informed by the development of a Forest Reference Emission Level or Forest Reference Level for the UNFCCC</b></p>	
<p><b>Ind 10.1</b> The Reference Level is expressed in tons of carbon dioxide equivalent per year</p> <p>[Estimated Reference Level 9.7]</p>	<p><b>YES</b></p>
<p>Yes, the reference level is expressed in tonnes of carbon dioxide equivalent per year.</p>	
<p><b>Ind 10.2</b> The ER Program explains how the development of the Reference Level can inform or is informed by the development of a national Forest Reference Emission Level or Forest Reference Level, and explains the relationship between the Reference Level and any intended submission of a Forest Reference Emission Level or Forest Reference Level to the UNFCCC</p> <p>[Relation between the Reference Level, the development of a FREL/FRL for the UNFCCC and the country's existing or emerging greenhouse gas inventory 9.8]</p>	<p><b>YES</b></p>

Yes, the ER-PD shows in sections 8.6 and 9.3 how the approaches at the programme level and at the national level work together and inform each other.

In the TAP's view, the various data collection efforts referred to under indicators 10.2, 10.3 and 15.1 are all closely related and need to be understood together. The national forest monitoring system should provide input for both the national forest reference emissions level submitted to the UNFCCC and the national GHG inventory. The ER-PD's approach, in turn, should largely be based on the national-level approach. It can also function as a pilot to test approaches for later upscaling to the national level. These two directions of information exchange between national and programme approaches are both occurring in the case at hand.

The TAP also observes that methodological congruence could be further improved. This is because work proceeds in parallel at the national and programme level. This is also because more detailed approaches are being tested at the programme level and possible upscaling can only be considered subsequently. More details on methodological congruence are available under indicator 15.1.

The ER-PD includes a detailed analysis of methodological congruence with the national forest reference level and with the national forest monitoring system, but it does not include a detailed comparison against the national GHG inventory. This is why the TAP has in the current version rated indicators 10.2 and 15.1 as "Yes" and rated indicator 10.3 as "No".

**Ind 10.3** The ER Program explains what steps are intended in order for the Reference Level to achieve consistency with the country's existing or emerging greenhouse gas inventory

**NO**

[Relation between the Reference Level, the development of a FREL/FRL for the UNFCCC and the country's existing or emerging greenhouse gas inventory 9.6]

No, the ER-PD does not currently discuss the relation to the national GHG inventory beyond a generic statement that there is work ongoing to align the ER-PD's results with the national GHG inventory. The TAP can confirm that such work is indeed ongoing for the programme approach and national data collection efforts to inform each other (see indicators 10.2 and 15.1).

The TAP therefore reiterates its recommendation from earlier versions of this TAP report to add information of relevance for the national GHG inventory.

**C 11 A Reference Period is defined**

**Ind 11.1** The end-date for the Reference Period is the most recent date prior to two years before the TAP starts the independent assessment of the draft ER Program Document and for which forest-cover data is available to enable IPCC Approach 3. An alternative end-date could be allowed only with convincing justification, e.g., to maintain consistency of dates with a Forest Reference Emission Level or Forest Reference Level, other relevant REDD+ programs, national communications, national ER program or climate change strategy

**YES**

[Reference Period 9.1]

Yes, the ER-PD's proposed reference period extends until 2012, while the TAP started its assessment in 2016 and the date two years prior was 2014.

The ER-PD complies with the indicators for the reference period, nonetheless the TAP found their assessment difficult. The difficulties did not relate to setting the reference period itself, but to the approach for building the reference level from historical average emissions observed during the reference period. The TAP observes that the methodological framework does not include indicators to guide how this should be done.

Although the methodological framework refers in several places to 'adjustments above annual historical emissions

during the reference period’, the reference level is not actually calculated based on the historical average emissions during the reference period. Rather, it is calculated from a model of likely future emission trends with several components. Although historical emissions are one among many variables in that model of likely future emission trends, the historical emissions 2013-2015 are used and not the historical emission during the reference period.

With the approach taken, the historical average emissions during the reference period are chiefly important because the reference level is limited to a certain amount above them through indicator 13.4’s 0.1% criterion. **Other than this, they are not a term in the calculations carried out.**

**The TAP further notes that the proposed model exceeds historical trends during the period of 2003-2012. For all years of the programme period, the model’s projected emissions are much larger than average historical emissions. The ER-PD section 8.5 explains how the average historical emissions amount to approximately 6.1m tCO<sub>2</sub>e per year. The ER-PD section 8.4 shows that the model predicts emissions that exceed the historical average by an amount of 6.3m-8.9m tCO<sub>2</sub>e per year (the adjustment itself is of smaller because it is capped as per indicator 13.4).**

**Ind 11.2** The start-date for the Reference Period is about 10 years before the end-date. An alternative start-date could be allowed only with convincing justification as in Indicator 11.1, and is not more than 15 years before the end-date.  
[Reference Period 9.1]

**YES**

Yes, the ER-PD proposes 2003 as start date for the reference period, which is 10 years before the end-date (2012).

**C 12 The forest definition used for the ER Program follows available guidance from UNFCCC decision 12/CP.17**

**Ind 12.1** The definition of forest used in the construction of the Reference Level is specified. If there is a difference between the definition of forest used in the national greenhouse gas inventory or in reporting to other international organizations (including an Forest Reference Emission Level or Forest Reference Level to the UNFCCC) and the definition used in the construction of the Reference Level, then the ER Program explains how and why the forest definition used in the Reference Level was chosen.  
[Forest definition used in the construction of the Reference Level 9.2]

**YES**

Yes, the definition of forest is specified and in line with the definition used in the national forest monitoring system. The ER-PD applies a forest definition that was developed for the national forest monitoring system in early 2014 and which is yet to be incorporated into an updated forest code.

The ER-PD does not yet review in detail what forest definitions the country has used in its reporting to international contexts, including the FAO, past national GHG inventories and in the country’s INDC. **The TAP reiterates a recommendation from earlier versions of this TAP report to add this information to the ER-PD.**

The applied forest definition is based on a mixture of forest-cover and land-use related criteria. The ER-PD is transparent about this point and explains in detail how forests are separated from agricultural land uses. For example cocoa plantations are still considered as **forests** while oil palm plantations are croplands. **It may surprise that cocoa plantations be classified as forests because of an arguably predominant agricultural land use. In the ER-PD’s logic this is because cocoa plants are grown under tree cover. Considering cocoa plantations as agricultural lands would have qualified their establishment in existing forests as deforestation;** however, the way the ER-PD sets the forest definitions avoids such qualification.

**The ER-PD’s approach to measuring historical forest area changes follows the forest definition also regarding the minimum forest area of 0.5 ha. This had been less clear in earlier versions of the ER-PD that still used pixel counts from forest area maps to determine activity data. The current ER-PD version relies on a sampling approach to**

measure activity data where the interpreters consider the contextual information around sample locations for their assessment in order to determine if a certain observed pixel is embedded in a forested area of at least 0.5 ha. In the view of the TAP, this is an adequate approach to be used.

**C 13 The Reference Level does not exceed the average annual historical emissions over the Reference Period. For a limited set of ER Programs, the Reference Level may be adjusted upward by a limited amount above average annual historical emissions. For any ER Program, the Reference Level may be adjusted downward.**

**Ind 13.1** The Reference Level does not exceed the average annual historical emissions over the Reference Period, unless the ER Program meets the eligibility requirements in Indicator 13.2. If the available data from the National Forest Monitoring System used in the construction of the Reference Level shows a clear downward trend, this should be taken into account in the construction of the Reference Level

**YES**

[Average annual historical emissions over the Reference Period 9.6, 13.2]

Yes, the ER-PD complies with the indicator.

Although the reference level exceeds the average annual historical emissions, eligibility requirements are discussed under indicator 13.2. The available data do not show a clear downward trend.

**Ind 13.2** The Reference Level may be adjusted upward above average annual historical emissions if the ER Program can demonstrate to the satisfaction of the Carbon Fund that the following eligibility requirements are met:

**YES**

(i) Long-term historical deforestation has been minimal across the entirety of the country, and the country has high forest cover (country or jurisdictional area);

(ii) National circumstances have changed such that rates of deforestation and forest degradation during the historical Reference Period likely underestimate future rates of deforestation and forest degradation during the Term of the ERPA.

[Explanation and justification of proposed upward or downward adjustment to the average annual historical emissions over the Reference Period, Quantification of the proposed upward or downward adjustment to the average annual historical emissions over the Reference Period 9.6].

Yes, the two requirements are met. The ER-PD includes a **comprehensible** justification for the need for an adjustment.

**Regarding item (i)**

Yes, the two sub-requirements are met. In Congo long-term historical deforestation has been minimal. The ER-PD's section 8.4 indicates the annual historical deforestation rate of 0.052% during 2000-2012 and a current forest cover of close to 70%. (The "entirety of the country" is understood to refer to Congo as a whole and not to the programme area or any other sub-area).

**Regarding item (ii)**

Yes, the ER-PD includes a convincing explanation that the circumstances of deforestation and forest degradation have changed. ("National circumstances" as per this indicator 13.2 is understood to refer to "programme circumstances as per indicator 13.3". Specific programme circumstances are understood to set the ER programme apart from other similar REDD+ programmes. The TAP understands programme circumstances to refer to long-term trends in the underlying causes of deforestation and forest degradation.)

Among other points, the ER-PD's section 8.4 lists the following important changes to programme circumstances that

the TAP discusses here because they are basis for quantification of adjustment in the subsequent step.

- **Increasing population density.** Population density grows at a considerable rate in the programme area, particularly in those areas where infrastructural development is taking place, leading to in-migration. Such population growth has been occurring already during the reference period, and in fact the ER-PD relies on census data from 2007-2010 within the reference period for its quantification. But since the population grows exponentially, in absolute numbers the reference period does not well represent future population density, and its potential impact on deforestation and forest degradation. Overall, the TAP finds the reasoning on population growth convincing.
- **Increased momentum for development in several industry sectors,** leading to increasing agricultural/cash crop and mining concession areas. The ER-PD explains how the programme area currently undergoes rapid economic development. A new development plan is being implemented that aims to diversify the economy away from petroleum. The forest concession area had been stable for more than 15 years until recently when new logging concessions were allocated. Also, new industrial concessions have recently been designated for oil palm and mining (**which were based on governmental decisions**). With this, activity levels in concessions during the reference period therefore do not adequately represent likely future activity levels. The TAP finds it appropriate to refer to such increased development momentum as a ‘circumstance’ of governmental decision making in issuing concessions that potentially lead to deforestation. Clearly, designating more concessions is entirely under government control and could therefore also be thought to simply be a government activity and not its ‘circumstance’. But the TAP points out that the ER-PD proposes an adjustment not truly for increased concession activities – but for the underlying increasing development momentum. Besides, the new development plan and most of the new concession areas were already adopted years before the ER-PD was developed. The TAP can agree to the proposed reasoning.
- **Increased access to forest areas.** Some of the infrastructure in the programme area has recently undergone significant upgrading and improved access to the forest area. Access to forests during the reference period therefore does not adequately represent future access. Overall, the TAP finds this argument convincing.

The ER-PD also supports the hypothesis of an upward trend in deforestation and forest degradation rate through direct observation. There are measurements available also for the years 2013-2015 that show an accelerated trend when compared against the observations for the reference period 2003-2012. These observations corroborate the ER-PD’s discussion of an accelerating trend.

**Ind 13.3** For countries meeting the eligibility requirements in Indicator 13.2, a Reference Level could be adjusted above the average historical emission rate over the Reference Period. Such an adjustment is credibly justified on the basis of expected emissions that would result from documented changes in ER Program circumstances, evident before the end-date of the Reference Period, but the effects of which were not fully reflected in the average annual historical emissions during the Reference Period. Proposed adjustments may be rejected for reasons including, but not limited to:

- The basis for adjustments is not documented; or
- Adjustments are not quantifiable.

[Explanation and justification of proposed upward or downward adjustment to the average annual historical emissions over the Reference Period, Quantification of the proposed upward or downward adjustment to the average annual historical emissions over the Reference Period 9.6]

**YES**

Yes, the ER-PD complies with the requirements of the indicator.

To reach to this conclusion, the TAP considers the four criteria of the indicator: Is it documented? Is it evident during the reference period? It is not fully reflected during the reference period? Is it quantifiable? These are assessed separately for each of the adjustment components: data beyond the reference period, population density, increased development momentum, and increased access.

Particularly difficult for the TAP was to assess the approaches taken to **quantification** of adjustment. In the TAP's view a reliable prediction of future deforestation and forest degradation trends is not feasible. In related scientific work, even the most complex models have been shown to produce highly uncertain results (see e.g.: Schmitz et al. 2014. Land-use change trajectories up to 2050 – insights from a global agro-economic model comparison; Agric Econ 45(1); UN-REDD. 2015. Technical considerations for FREL construction for REDD+ under the UNFCCC). Indeed, the ER-PD's uncertainty analysis does not address, and could not usefully address, the adjustment calculations. With this, a sensible approach to quantification needs to be based on plausible arguments, but it cannot be a requirement to deliver accurate or robust estimates. In order to obtain clarity on the appraisal of the approaches taken to quantification, the TAP took note of the UK paper on flexibility in the Methodological Framework regarding adjustment that proposes to: *“Recognise it can be difficult to quantify and document the most likely scenario. Can be more lenient and amenable to simple but convincing justifications of adjustments”*.

**(i) Regarding data beyond the reference period**

The adjustment is **documented** because it draws on actual observation. It is not **evident** during the reference period because it reflects what happens after that period. For the same reason, It is **not fully reflected** during the reference period. It is **quantifiable** since it relates to actual observation.

**(ii) Regarding increasing population density**

The adjustment is **documented** by drawing on census statistics. The change in circumstances is **evident** because the census was conducted during the reference period. The increased population density is **not fully reflected** during the reference period because the growth is exponential (see indicator 13.2). It is **quantifiable** by making several strong assumptions.

The assumptions required for quantification are: firstly, of a direct proportionality between population density and deforestation, secondly, of having an accurate estimate of historical population growth although there is little known on the census methodology applied, thirdly, of continuity in that exponential trend over a long time period. The TAP finds the quantification approach attractive in its simplicity.

**(iii) Regarding increased momentum for development in several industry sectors**

The change in circumstances is **documented** from the recent development strategy and the many new (agro-industry and mining) concessions that were issued over the past years. This development was already **evident** during the reference period when the development strategy was adopted. It is, however, **not yet fully reflected** during the reference period because mostly the new concessions only begin operating after 2012. Although immensely difficult, the ER-PD undertakes an effort to **quantify** the impact of the increased development momentum with new concessions.

For **quantifying** expected emissions in new concession areas, the ER-PD comes with a set of spreadsheets that undertake this quantification and translate concession management plans into expected GHG emissions. The TAP undertook an effort to analyse these spreadsheets and retrace some of the calculations. Generally, the TAP concluded that the spreadsheets are designed to arrive at an accurate reflection of possible future emissions in concessions. Although there is considerable uncertainty on whether business plans will actually be implemented as such, the ER-PD arguably reflects best available information. The TAP also found the spreadsheets difficult to follow.

**This is part of the reason for an earlier recommendation by the TAP to simplify the approach; the TAP reiterates this recommendation again.**

**(iv) Regarding increased access to forests**

The change in circumstances is directly **documented** through the work carried out in an improved road network. During the assessment, the ER-PD team explained that the road building work has been started during the reference period and the expected development was therefore already **evident**. The increased access is **not fully reflected** yet during the reference period because the road was only completed during the reference period. **Quantifying** the likely impacts of the road construction on direct deforestation and forest degradation nonetheless remains difficult at the

current stage.

As an attempt for **quantification**, the ER-PD includes a spatial model drawing on probability calculations in a set of spreadsheets and a geographic information system. Together with the ER-PD's technical team, the TAP undertook an effort to follow this methodology and understand some of its assumptions and calculations. The technical team clearly strives for greatest possible accuracy and transparency in its modelling effort. With the extraordinary effort undertaken, the resulting model is highly complex. **This is part of the reason for an earlier recommendation to simplify the approach, which the TAP had made earlier and which the TAP reiterates here again.**

**Summary**

The TAP does not generally have concerns regarding the need for an adjustment (see indicator 13.2) or regarding the magnitude proposed; any concerns on this are mitigated by the methodological framework's cap on the adjustment as per indicator 13.4, which functions as a safeguard against potential erroneous estimations.

Specifically on the quantification, the ER-PD includes an immense modelling effort with the true attempt to reach to plausible estimates. Although, in the TAP's view, clearly future land-use trends are almost impossible to predict in a robust way.

The TAP still has concerns that relate to an overly complex approach taken in the ER-PD to quantify future emission trends. The use of models introduces considerable methodological complexity. In the TAP's view, the complexity creates an illusion of soundness. The TAP would have preferred (as recommended earlier) an **approach towards more simplicity, e.g., relying on ratio calculations and avoiding a modelling exercise altogether. In the TAP's view, this would have introduced more transparency about limitations to what is achievable in this kind of exercise.**

**Ind 13.4** An adjustment of the Reference Level above the average annual historical emissions during the Reference Period may not exceed 0.1%/year of Carbon Stocks

**YES**

[Explanation and justification of proposed upward or downward adjustment to the average annual historical emissions over the Reference Period, Quantification of the proposed upward or downward adjustment to the average annual historical emissions over the Reference Period 9.6]

Yes, the proposed adjustment is limited to 0.1% per year of carbon stocks.

Section 8.4 estimates 0.1% of carbon stocks at 6.7m tCO<sub>2</sub>e. ER-PD section 8.5 explains how the adjustment is capped accordingly. All individual years are within the cap proposed.

**C 14 Robust Forest Monitoring Systems provide data and information that are transparent, consistent over time, and are suitable for measuring, reporting and verifying emissions by sources and removals by sinks, as determined by following Criterion 3 within the proposed Accounting Area**

**Ind 14.1** The ER Program monitors emissions by sources and removals by sinks included in the ER Program's scope (Indicator 3.1) using the same methods or demonstrably equivalent methods to those used to set the Reference Level.

**YES**

[Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 10.1]

Yes, the ER-PD proposes to use the same approach for programme monitoring that was applied for determining historical emissions for the reference period. **The TAP reiterates a recommendation from the last version of this report related to some remaining ambiguity in Table 62 regarding the minimum mapping unit to be applied that should be removed when producing the final ER-PD (see indicator 12.1).**

**Ind 14.2** Activity data are determined periodically, at least twice during the Term of the ERPA, and allow for ERs to be estimated from the beginning of the Term of the ERPA. Deforestation is

**YES**

determined using IPCC Approach 3. Other sinks and sources such as degradation may be determined using indirect methods such as survey data, proxies derived from landscape ecology, or statistical data on timber harvesting and regrowth if no direct methods are available

[Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 9.1]

Yes, the ER-PD complies with the indicator. Activity data are determined periodically, allowing estimation from the beginning of the ERPA term, and deforestation area is measured in a spatially explicit manner.

The ER-PD's calculations use a sample-based approach to area measurement. This is a significant update from earlier ER-PD versions that had relied on wall-to-wall pixel counts of forest area maps for activity data. The update in the ER-PD had become necessary because a careful accuracy assessment of land-cover classification results in earlier versions of the ER-PD had identified a significant systematic error in classification. Using sample-based approaches based on map stratification is equivalent to using map-derived estimates with a bias correction estimated from samples. Such sample-based approaches are increasingly considered good practice because they are less prone to be biased than wall-to-wall approaches. In shifting methods, the ER-PD team undertook a significant effort and explained the process in detail to the TAP during the assessment. The ER-PD itself could be made more explicit in describing that the area measurements were derived from sample-based approaches as this does not become clear to the reader.

In respect to the defined 'degraded and secondary forest', it includes logged-over forest, cocoa plantations with shade trees and arguably also some subsistence agriculture area; The TAP questions if the monitoring approach is able to reflect changes between such land uses. For example, the proposed initiative envisions promoting the conversion of logged-over forest to cocoa plantations with shade trees. With the definitions applied, both of these mostly fall into the class 'degraded forest' and such conversion would not be picked up as a change at all. The results would not reflect any qualitative change from the establishment of cocoa plantations underneath remaining trees in logged-over forests. The ER-PD team might want to reflect on this issue and provide some clarity.

The TAP points further out that, although deforestation is determined in a spatially explicit manner, calculations do not actually use this spatial detail and instead aggregate data into three broad average forest classes. This issue is relevant also for indicator 14.3.

In the TAP's view, the assessment of indicators 14.2 (and criterion 22) is difficult (referring) to IPCC approach 3 to land representation. The approaches 2 and 3 to land representation deal with degrees of spatial explicitness. The approach 2 is based on totals of land-use area in conversion categories, the approach 3 looks at spatially-explicit land-use conversion data. For indicator 14.2, the TAP focused on the availability of spatially explicit observations on land-cover change and associated emission factors, which led to a "Yes" rating because the ER-PD draws on spatially explicit observations of land-cover change and spatially explicit emission factors. (For criterion 22 the TAP focused on the ER-PD's use of "direct methods" for deforestation, forest degradation and carbon stock enhancement, which also led a positive rating).

The ER-PD's section 9.1 describes the schedule for the collection of activity data during programme monitoring. Measurements will be carried out at least biennially. Although the programme period starts in 2018 only, the ER-PD clarifies that the identification of change will rely on comparison against a 2015 base map. This means that interpolation will be necessary to arrive at annual estimates. For example, should a first monitoring event be scheduled for 2019 (as the ER-PD suggests), then comparing against the base map will deliver cumulative change for 2015-2019, which will allow to estimate also annual change as of programme start in 2018. In principle, this approach is similar to what is being done for the reference level too, which calculates annual emissions from periodic measurements every 3-4 years. The TAP considers this an acceptable approach.

Although the ER-PD team has not taken up a related recommendation from earlier versions of this TAP report, the TAP reiterates its recommendation that the ER-PD should be more explicit on this important methodological point, also explaining why there is no plan to produce a 2017/2018 base map that would allow for more seamless change

estimation from the start of the ER-PA term.

**Ind 14.3** Emission factors or the methods to determine them are the same for Reference Level setting and for Monitoring, or are demonstrably equivalent. IPCC Tier 2 or higher methods are used to establish emission factors, and the uncertainty for each emission factor is documented. IPCC Tier 1 methods may be considered in exceptional cases  
[Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 10.1]

**YES**

Yes, it is proposed to use the same set of emission factors for reference level setting and programme monitoring and most of the emission factors were determined using advanced methods, including a detailed uncertainty assessment.

The ER-PD's most important emission factors are based on observed forest biomass densities, derived from LIDAR observations using the satellite-based GLAS sensor, and calibrated using field-based forest inventory results.

During the review it was also clarified that the key reason for basing emission factor estimation on LIDAR modelling, rather than field-based forest inventory results, was that the approach delivered more accurate estimates. This is not surprising because the national forest inventory was designed for a national level assessment, and using its results at the level of Sangha and Likouala provinces only will entail large error. In addition, during the review it was pointed out that Congo is currently considering replicating the ER-PD's LIDAR-based approach also at the national level to collect more detailed and accurate information about forest biomass densities (see indicator 15.1).

According to ER-PD section 8.3, although the error is different, the mean estimates for the ER-PD's LIDAR-based carbon stock densities are similar to the results of the field-based national forest inventory. In undisturbed natural forest, above-ground biomass was estimated to contain 162.03 tonnes of carbon per hectare and 158.48 tonnes of carbon per hectare according to the national forest inventory and to the LIDAR-based approach. In modified natural forest, above-ground biomass was estimated to contain 114.98 tonnes of carbon per hectare and 104.95 tonnes of carbon per hectare according to the national forest inventory and to the LIDAR-based approach.

The ER-PDs' LIDAR-based map of biomass densities would, in principle, allow for establishing the most important emission factors in a spatially explicit manner. Emissions and removals from observed land-cover change would then be estimated according to the forest structure at the locations where it occurs. The ER-PD does not propose such spatially explicit emission factors but aggregates the measurements from the LIDAR-based carbon map into just one emission factor.

#### **C 15 ER Programs apply technical specifications of the National Forest Monitoring System where possible**

**Ind 15.1** ER Programs articulate how the Forest Monitoring System fits into the existing or emerging National Forest Monitoring System, and provides a rationale for alternative technical design where applicable.

[Relation and consistency with the National Forest Monitoring System 10.3]

**YES**

Yes, the ER-PD shows in sections 8.6 and 9.3 how the approaches at the programme level and at the national level work together and inform each other, both in terms of reference level setting and underlying forest monitoring.

There are also cases where the ER-PD opts to use approaches that are not in alignment with the national forest monitoring system and the national forest reference emission level submitted to the UNFCCC. These cases are generally well explained in the ER-PD's section 8.6. The TAP has no major concern in respect to the methodological deviations.

Notably, the ER-PD's approaches to establishing activity data and emission factors are also being tested at the national level and may therefore be upscaled to become part of the national forest monitoring system.

- Although earlier versions of the national forest reference emission level were based on different approaches, work is currently ongoing to replicate the ER-PD’s methods at the national level. A new set of activity data is under development with support from the ER-PD’s technical team. This new set of activity data will include direct mapping of both deforestation and forest degradation from earth observation information.
- The ER-PD relies on a LIDAR-based carbon map to establish many of its emission factors, but at the national level, the corresponding emission factors are built from the national forest inventory. The ER-PD explains that a different approach had to be applied at the programme level in order to reduce error (see indicator 14.3). Also, the ER-PD explains that an effort will be undertaken to explore the feasibility of upscaling the approach to the national level.

**C 16 Community participation in Monitoring and reporting is encouraged and used where appropriate**

**Ind 16.1** The ER Program demonstrates that it has explored opportunities for community participation in monitoring and reporting, e.g., of ER Program Measures, activity data, emission factors, safeguards and Non-Carbon Benefits, and encourages such community participation where appropriate  
 [Measurement, monitoring and reporting approach for estimating emissions occurring under the ER Program within the Accounting Area 10.1, 10.3]

**YES**

Yes, during the review it was explained that opportunities for community participation in monitoring and reporting have been explored.

It was clarified that community representatives participated in validation of the proposed approach for measuring emissions and removals. It was clarified that community representatives will also be engaged going forward in validating results reports. The TAP finds this level of community engagement in emissions and removal monitoring appropriate.

**C 17 The ER Program is designed and implemented to prevent and minimize potential displacement**

**Ind 17.1** Deforestation and degradation drivers that may be impacted by the proposed ER Program measures are identified, and their associated risk for displacement is assessed, as well as possible risk mitigation strategies. This assessment categorizes Displacement risks as high, medium or low.  
 [Identification of risk of Displacement 11.1]

**YES**

Yes, the ER-PD identifies the deforestation and forest degradation drivers to be impacted by the programme. It systematically assesses and categorizes displacement risks.

**However, as already noted in the past TAP review,** the TAP found it difficult to follow all individual risk ratings. Some programme measures will invariably lead to reducing commodity production volumes, notably this is true for conversion of logged to protected forests and for reduced forest conversion in oil palm plantations. Such reduced output would be expected to create the risk for displacement of the production shortfall elsewhere.

With this the TAP found it difficult to understand the rating as “low” risk for displacement, especially regarding market displacement from reduced production volume. Regarding conversion of logged to protected forests, it may also be helpful to separate the assessment of reduced impact logging techniques (which are said not to create a shortfall in wood products) from the conversion of logged to protected forests (which will indeed create a shortfall in wood products).

Moreover, it was not entirely clear to the TAP to which extent some of the ‘degraded forest’ that the programme aims to under-plant with cocoa (still considered as ‘degraded forest’) may be source of subsistence for the local

<p>population, e.g., existing shifting cultivation fields or homegardens. When replaced by cocoa plantations, such source of subsistence would be lost. The ER-PD does not fully address this issue.</p> <p>Also, the ER-PD states that most of the cocoa plantations will be established within the forest, by removing the understory and using the large canopy trees as shades. It needs to be noted that in the longer term this would hamper natural regeneration of forest trees and over time, such areas would per se be converted from forests to non-forest. Such conversion is, however, not picked up by the ER-PD’s monitoring approach because this kind of cocoa plantation is classified as ‘degraded forests’.</p> <p><b>The TAP reiterates a recommendation from earlier versions of this TAP report to clarify</b> these issues when further revising the ER-PD. Although individual risk ratings could have been undertaken differently, this would not lead to a revision to the displacement risk strategy or trigger any other need to revise the ER-PD and its proposed activity. This is why the indicator is rated as a “Yes”.</p>	
<p><b>Ind 17.2</b> The ER Program has in place an effective strategy to mitigate and/or minimize, to the extent possible, potential Displacement, prioritizing key sources of Displacement risk.</p> <p>[ER Program design features to prevent and minimize potential Displacement 11.2]</p>	<p><b>YES</b></p>
<p>Yes, the ER-PD includes strategy for mitigating displacement risks that is effective to the extent possible.</p> <p>This strategy is laid out in detail for the mitigation activities to be undertaken. The TAP observes that the displacement risk strategy cannot be expected to be fully effective, especially with regards to those mitigation activities that will create a production shortfall, notably this is true for conversion of logged to protected forests and for reduced forest conversion in oil palm plantations. Regarding the latter, the ER-PD states that resulting market leakage cannot be mitigated. The TAP finds it acceptable to transparently point out these limitations.</p>	
<p><b>Ind 17.3</b> By the time of verification, the ER Program has implemented its strategy to mitigate and/or minimize potential Displacement</p>	<p><b>N.A</b></p>
<p>Only applicable at the time of verification.</p>	
<p><b>Ind 17.4</b> ER Programs are also invited to report on changes in major drivers in the ER Accounting Area, any Displacement risks associated with those drivers, and any lessons from the ER Programs’ efforts to mitigate potential Displacement</p>	<p><b>N.A</b></p>
<p>Only applicable at the time of verification.</p>	
<p><b>C 18 The ER Program is designed and implemented to prevent and minimize the risk of reversals and address the long-term sustainability of ERs</b></p>	
<p><b>Ind 18.1</b> The ER Program has undertaken an assessment of the anthropogenic and natural risk of reversals that might affect ERs during the Term of the ERPA and has assessed, as feasible, the potential risk of reversals after the end of the Term of the ERPA</p> <p>[Identification of risk of Reversals 12.1]</p>	<p><b>YES</b></p>
<p>Yes, the ER-PD undertakes a systematic assessment of anthropogenic and natural risks of reversals.</p> <p>The assessment draws on the FCPF buffer guidelines. These guidelines propose four broad categories of risks relating to stakeholder support, institutional capacity, long-term effectiveness and natural disturbances. The ER-PD</p>	

addresses these categories.

The risk assessment is undertaken using indicators. The FCPF buffer guidelines do not actually propose indicators, but provide only “examples” those are to be understood as “indicative”. The ER-PD opts to propose its own set of indicators. It seems that they are drawn from the VCS non-permanence tools among other sources which is – in the TAP’s view – an acceptable approach.

The assessment does not systematically separate the reversal risk during and after the ERPA term. It includes, however, many indicators that are relevant also regarding reversal risks beyond the ERPA term, e.g., the whole set of indicators related to long-term effectiveness and institutional capacity.

Generally, the proposed risk ratings seem plausible. Mostly, the ER-PD arrives at medium ratings, except regarding disturbances. The aggregate risk rating amounts to 23%, which seems to compare favourably to experience from neighbouring DRC, where the ER-PD’s risk rating has been slightly lower.

The TAP concludes that the ER-PD undertook an effort to assess reversal risks in line with the indicator. Negotiating individual risk ratings with the ER Programme proponents is hardly feasible for the TAP and different percentage ratings could have been arrived at. In this sense, paragraph 6.3 in the buffer guidelines should still be applied where “the percentage of Contract ERs and Additional ERs to be set aside in the Reversal Buffer and Pooled Reversal Buffer accounts should be determined **by the Trustee**”, clearly, based on the ER-PD’s self-assessment.

**Ind 18.2** The ER Program demonstrates how effective ER Program design and implementation will mitigate significant risks of Reversals identified in the assessment to the extent possible, and will address the sustainability of ERs, both during the Term of the ERPA, and beyond the Term of the ERPA  
[ER Program design features to prevent and mitigate Reversals 12.2]

**NO**

No, the ER-PD does yet not demonstrate how effective ER programme design and implementation will mitigate significant reversal risks beyond the term of the ER-PA. However, the Carbon Fund needs to give clear indication to REDD+ countries if reversal and sustainability issues that go beyond the defined time period of the ER-Program need to be dealt with in the ER-PD.

Based on the TAP’s current understanding, indicator 18.2 refers not only to the “sustainability of ERs” during the commitment period, but also requires that the mitigation actions continue after expiry of the ERPA funding (e.g. the 20 years proposed as the long-term view of continuous ER-Programs). Up to now, the ER-PD does not explicitly discuss reversal risks beyond the term of the ERPA. Some of the emission reduction measures that will be introduced (e.g., incentive payments to logging companies for RIL) will depend on the degree of internalisation reached after the relatively short time frame of implementation and funding from the ER Programme; the TAP fears that once the term of the ER-PA concludes, the funding sources may no longer be available. Such kinds of risks need to be taken into account.

**C 19** The ER Program accounts for Reversals from ERs that have been transferred to the Carbon Fund during the Term of the ERPA

**Ind 19.1** During the Term of the ERPA, the ER Program accounts for Reversals from ERs using one of the following options:

**YES**

- Option 1: The ER Program has in place a Reversal management mechanism (e.g., buffer reserve or insurance) that is substantially equivalent to the Reversal risk mitigation assurance provided by the ‘ER Program CF Buffer’ approach referred to in option 2 below, appropriate for the ER Program’s assessed level of risk, which in the event of a Reversal during the Term of the ERPA will be used to fully cover such Reversals.
- Option 2: ERs from the ER Program are deposited in an ER Program-specific buffer, managed by

<p>the Carbon Fund (ER Program CF Buffer), and based on a Reversal risk assessment. ERs deposited in the ER Program CF Buffer (Buffer ERs) will not be transferred to the Carbon Fund. In the event that a Reversal event occurs during the Term of the ERPA, an amount of Buffer ERs will be cancelled from the ER Pro</p> <p>[Reversal management mechanism, Selection of Reversal management mechanism 12.3]</p>	
<p>Yes, the ER-PD proposes to use option 2, using a buffer managed by the Carbon Fund.</p>	
<p><b>C 20 The ER Program, building on its arrangements put in place during the readiness phase and during the Term of the ERPA, will have in place a robust Reversal management mechanism to address the risk of Reversals after the Term of the ERPA</b></p>	
<p><b>Ind 20.1</b> At the latest 1 year before the end of the Term of the ERPA, the ER Program will have in place a robust Reversal management mechanism or another specified approach that addresses the risk of Reversals beyond the Term of the ERPA</p>	<p>N.A.</p>
<p>Only applicable before the end of the ERPA term.</p>	
<p><b>Ind 20.2</b> If the ER Program has selected option 2 under Indicator 19.1, all or a portion of the Buffer ERs of the ER Program, subject to a Carbon Fund review of the Methodological Framework and a decision of the parties to the ERPA in 2019, will be transferred to the mechanism identified in Indicator 20.1 at the end of the Term of the ERPA. If the ER Program fails to meet the requirements of Indicator 20.1, all remaining Buffer ERs in the ER Program CF Buffer will be cancelled</p>	<p>N.A.</p>
<p>Only applicable before the end of the ERPA term.</p>	
<p><b>C 21 The ER Program monitors and reports major emissions that could lead to reversals of ERs transferred to the Carbon Fund during the Term of the ERPA</b></p>	
<p><b>Ind 21.1</b> The ER Program Monitoring Plan and Monitoring system are technically capable of identifying Reversals</p> <p>[Monitoring and reporting of major emissions that could lead to Reversals of ERs 12.4]</p>	<p><b>NO</b></p>
<p>No, the ER-PD does currently not propose a credible procedure for reporting on reversals of emission reductions already accounted for.</p> <p>The approach to programme monitoring includes a quantification of emissions from forest degradation and deforestation. With this, the programme is capable of identifying reversals.</p> <p>In addition, the ER-PD section 11.4 explains that the programme will monitor reversals on an ongoing basis using independently available data sources. For each verification event, a risk assessment report will be prepared and in case of reversals occurring that exceed 5% of total forest area in the programme area, a reversal report and a procedure be triggered to put accounting for emission reductions on hold.</p> <p>In the view of the TAP, the threshold of 5% of total forest area in the programme area for a particular event is too high. With a total forest area of about <b>12 million ha</b>, this would amount to an “event” affecting 600,000 ha, corresponding to about 60 years of baseline deforestation rates (0.08% per year), before the relevant procedure is triggered. <b>The TAP thus recommends to reconsider this aspect.</b></p>	

<p><b>Ind 21.2.</b> The ER Program reports to the Carbon Fund within 90 calendar days after becoming aware of any emissions in the Accounting Area or changes in ER Program circumstances that, in the reasonable opinion of the ER Program, could lead to Reversals of previously transferred ERs by the next Monitoring event. The ER Program explains how the potential Reversals would be addressed by additional ER Program Measures or by the Reversal management mechanism described in Indicator 19.1.</p>	<p><b>N.A</b></p>
<p>Only applicable at the time a reversal occurs and at the time of verification.</p>	
<p><b>C 22 Net ERs are calculated by the following steps:</b></p> <ol style="list-style-type: none"> <li><b>1. Subtract the reported and verified emissions and removals from the Reference Level</b></li> <li><b>2. Set aside a number of ERs from the result of step 1, above, in a buffer reserve. This amount reflects the level of uncertainty associated with the estimation of ERs during the Term of the ERPA. The amount set aside in the buffer reserve is determined using the conservativeness factors for deforestation listed in the MF. For estimated emissions reductions associated with degradation, the same conservativeness factors may be applied if spatially explicit activity data (IPCC Approach 3) and high-quality emission factors (IPCC Tier 2) are used. Otherwise, for proxy-based approaches, apply a general conservativeness factor of 15% for forest degradation Emission Reductions.</b></li> <li><b>3. Set aside a number of ERs in the ER Program CF Buffer or other reversal management mechanism created or used by an ER Program to address Reversals</b></li> </ol>	
<p>[Ex-ante estimation of the Emission Reductions 14.3]</p>	<p><b>YES</b></p>
<p>Yes, it is proposed to calculate the net emission reductions according to the steps laid out.</p> <p>The ER-PD proposes a conservativeness factor of 8% (see discussion under criterion 9). In the TAP’s view the ER-PD uses high-quality data to measure emissions from forest degradation and the same conservativeness factor can therefore also be applied to forest degradation.</p> <p>The TAP found the assessment of indicators 14.2 and criterion 22 difficult that refer to IPCC approach 3 to land representation and to the use of proxy-based information for forest degradation. The approaches 2 and 3 to land representation are concerned with degrees of spatial explicitness. Proxies for forest degradation refer to using logging statistics rather than direct assessment of forest degradation. For this criterion 22, the TAP focused on the distinction between direct observations of forest degradation as opposed to the use of proxies. This led to a positive “Yes” rating because the ER-PD includes an approach for direct assessment of forest degradation. (For indicator 14.2, the TAP focused on the availability of spatially explicit activity and emission factors, which also led to a positive rating).</p>	
<p><b>C 23 To prevent double-counting, ERs generated under the ER Program shall not be counted or compensated for more than once. Any reported and verified ERs generated under the ER Program and sold and/or transferred to the Carbon Fund shall not be sold, offered or otherwise used or reported a second time by the ER Program Entity. Any reported and verified ERs generated under the ER Program that have been sold and/or transferred, offered or otherwise used or reported once by the ER Program Entity shall not be sold and transferred to the Carbon Fund</b></p>	
<p>(i) [Participation under other GHG initiatives 14.1]</p>	<p><b>YES</b></p>
<p>Yes, overall measures are undertaken to prevent double-counting.</p> <p>The ER-PD section 18.1 points out that currently there is one voluntary carbon market project present in the area. This project <b>is seeking to be integrated into the programme’s benefit sharing plan.</b></p>	

Accounting related to the country's NDC will need further consideration as is the case in many countries.	
(ii) [Data management and Registry systems to avoid multiple claims to ERs 19.2]	YES
<p>Yes, overall measures are undertaken to prevent double-counting.</p> <p>As outlined in the ER-PD's section 18.2, Congo is in the process of establishing a REDD+ Program and Projects Management System and ER Transaction Registry. These registry tools will be important in managing any possible double counting issues that could arise, specifically regarding voluntary carbon market projects.</p> <p>The TAP notes that the registry is currently in design. It is not fully clear when it will become operational.</p>	
<b>C 24 The ER Program meets the World Bank social and environmental safeguards and promotes and supports the safeguards included in UNFCCC guidance related to REDD+</b>	
<p><b>Ind 24.1</b> The ER Program demonstrates through its design and implementation how it meets relevant World Bank social and environmental safeguards, and promotes and supports the safeguards included in UNFCCC guidance related to REDD+, by paying particular attention to Decision 1/CP.16 and its Appendix I as adopted by the UNFCCC.</p> <p>[ Description of how the ER Program meets the World Bank social and environmental safeguards and promotes and supports the safeguards included in UNFCCC guidance related to REDD+ 14.1]</p>	YES
<p>Yes, the Republic of Congo has defined a framework for safeguards implementation as part of the national REDD+ process including the principle of free, prior and informed consent (FPIC), the national principles, criteria and indicators for REDD+ (PCI REDD+), the identification of potential social and environmental risks of REDD+ through the SESA process, and the development of a national-level ESMF accompanied by five specific sub-frameworks.</p> <p>The Strategic Environmental and Social Assessment (SESA) has been conducted in an iterative way together with the finalization of the national REDD+ strategy with participation from civil society and other stakeholders. The draft SESA report and safeguard documents are available online on the FCPF website (<a href="https://www.forestcarbonpartnership.org/republic-congo-r-package-reference-documents">https://www.forestcarbonpartnership.org/republic-congo-r-package-reference-documents</a>). The TAP has had access to the SESA report and almost final safeguards instruments, which will all become available publically after clearance. Thus the TAP could not assess the final safeguard instruments after clearance.</p> <p>In the context of the SESA process, RoC has also developed the following safeguard instruments, which will need to be cleared by the World Bank: Environmental and Social Management Framework (ESMF); Pesticides management framework; Cultural heritage management framework; Indigenous Peoples planning framework; Process framework; and Resettlement policy framework.</p> <p>National stakeholders validated the safeguard instruments in January 2017. The comments made during the validation workshop have been incorporated in the final safeguard documents.</p> <p>As stated in the ER-PD, the ESMF and sub-frameworks will define the guidelines to be adopted, specific studies that should be conducted, the compensation to be provided, the procedures to allow people to appeal against the proposed activities, the procedures for managing these appeals and the monitoring and evaluation process needed to verify the sound implementation of mitigation measures.</p> <p>Furthermore, as commented in the prior TAP report, the Republic of Congo has defined its Principles, Criteria and Indicators for social and environmental aspects of REDD+ (PCI REDD+), which are in compliance with the Cancun Safeguards, World Bank Operational Policies as well as FSC Principles and Indicators (see ANNEX 10. PCI). The TAP</p>	

<p>notes that consultations on the PCI-REDD were held including capacity building activities throughout the country in local languages including the ER-Program Area with representatives of local communities and Indigenous Peoples, civil society, departmental authorities and the private sector.</p>	
<p><b>Ind 24.2</b> Safeguards Plans address social and environmental issues and include related risk mitigation measures identified during the national readiness process, e.g., in the SESA process and the ESMF, that are relevant for the specific ER Program context (e.g., land tenure issues), taking into account relevant existing institutional and regulatory frameworks. The Safeguards Plans are prepared concurrently with the ER Program Document, and are publicly disclosed in a manner and language appropriate for the affected stakeholders</p> <p>[Description of how the ER Program meets the World Bank social and environmental safeguards and promotes and supports the safeguards included in UNFCCC guidance related to REDD+ 14.1]</p>	<p><b>YES</b></p>
<p>Yes; this criterion is now met since the safeguards instruments (see criteria 24.1) have been finalized and validated at national level. They will now undergo a thorough clearance process of the World Bank.</p> <p>It should be noted, that the ER-PD team has responded to initial comments from the TAP on the draft ER-PD and provided a social and environmental risk analysis and mitigation measures for the specific ER program activities in the advanced draft ER-PD.</p> <p>The TAP concludes that some of its recommendations made in its prior version have been taken into account in the safeguard process since. It further notes that the activities identified in the ER program strategy are aligned with the national REDD+ strategy. In general terms, the risk and mitigation measures of the proposed activities fall under the scope of the national safeguard instruments. Likely social and environmental risks associated with program activities have been described</p>	
<p><b>C 25 Information is provided on how the ER Program meets the World Bank social and environmental safeguards and addresses and respects the safeguards included in UNFCCC guidance related to REDD+, during ER Program implementation</b></p>	
<p><b>Ind 25.1</b> Appropriate monitoring arrangements for safeguards referred to in Criterion 24 are included in the Safeguards Plans.</p> <p>[Description of arrangements to provide information on safeguards during ER Program implementation 14.2 and 5.1]</p>	<p><b>YES</b></p>
<p>Yes, the final ER-PD provides a description of the appropriate monitoring arrangements for safeguards in the ER program.</p> <p>The final ER-PD mentions that, monitoring of safeguards application will take place at two levels: First, the CN-REDD as an integrated unit of the MEFDDE attached to the Technical Chamber of CONA-REDD will be responsible for the implementation and monitoring of safeguards for any REDD+ project or program in RoC. In addition, the Program Management Entity (PME) will also be responsible for guiding and ensuring compliance with safeguard requirements for the ER-Program that includes for the PME to assist implementers, such as concessionaires, NGOs and communities, in conducting environmental and social impact assessments and developing specific safeguard plans if required.</p> <p>The TAP is aware that monitoring arrangements are being developed in the context of the remaining tasks of the national REDD+ readiness process (see Figure 37 ER-Program SIS).</p> <p>The TAP also notes that information about the sound application of safeguards in the implementation of ER-Program activities will be disclosed through the following channels: (i) regular information in the national REDD+ project registry; (ii) an annex on safeguards implementation to the ER monitoring report; and (iii) information</p>	

provided by civil society stakeholders.	
<p><b>Ind 25.2</b> During ER Program implementation, information on the implementation of Safeguards Plans is included in an annex to each ER monitoring report and interim progress report. This information is publicly disclosed, and the ER Program is encouraged to make this information available to relevant stakeholders. This information is also made available as an input to the national systems for providing information on how safeguards are addressed and respected (SIS) required by the UNFCCC guidance related to REDD+, as appropriate.</p>	N.A.
Only applicable at the time of verification.	
<p><b>C 26 An appropriate Feedback and Grievance Redress Mechanism (FGRM) developed during the Readiness phase or otherwise exist(s), building on existing institutions, regulatory frameworks, mechanisms and capacity</b></p>	
<p><b>Ind 26.1</b> An assessment of existing FGRM, including any applicable customary FGRMs, is conducted and is made public. The FGRM applicable to the ER Program demonstrates the following:  i) Legitimacy, accessibility, predictability, fairness, rights compatibility, transparency, and capability to address a range of grievances, including those related to benefit-sharing arrangements for the ER Program;  ii) Access to adequate expertise and resources for the operation of the FGRM</p> <p>[Description of the Feedback and Grievance Redress Mechanism (FGRM) in place and possible actions to improve it 14.3]</p>	YES
<p>Yes, the TAP notes that the FGRM for the ER program is still being developed building on existing institutions, regulatory frameworks, mechanisms and capacity and that this process will be concluded before the signature of the ER-PA. While sufficient information has been provided on the process of preparation of the FGRM, a detail assessment of the contents of the FGRM could not be made by the TAP thus far.</p> <p>The TAP recognizes that only minor changes have been made in the Final ER-PD in respect to FGRM. The TAP however now rates this indicator with a “yes” because it notes that formal procedures for the Feedback and Grievance Redress Mechanism are still being developed at the national level and that while detailed procedures and an appropriate capacity reinforcement plan still need to be defined, useful mechanisms have being put in place (as described in the ER-PD).</p> <p>Once finalized, the ER-Program for Sangha and Likouala will be the first to implement the new national guidelines. The TAP reiterates its comment made at the last ER-PD draft to insert in the document some details of the steps that will be taken to implement the new national guidelines in ER-Program areas (Sangha and Likouala).</p>	
<p><b>Ind 26.2</b> The description of FGRM procedures, included in the Benefit-Sharing Plan and/or relevant Safeguards Plans, specifies the process to be followed to receive, screen, address, monitor, and report feedback on, grievances or concerns submitted by affected stakeholders. As relevant, the Benefit-Sharing Plan and/or relevant Safeguards Plans and/or ER Program Document describe the relationship among FGRM(s) at the local, ER Program, and national levels</p> <p>[Description of the Feedback and Grievance Redress Mechanism (FGRM) in place and possible actions to improve it 14.3]</p>	YES
<p>Yes, a description of the FGRM procedures has been provided in the ER-PD.</p> <p>The formal procedures for the Feedback and Grievance Redress Mechanism are currently being developed at the national level. While detailed procedures and an appropriate capacity reinforcement plan still need to be defined, a</p>	

<p>number of mechanisms are already in place and have been described in the relevant chapter of the ER-PD. <b>The TAP points out that there is clearly a legal/regulatory issue with the establishment of grievance mechanisms, and understands that the WB will carefully look at these issues when negotiating the ERPA.</b></p>	
<p><b>Ind 26.3</b> If found necessary in the assessment mentioned in Indicator 26.1, a plan is developed to improve the FGRM</p> <p>[Description of the Feedback and Grievance Redress Mechanism (FGRM) in place and possible actions to improve it 14.3]</p>	<p><b>YES</b></p>
<p>See 26.1 above, 26.2, plan is being developed</p>	
<p><b>C 27 The ER Program describes how the ER Program addresses key drivers of deforestation and degradation</b></p>	
<p><b>Ind 27.1</b> The ER Program identifies the key drivers of deforestation and degradation, and potentially opportunities for forest enhancement</p> <p>[Analysis of drivers and underlying causes of deforestation and forest degradation, and existing activities that can lead to conservation or enhancement of forest carbon stocks 4.1]</p>	<p><b>YES</b></p>
<p>Yes, the causes and drivers of deforestation and forest degradation are well described. The ER Program does not particularly identify the potentials for existing activities leading to reversal and increasing carbon stocks.</p> <p>The analysis, done through a series of studies in the R-PP and ER-PIN process, takes into account historical patterns of development, which takes into account the different dynamics throughout the ER-Program Area. The more accessible western part of the ER-Program Area (Sangha) is characterized by more agro-economic and mining activities than the more isolated eastern part (Likouala). For example, the area contains some of the older forest concessions, and also harbored a relatively well-developed cocoa sector and oil palm plantations until their gradual demise starting in the 1980s. Similarly, more recent patterns, <b>in particular the rapid development of infrastructure, including in particular the road infrastructure</b> is concentrated primarily on Sangha, while Likouala still remains relatively inaccessible. <b>As a result, the forest cover in Likouala is more intact than in Sangha. The revised design of ER-Program Activities in the advanced ER-PD now takes these developments into account.</b></p> <p>Logging (which includes today the whole array from conventional logging with preliminary forest management plans up to certified natural forest management), agriculture (small-scale and subsistence), agro-industries (palm oil), and mining (for a variety of products, with particular iron as a high impact measure), are identified as the primary direct drivers of deforestation for the period of 1990-2010 for the ER-Program Area. These drivers overlap to those first identified in the R-PP in 2011, where shifting agriculture, fuel-wood collection, illegal forest exploitation, and urban development were cited as principal factors. Indirect drivers or underlying causes identified include weak governance, lack of policy coordination and land use planning, poverty and insufficient enabling conditions for sustainable development.</p> <p><b>In the TAP's view, the revised analysis done under chapter 4.1 and 4.2 of the final ER-PD is thoroughly developed and sufficient to the needs in the framework of the ER-PD.</b></p>	
<p><b>Ind 27.2</b> The ER Program identifies currently planned ER Program Measures and how they address the key drivers identified in Indicator 27.1, and the entities that would undertake them</p> <p>[Description and justification of the planned actions and interventions under the ER Program that will lead to emission reductions and/or removals 4.3]</p> <p>[Institutional and implementation arrangements 6.1]</p>	<p><b>YES</b></p>

Yes, the ER program identifies ER program measures that address key drivers of deforestation and forest degradation and proposes a number of concrete intervention areas.

The ER Program measures proposed are a combination of sectoral and enabling interventions that address both direct drivers of deforestation and forest degradation as well as underlying causes. The proposed ER-Program Activities have been re-arranged in the final ER-PD in sectoral activities and a general focus for each activity has been added (national, entire ERP-Area, or sub-areas within the Program Area), see Table 9 page 56. The sectoral activities consist of four main pillars (two sectoral in nature and two dealing with enabling conditions). For each pillar, a reference to the sector strategy and a description of the medium-term vision and sustainability has been added. The two sectoral pillars include:

- (1) **Forest pillar.** Forest concession management, in form of reduced-impact logging and set aside areas as conservation concession areas and areas for payments for environmental services for smallholders linked to simple forest management plans. While the advanced ER-PD refers to forest certification, to the regret of the TAP, it does not deal with the broader mitigation potential that is offered through improved forest management (the SMF option in REDD+) in the existing FSC certified forest management concessions.
- (2) **Agricultural pillar.** Includes smallholder shade cocoa in community development zones; subsistence farming and other livelihood activities and palm oil smallholder outgrower schemes. In the TAP's view, these activities are implemented on relatively small and proposed mitigation activities therefore remain relatively modest. The agricultural pillar also addresses the reduction of forest conversion from industrial palm oil.

Under the enabling conditions, two other pillars are formulated:

- (3) **Governance pillar.** Activities include national and local land-use planning and community-level governance. At sectoral level, a number of sectoral activities are listed, including: (i) Enabling conditions for the forest pillar: forest governance and sustainable forest management; improved protected area management; and agricultural pillar: sustainable palm oil production, developing sustainable cocoa production and support for sustainable subsistence farming value chain.
- (4) **Mining pillar.** The ER-Program focuses here on key enabling activities, in particular reduced-impact mining.

The proposed ER-Program stresses that climate finance is used to set the development path of a new and rapidly growing commodity sector on a sustainable track by supporting forest-friendly approaches to cocoa cultivation. Involvement of the private sector is a key feature of this ER-Program (cocoa, palm oil and mining).

The TAP recognizes the variety of ER activities and rated the criteria with a "Yes" because there is a high value in the proposed approaches from a learning-by-doing perspective. However, the TAP also notes that from a carbon ER perspective, most of the proposed activities generate rather modest ER in tons per hectare, considering the sheer size of the jurisdictional area. In the TAP's view, in the longer term, addressing conservation and sustainable management of natural forests remains a cornerstone for a viable ER program in the area.

Institutionally, there is yet no functioning overarching framework in place for allocating and optimizing land use, prioritizing land use, or defining procedures in case of conflict between uses. The lack of legal clarity for forest conversion is a matter of concern to the TAP and indeed one of the underlying causes of deforestation, in particular because of conflicts between Forestry law and Mining law and the potential lack of coordination among competent authorities both at the national and local levels. However, there seem to be encouraging developments as regards the National REDD+ Committee (CONA-REDD) and policy coordination in this context (see policy note received in mid-May and referred to in this report in the summary).

In technical terms, an issue of importance for the TAP relates to the definition of "degraded forests" as presented in Figure 7 page 64 of the ER-PD. From a REDD+ perspective there is a need for a much finer distinction of the forest categories. The range of "degraded forests go from a canopy cover in the range of 30-74.99%" (Figure 7), which is of considerable amplitude. Also, as the ER-PD stated that cocoa plantations may be classified as intact forests if the

changes of canopy cover are small and cannot be detected by remote sensing sensors. In the TAPs view, the definition of degraded forest as the resource base for agroforestry needs careful drafting and should be a crucial element in REDD+ based land use concepts and land categorization plans, that are to be undertaken when implementing the ER Program (see also Ind. 3.1).

E.g. in a certified timber concession, a harvested forest lot is not to be considered as a degraded forest, but a lot managed for a second cut, that might only happen in 30-40 years or so. Such forests should not be simply classified as “degraded forests”, as they take into account management provision at the level of silviculture and at the level of ecosystem services. Although they are characterized by reduced carbon stock in the first years after harvesting, they go through a more intensive growth period sequestering carbon and restocking their carbon pools more rapidly over the years until they might be subject for a second rotation cut. If such forest lots are categorized simply as “degraded” and are e.g. under-planted with cocoa, the long-term carbon stock potential is compromised. Also, secondary forests that have developed on formerly cleared land might today have the potential to become quick contributors to carbon enhancement. Fully growing secondary forests in a continuous successional state should not be converted in agricultural land from a REDD+ perspective at all. Thus, there is a need for a clear definition of degraded forests on those lands that are not included in a long-term forest management cycle. The TAP reiterates its recommendation to carefully analyse the transformation of “degraded forests” into any of the proposed agroforestry land uses.

**C 28 The ER Program has undertaken and made publicly available an assessment of the land and resource tenure regimes present in the Accounting Area**

**Ind 28.1** The ER Program reviews the assessment of land and resource tenure regimes carried out during the readiness phase at the national level (i.e., SESA) and, if necessary, supplements this assessment by undertaking an additional assessment of any issues related to land and resource tenure regimes in the Accounting Area that are critical to the successful implementation of the ER Program, including:

- I. The range of land and resource tenure rights (including legal and customary rights of use, access, management, ownership, exclusion, etc.) and categories of rights-holders present in the Accounting Area (including Indigenous Peoples and other relevant communities);
- II. The legal status of such rights, and any significant ambiguities or gaps in the applicable legal framework, including as pertains to the rights under customary law;
- III. Areas within the Accounting Area that are subject to significant conflicts or disputes related to contested or competing claims or rights, and if critical to the successful implementation of the ER Program, how such conflicts or disputes have been or are proposed to be addressed; and
- IV. Any potential impacts of the ER Program on existing land and resource tenure in the Accounting Area.

The ER Program demonstrates that the additional assessment has been conducted in a consultative, transparent and participatory manner, reflecting inputs from relevant stakeholders

[Description of land tenure systems, analysis of laws and regulatory framework 4.4 and 4.5, stakeholder consultation process 5.1]

**YES**

Yes, the advanced ER-PD does provide sufficient information to assess this indicator fully.

The ER Program reviews the assessment of land tenure and use of resources regimes in the Accounting Area, and that additional assessment has been conducted in a consultative, transparent and participatory manner. It identifies relevant gaps and weaknesses that should be taken into consideration for its successful implementation, including the need to have proper land management planning, in particular in all UFAs, and to secure the identification of “local community forests”.

<p>Most challenging from a legal perspective remains the impact of the absence of national land use planning and forest classification on the delineation of the permanent and non-permanent forestry domains respectively, having in mind that a land use change can be authorized in the non-permanent forestry domain only. The TAP notes however that land-use planning is – as an enabling activity – part of the ER Program.</p>	
<p><b>Ind 28.2</b> The ER Program explains how the relevant issues identified in the above assessment have been or will be taken into consideration in the design and implementation of the ER Program, and in the relevant Safeguards Plan(s). If the ER Program involves activities that are contingent on establishing legally recognized rights to lands and territories that Indigenous Peoples have traditionally owned or customarily used or occupied, the relevant Safeguards Plan sets forth an action plan for the legal recognition of such ownership, occupation, or usage. Beyond what is required for the successful implementation of the ER Program, the ER Program is encouraged to show how it can contribute to progress towards clarifying land and resource tenure in the Accounting Area, where relevant.</p> <p>[Assessment of land and resource tenure in the Accounting Area 4.4]</p> <p>[Description and justification of the planned actions and interventions under the ER Program that will lead to emission reductions and/or removals 4.3]</p>	<p><b>YES</b></p>
<p>Yes, <b>the final ER-PD document</b> gives sufficient details on the relevant issues identified and how they will be taken into consideration in the design and implementation of the ER Program and in the relevant Safeguards Plans. However, the TAP is aware that the relevant legal requirements are yet not formally adopted.</p> <p>The ER Program takes note of recent legislative developments, in particular the Forest Code 2016, which should help fill in most of the gaps and weaknesses identified, once in force. These recent developments are promising to secure land tenure in the Republic of Congo but they remain to be formally adopted and further specified by specific implementing secondary legislation, including the National Land Allocation Plan (NLAP/PNAT). One can agree that, while the PNAT/SNAT is being prepared, the ER-Program can become <i>a de facto platform for comprehensive, cross-sectoral planning purposes</i>. However, it is suggested to monitor closely any developments regarding the formal adoption of the National Land Allocation Plan, the proper implementation of which could be set as a precedent condition in the ER-PA, given the possible impacts of the lack of clear zoning and associated risks for long-term forest governance with respect the provisional and insecure nature of the non-permanent forest domain.</p> <p>On the ground, it is widely recognized that there are still many disputes over land, mainly because of the lack of knowledge and capacity of local communities and indigenous people to register their customary land use rights for their recognition. The ER Program is very clear with regard to the need to provide concrete assistance to local and indigenous communities to register “communal forests” once the Forest Code 2016 will be in force, and it acknowledges that the focus should be put on governance at the local level in order to clarify land and resource tenure in the Accounting Area, in particular to secure long-term inclusion of these forest areas in the Permanent Forest Domain. In the TAP’s view, this should greatly help avoid conflicts and/or overlapping uses.</p>	
<p><b>Ind 28.3</b> The ER Program provides a description of the implications of the land and resource regime assessment for the ER Program Entity’s ability to transfer Title to ERs to the Carbon Fund</p> <p>[Transfer of Title to ERs 18.2]</p>	<p><b>YES</b></p>
<p>Yes, the ER Program does effectively and rightly provide a description of the implications of the land and resource regime assessment on the ability to transfer Title to ERs to the Carbon Fund, with carbon rights being defined within a contractual relationship through the ERPA under existing laws.</p> <p>Given the principle of privacy of contracts, the Government of the Republic of Congo, represented by the Ministry of Finance, will be committed to an exclusive, one-off marketable right linked to emission reductions generated by the stakeholders involved in REDD+ activities, whereas noncompliance or the absence of a contract between the</p>	

Government and these stakeholders should not affect the validity and binding nature of the contractual commitment made by the Government of the Republic of Congo towards the Carbon Fund. Therefore, if there are conflicts over land tenure, or if land tenure is insecure, this commitment remains a bilateral obligation vis-à-vis the Carbon Fund without repercussion to the contractual obligations made under the ERPA. However, the ER Program is very clear in that factual implementation and projected achievement of the emission reductions envisaged may be affected, if stakeholders do not conclude the relevant REDD+ Implementation Agreements.

Therefore, the ER Program rightly point at the need for the Government to complete negotiations and the execution of relevant REDD+ Implementation Agreements prior to ERPA signature with the Carbon Fund.

**C 29 The ER Program provides a description of the benefit-sharing arrangements for the ER Program, including information specified in Indicator 30.1, to the extent known at the time.**

Description of benefit-sharing arrangements [15.1]

**YES**

Yes, the ER Program provides a description of the benefit-sharing arrangement. This includes, in the final ER-PD an expanded description of the preliminary principles, and preliminary arrangements for the distribution of revenues from emission reduction payments, definitions and the operational process for the sharing of monetary and non-monetary benefits, to the extent they have been developed.

In chapter 15.1, the ER-PD summarizes preliminary principles, gives an overview on beneficiaries and contractual arrangements for beneficiaries. The benefit sharing arrangement specifies that benefit sharing will employ a mix of performance- and non-performance based approaches. Figure 39 in the ER-PD gives a good indication on the magnitude and type of benefits and costs.

Also, the benefit sharing arrangements have been widely consulted, reaching finally more than 1300 people. In October 2017 it is planned to organize the finalization of the benefit sharing arrangement, including to confirm the consent of LCIPs.

**C 30 The Benefit Sharing Plan will elaborate on the benefit-sharing arrangements for Monetary and Non-Monetary Benefits, building on the description in the ER Program Document, and taking into account the importance of managing expectations among potential beneficiaries.**

**Ind 30.1** The Benefit-Sharing Plan is made publicly available prior to ERPA signature, at least as an advanced draft, and is disclosed in a form, manner and language understandable to the affected stakeholders for the ER Program<sup>12</sup>. The Benefit-Sharing Plan contains the following information:

The categories of potential Beneficiaries, describing their eligibility to receive potential Monetary and Non-Monetary Benefits under the ER Program and the types and scale of such potential Monetary and Non-Monetary Benefits that may be received. Such Monetary and Non-Monetary Benefits should be culturally appropriate and gender and inter-generationally inclusive. The identification of such potential Beneficiaries takes into account emission reduction strategies to effectively address drivers of net emissions, anticipated implementers and geographical distribution of those strategies, land and resource tenure rights (including legal and customary rights of use, access, management, ownership, etc. identified in the assessments carried out under Criterion 28), and Title to ERs, among other considerations.

Criteria, processes, and timelines for the distribution of Monetary and Non-Monetary Benefits.

Monitoring provisions for the implementation of the Benefit-Sharing Plan, including, as appropriate, an opportunity for participation in the monitoring and/or validation process by the Beneficiaries themselves

[Description of benefit-sharing arrangements 15.2]

**YES**

<p>Yes, in the TAP's view, this indicator will be met prior to the signature of the ER-PA. Preliminary benefit sharing arrangements were developed based on expert advice and as part of the participatory consultation process in the departments of Sangha and Likouala.</p> <p>The approved Benefit Sharing Plan is not available yet. It will be fundamentally based on REDD+ Implementation Agreements, still to be negotiated between the RME and relevant stakeholders (see below C33). However, the <b>final ER-PD provides a clear roadmap for the finalization of the Benefit Sharing (p. 265). It is clearly stated the Benefit sharing program will be - at least as an advanced draft - publicly disclosed prior to the signature of the ER-PA.</b></p>	
<p><b>C 31 The benefit-sharing arrangements are designed in a consultative, transparent, and participatory manner appropriate to the country context. This process is informed by and builds upon the national readiness process, including the SESA, and taking into account existing benefit-sharing arrangements, where appropriate</b></p>	
<p><b>Ind 31.1</b> The Benefit-Sharing Plan is prepared as part of the consultative, transparent and participatory process for the ER Program, and reflects inputs by relevant stakeholders, including broad community support by affected Indigenous Peoples. The Benefit-Sharing Plan is designed to facilitate the delivery and sharing of Monetary and Non-Monetary Benefits that promote successful ER Program implementation. The Benefit-Sharing Plan is disclosed in a form, manner and language understandable to the affected stakeholders of the ER Program</p> <p>[Description of stakeholder consultation process 5.1]</p> <p>[Summary of the process of designing the benefit-sharing arrangements 15.2]</p>	<p><b>YES</b></p>
<p>Yes, The Republic of Congo is developing a Benefit Sharing Plan to ensure the clear, equitable, effective, efficient, and transparent distribution of costs and benefits incurred by the different stakeholders involved or affected by the ER-Program.</p>	
<p><b>C 32 The implementation of the Benefit-Sharing Plan is transparent</b></p>	
<p><b>Ind 32.1</b> Information on the implementation of the Benefit-Sharing Plan is annexed to each ER Program monitoring report and interim progress report and is made publicly available [15.1]</p>	<p><b>N.A</b></p>
<p>Only applicable at the time of verification.</p>	
<p><b>C 33 The benefit-sharing arrangement for the ER Program reflects the legal context</b></p>	
<p><b>Ind 33.1</b> The design and implementation of the Benefit-Sharing Plan comply with relevant applicable laws, including national laws and any legally binding national obligations under relevant international laws</p> <p>[Description of the legal context of the benefit-sharing arrangements 15.3]</p>	<p><b>YES</b></p>
<p>Yes, the benefit sharing arrangements reflect the legal context.</p> <p>Benefit sharing will be done through contracts concluded with stakeholders involved in the REDD+ activities, e.g. so-called REDD+ Implementation Agreements. From that perspective, the Benefit Sharing Plan is in compliance with applicable national Contract Law.</p> <p>Contractual arrangements should reflect upon relevant international standards on benefit sharing for REDD+ implementation purposes. For instance, the REDD+ Participation Agreements and sub-arrangements will include provisions on the activities to realize the ERs as well as provisions on the carbon rights sale and the participation of the stakeholders concerned in the benefit-sharing structure (including direct rights to the proceeds, where</p>	

applicable). In return, stakeholders will be requested to commit to a firm obligation not to market or claim any ERs related to the activities concerned to any third party.

In order to ensure not only the compliance with national law but also the efficiency of the ER-Program, it is rightly suggested that the ER-PA comprises a condition precedent for the actual transfer of ERs and payment being linked to a full and complete compliance check of all REDD+ Participation Agreements and sub-arrangements concerned.

**C 34 Non-Carbon Benefits are integral to the ER Program**

**Ind 34.1** The ER Program outlines potential Non-Carbon Benefits, identifies priority Non-Carbon Benefits, and describes how the ER Program will generate and/or enhance such priority Non-Carbon Benefits. Such priority Non-Carbon Benefits should be culturally appropriate, and gender and inter-generationally inclusive, as relevant

**YES**

[Outline of potential Non-Carbon Benefits and identification of Priority Non-Carbon Benefits [16.1]

Yes, non-carbon benefits are integrated into the ER Program.

The non-carbon benefits (NCB) specific to the area and covered by the ER-Program were drawn up in participatory meetings in September and October 2016 in Sangha and Likouala, during data collection for the benefit-sharing scheme. The identification was also based, *inter alia*, on previous works done by forest concessionaires CIB-OLAM and IFO-Danzer in their process of obtaining FSC certification. The chart 83 lists potential NCB identified and Appendix 3 shows the list of the identified Non Timber Forest Products (NTFPs).

The document describe the approaches used for the identification and prioritization of Non Carbons Benefits found in chart 89 (Non Carbon Potential Profit) and detailed information (number and categories - qualities of those consulted persons, locations - villages) of the concerned NTFPs.

**Ind 34.2** Stakeholder engagement processes carried out for the ER Program design and for the readiness phase inform the identification of such priority Non-Carbon Benefits

**YES**

[Description of stakeholder consultation process 5.1]

Yes, overall, this indicator has been met (see Ind. 34.1), see recent consultations in Sep/Oct in the jurisdictional area.

**C 35 The ER Program indicates how information on the generation and/or enhancement of priority Non-Carbon Benefits will be provided during ER Program implementation, as feasible.**

**Ind 35.1** The ER Program proposes an approach utilizing methods available at the time to collect and provide information on priority Non-Carbon Benefits, including, e.g., possibly using proxy indicators. If relevant, this approach also may use information drawn from or contributed as an input to the SIS

**YES**

[Approach for providing information on Priority Non-Carbon Benefits 16.2]

Yes, the text in the final ER-PD has not changed from the prior version, but the TAP reconsiders its earlier assessment and assesses now that this indicator has been met.

While the document does yet not provide sufficient guidance on the procedures on transparent mechanisms for regular dissemination and communication to stakeholders, it recognizes that such procedures will be integrated into the SIS and MRV system as proposed in the final ER-PD. While the TAP understands the overall approach to remain short and precise in the ER-PD, it would have preferred to have received some more explicit information to properly value the indicator.

<p>Non-timber forest products are an important source of food, medicine and other living materials, particularly for Indigenous Peoples living in the neighborhood of the Program of emissions reduction but also for Bantu local communities. <b>In the final ER-PD, in Annex 8 a non-exhaustive list of NTFPs animals and plants identified in consultation with the local community and indigenous peoples.</b> However, the table does not indicate whether these NTFPs are used by all communities or if there are NTFPs used specifically by one or the other community. <b>The TAP reiterates its recommendation made in its last assessment</b> to updating what is now Annex 8, as it was requested by local communities and indigenous peoples at the meeting with the TAP team on June 28.</p>	
<p><b>Ind 35.2</b> Information on generation and/or enhancement of priority Non-Carbon Benefits will be provided in a separate annex to each ER Program monitoring report and interim progress report, and will be made publicly available</p>	<p>N.A</p>
<p>Only applicable at the time of verification.</p>	
<p><b>C 36 The ER Program Entity demonstrates its authority to enter into an ERPA and its ability to transfer Title to ERs to the Carbon Fund</b></p>	
<p><b>Ind 36.1</b> The ER Program Entity demonstrates its authority to enter into an ERPA with the Carbon Fund prior to the start of ERPA negotiations, either through:</p> <ul style="list-style-type: none"> <li>i. Reference to an existing legal and regulatory framework stipulating such authority; and/or</li> <li>ii. In the form of a letter from the relevant overarching governmental authority (e.g., the presidency, chancellery, etc.) or from the relevant governmental body authorized to confirm such authority.</li> </ul> <p>[Authorization of the ER Program 17.1]</p>	<p><b>YES</b></p>
<p>Yes, chapter 17 of the draft ER-PD identifies the Ministry of Finance as the designated entity to authorize the ER Program.</p> <p>It refers to the general provisions laid down by Decree n° 2012-1154 providing for the general competences of this Ministry.</p> <p>Although this Decree does not include a specific prerogative to enter into particular contractual negotiations such as for the signature of ERPA, any Ministry has the legal capacity to enter into contractual arrangements for matters under its competences.</p> <p>As a matter of facts, the Ministry of Finance has already been designated to negotiate the (first) ER-PA with the Carbon Fund, but it could be useful to get a written confirmation from the Government that this Ministry has the legal capacity and is effectively mandated to make such negotiations on its behalf on the basis of Decree n° 2012-1154, just to avoid any competition among the Government services and agencies.</p>	
<p><b>Ind 36.2</b> The ER Program Entity demonstrates its ability to transfer to the Carbon Fund Title to ERs, while respecting the land and resource tenure rights of the potential rights-holders, including Indigenous Peoples (i.e., those holding legal and customary rights, as identified by the assessment conducted under Criterion 28), in the Accounting Area. The ability to transfer Title to ERs may be demonstrated through various means, including reference to existing legal and regulatory frameworks, sub-arrangements with potential land and resource tenure rights-holders (including those holding legal and customary rights, as identified by the assessments conducted under Criterion 28), and benefit-sharing arrangements under the Benefit-Sharing Plan</p> <p>[Transfer of Title to ERs 17.2 ]</p>	<p><b>YES</b></p>
<p>Yes, the ER Program entity demonstrates, to some extent, <b>that contractual arrangements should be built and</b></p>	

structured in a manner that ensures the ability to transfer Title to ERs while respecting land and resource tenure rights.

However, there is still an issue with the change of legislation, e.g. formal adoption of the Forestry Code 2016, which should recognize carbon rights and carbon credits as specific rights in rem, a priori independent from any contractual arrangement. This is important in as far as holders of communal forests will have a direct claim to a portion of emission reductions that corresponds both to the size of their holdings and the level of efforts made. The reviewed assessment suggests that this will be anticipated in the contracts negotiated under the current (existing) legislation, by including provisions made conditional to the entering into force of the Forestry Code 2016, in order to allow for the transfer of the respective carbon rights and carbon credits in return for a claim to the proceeds.

In addition, it is still difficult to anticipate the impacts of the Forestry Code 2016 in relation to the claim of communal forests' holders to a part of emission reductions, not on the capacity of the ER Program Entity to negotiate, rather on the outcome of negotiations between the RME and relevant stakeholders (those who are volunteers to engage), in particular with respect to the transfer of carbon rights to the Government.

**Ind 36.3** The ER Program Entity demonstrates its ability to transfer Title to ERs prior to ERPA signature, or at the latest, at the time of transfer of ERs to the Carbon Fund. If this ability to transfer Title to ERs is still unclear or contested at the time of transfer of ERs, an amount of ERs proportional to the Accounting Area where title is unclear or contested shall not be sold or transferred to the Carbon Fund  
[Transfer of Title to ERs 17.2 ]

**YES**

**Yes**, see above on the ability to transfer, which is relevant for assessing such ability prior to ERPA signature.

It is important to note that, in any case, it is suggested that the ERPA comprises condition precedents, in particular for the actual transfer of ERs and payment being linked to a full and complete compliance check of **contractual arrangements concerned**.

**C 37** Based on national needs and circumstances, the ER Program works with the host country to select an appropriate arrangement to avoid having multiple claims to an ER Title.

**Ind 37.1** Based on national needs and circumstances, the ER Program host country has made a decision whether to maintain its own comprehensive national REDD+ Program and Projects Data Management System, or instead to use a centralized REDD+ Programs and Projects Data Management System managed by a third party on its behalf. In either case of a country's use of a third party centralized REDD+ Programs and Projects Data Management System, or a country's own national REDD+ Programs and Projects Data Management System, the indicators below apply  
[Data management and Registry systems to avoid multiple claims to ERs 18.2]

**YES**

Yes, the ER-Program will be linked to a comprehensive national REDD+ Data Management system.

As part of the Readiness process the country has decided to maintain its own national REDD+ Program and Projects Data Management System. **The final ER-PD still refers to the development of a national REDD+ Data Management System that will be operationalized through dedicated software.**

This integrated information system provides information not only on REDD+ projects (defined as initiatives that generate carbon credits), but also on other REDD+ initiatives, sustainable natural resource management, and on institutional and legal arrangements. For REDD+ projects, it functions as a REDD+ Program and Projects Management System and ER Transaction Registry.

**Ind 37.2** A national REDD+ Programs and Projects Data Management System or a third party

**YES**

<p>centralized REDD+ Programs and Projects Data Management System needs to provide the attributes of ER Programs, including:</p> <ul style="list-style-type: none"> <li>i. The entity that has Title to ERs produced;</li> <li>ii. Geographical boundaries of the ER Program or project;</li> <li>iii. Scope of REDD+ activities and Carbon Pools; and</li> <li>iv. The Reference Level used.</li> </ul> <p>An ER Program for the Carbon Fund should report its activities and estimated ERs in a manner that conforms to the relevant FCPF Methodological Framework C&amp;Is</p> <p>[Data management and Registry systems to avoid multiple claims to ERs 18.2]</p>	
<p>Yes, the proposed system will provide the necessary attributes of ER Programs.</p> <p>The system requires essential information from REDD+ projects, including a full description of the entity that has title to the ERs produced. It allows for the uploading of the Shapefiles with the boundaries of the project, the definition of the scope of the project and, and the Reference Level used. Hence, the management system would provide the necessary information to provide transparency.</p>	
<p><b>Ind 37.3</b> The information contained in a national or centralized REDD+ Programs and Projects Data Management System is available to the public via the internet in the national official language of the host country (other means may be considered as required).</p> <p>[Data management and Registry systems to avoid multiple claims to ERs 18.2]</p>	<b>YES</b>
<p>Yes, the information on the REDD+ activities will be publically available. The planned system that will put in place at national level will rely on a web portal that would provide access to basic information in French.</p>	
<p><b>Ind 37.4</b> Administrative procedures are defined for the operations of a national or centralized REDD+ Programs and Projects Data Management System; and an audit of the operations is carried out by an independent third party periodically, as agreed with the Carbon Fund</p> <p>[Data management and Registry systems to avoid multiple claims to ERs 18.2]</p>	<b>YES</b>
<p>Yes, the ER-PD describes shortly the proposed administrative procedures and confirms independent third party verification of the process (though the ER-PD is not fully clear on the independent verification yet).</p> <p>The RoC is preparing tailor-made software that is based on defined procedures, so it ensures standardization of the administrative procedures and that the required information for each REDD+ project is filled out. The ER-PD however should clearly state on how the software will be subject to verification</p>	
<p><b>C 38 Based on national needs and circumstances, ER Program host country selects an appropriate arrangement to ensure that any ERs from REDD+ activities under the ER Program are not generated more than once; and that any ERs from REDD+ activities under the ER Program sold and transferred to the Carbon Fund are not used again by any entity for sale, public relations, compliance or any other purpose</b></p>	
<p><b>Ind 38.1</b> Based on national needs and circumstances, the ER Program host country has made a decision whether to maintain its own national ER transaction registry, or instead to use a centralized ER transaction registry managed by a third party on its behalf</p> <p>[Data management and Registry systems to avoid multiple claims to ERs 18.2]</p>	<b>YES</b>
<p>Yes, the REDD+ Program and Projects Data Management System include a national ER transaction registry.</p> <p>The proposed software package (REGIREDD+) will also function as the national ER Transaction Registry. The ER-</p>	

<p>PD describes the mechanism in detail. Prior to a ER transaction (i.e. purchase of ER generated by any REDD+ project within the jurisdiction of Congo), REGIREDD+ requires the registration of REDD+ programs and projects, which will be validated by the validation commission. In case of overlapping boundaries, the validation commission will verify whether measures are in place to avoid double counting, and will decide on whether the ERs generated would be shared between the overlapping projects or whether to allocate them to one or another of the projects.</p>	
<p><b>Ind 38.2</b> The national or centralized ER transaction registry reports ERs for the Carbon Fund using the accounting methods and definitions described above in the MF</p> <p>[Data management and Registry systems to avoid multiple claims to ERs 18.2]</p>	<p><b>YES</b></p>
<p>Yes, see also 38.1</p>	
<p><b>Ind 38.3</b> An independent audit report certifying that the national or centralized ER transaction registry performs required functions is made public.</p> <p>[Data management and Registry systems to avoid multiple claims to ERs 18.2]</p>	<p><b>N.A.</b></p>
<p>Cannot be assessed at this stage.</p>	
<p><b>Ind 38.4</b> Operational guidance exists, or is in advanced stage of preparation, that clarifies the roles and responsibilities of entities involved in the national or centralized ER transaction registry, as well as rules for operation of the registry.</p> <p>[Data management and Registry systems to avoid multiple claims to ERs 18.2]</p>	<p><b>YES</b></p>
<p>Yes, operational guidelines are being developed, though they do yet not exist.</p> <p>The specific details of the operationalization of the ER transaction registry side of the software are yet to be defined. As the registry does not include the management of the reversal buffer or the uncertainty buffer, it is still unclear how the serialization of ERs will be done to ensure tracking and how the reconciliation process with external registries will occur.</p>	