

Wildlife Works Carbon welcomes the opportunity to provide input into the deliberations on the design of the Carbon Fund, which we believe has the potential to provide the experience and market signals that are needed for REDD to move from the conceptual to the confirmable as an effective tool for climate change mitigation, sustainable development, and forest and biodiversity protection.

Wildlife Works is the world's leading REDD+ development and management company, which has, over a 15 year history, established a successful model that uses the emerging marketplace for REDD+ Carbon Offsets to protect threatened forests, wildlife, and communities.

In 2011, the Wildlife Works Kasigau Corridor REDD+ Project was successfully validated and verified under the Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity Standard (CCB). This was the world's first REDD+ project to receive issuance of carbon credits and will result in the avoidance of over 1 million tonnes of CO₂-e emissions per year for the next 30 years.

More recently, WWC, in collaboration with the DRC Government and its partner Ecosystem Restoration Associates, achieved validation and verification of the first REDD+ project in the Democratic Republic of the Congo (DRC). The project has earned 2.5 million tonnes of Verified Emission Reductions to date and will generate an average of 5.6 million tonnes annually.

This 299,645 hectare Mai Ndombe REDD+ project, a former logging concession in the Bandundu Province, will avoid more than 175 million tonnes of CO₂ emissions over the 30-year life of the project. The local forest community of 50,000 Congolese villagers will receive direct benefits from the project in the form of jobs, schools, health clinics, improved food security through better agronomy and redevelopment of robust native fish stocks, and capacity building of local NGOs and Community Based Organizations, all financed through transparent and equitable sharing of the carbon revenues.

The Mai Ndombe REDD+ project is the world's largest REDD+ project to achieve validation and verification under the Verified Carbon Standard (VCS), and received Gold Level validation from the Climate, Community and Biodiversity Alliance Standard (CCBA) for exceptional climate change adaptation and biodiversity benefits.

Based on our experience in these groundbreaking REDD+ projects, we provide our responses to the FCPF Secretariat's questions below.

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Issue Paper 1: General Approach for MF, and scope of activities covered: use standards and indicators, or more detailed guidance or methods, or a positive list of other initiatives (i.e., if a Program meets requirements of another climate initiative (like CDM or VCS) on a topic, the Program automatically meets CF requirements on it). Some key questions we seek ideas or advice on:

Q1: Is it reasonable for a mix of different approaches to be used to address different issues; or does a single approach need to be selected for the whole MF?

- I.e., is it reasonable to use, for example, a standard and indicators approach for benefit sharing or financial strategy, but offer far more detailed and more technical guidance for how some of the carbon accounting or other issues are addressed, for example how the MRV system is designed and its capabilities?
- Or should more flexibility be given to countries to propose how they would address an issue?

Q2: Are there implications for the integrity of the MF, and hence the Emission Reductions tonnes a ER Program generates, if a mix of approaches is used?

The FMT raises the issue, within the description of Issue Paper 1, of whether the MF should: develop standards and indicators for performance within the MF, develop more detailed guidance and methods specific to the CF, or develop a list of approved standards that, if a Program applies and meets, would automatically meet CF requirements on the program aspects covered by the given standard. Given our experience in applying the VCS and CCB standards to our projects in Kenya and the DRC, we strongly recommend that the MF include a short list of approved standards that Participants may use to qualify for CF approval. Methodologies such as those developed for REDD+ under the VCS, including its new Jurisdictional and Nested REDD+ Requirements (JNR), have been developed by recognized experts in the field of REDD+ MRV, and have had input and review by a broad range of stakeholders from around the world and from many sectors relevant to REDD+. If the CF were to design new guidance and methodologies, this would require a lengthy process to insure sufficient expert and stakeholder involvement that would unnecessarily slow the progress of Participant countries. In addition, the development of such methodologies would create a niche standard in advance of full guidance from the UNFCCC, thus potentially contributing to a further fragmenting of an incipient REDD+ market. Standards such as the VCS, given its track record of international application and lessons learned over several years of operation, offer an appropriate globally recognized standard for use by CF countries that seek to apply a standard that will allow them to attract additional buyers outside of the CF, including potential private sector buyers. In addition, the VCS has committed to track and reflect UNFCCC guidance, and therefore acts as a bridge between the current gap in guidance and the initiative taken by REDD+ countries to test methodologies, implement REDD+, and produce Verified Emissions Reductions (VER's).

While we believe that existing standards such as VCS provide a valuable tool to the MF, we also recommend that only a short list of such standards be included, in order to reduce issues of comparability and market confusion. Additionally, the CF should seek fungibility in all of its approved standards and methodologies, again to avoid market confusion and fragmentation. Given our successful application of VCS and CCB in our REDD projects, and our current efforts to pilot the new VCS JNR requirements, we believe the VCS, as a practical, internationally recognized standard with a commitment to the UNFCCC REDD+ process should be accepted within the MF, along with other similarly tested and recognized standards for REDD+ activities.

Regarding question 1 on the use of a mix of approaches for issues within the MF, we recommend that if a country applies a standard from a list such as the one recommended above, that it must follow and apply all guidance within that specific methodology, and that it cannot choose specific aspects of a methodology to apply, and choose to exclude others by applying a patchwork of methodologies. For those aspects of Program design that do not fall within established standards, such as specific aspects of MRV design, we recommend that the MF include more general guidance or principles. These principles could establish indicators of quality and thoroughness based on internationally reputable sources such as published scientific research and IPCC guidance, and countries could propose specific detailed plans that adhere to the principles, leaving flexibility for individual Programs to tailor their plans to their specific circumstances and goals.

Regarding Question 2 on implication of using a mix of approaches, the answer is that certainly there are implications of using a mix of approaches. Potential negative implications include the creation of confusion in how different standards and processes compare, allowing “cherry picking” or “gaming” of methodologies, as well as increasing the complexity of the MF and its implementation for specific Programs, and the assessment of overall performance of the CF. However, given the pioneering role of the CF and the Programs it invests in, the use of a mix of approaches is to be expected in order for the CF to take advantage of existing standards and guidance, while continuing to break new ground in REDD+ implementation. We believe that many possible negative implications can be avoided or mitigated through key decisions in MF structure that create clarity and certainty for estimating costs, for pricing, and for guidelines and verification. While insuring clarity in guidance for the full range of REDD+ activities approved by the CF, the MF should limit the number of standards as much as possible, so that comparability and fungibility can be confirmed among the approved approaches, in order to appeal to the broadest range of possible investors.

In summary, the opportunity exists for the CF to consolidate and drive progress in REDD+ implementation. In order to fully exercise this opportunity, it should take advantage of existing standards and processes that have demonstrated their value in REDD+ while finding and effectively bridging the gaps in current REDD+ guidance and process; and insure that its actions support, rather than discourage, a scaling up of REDD+ emissions reductions both inside and outside of its program.

Issue Paper 2: Reference Levels; and additionality. Some key questions we seek ideas or advice on:

Q1: How should historic reference emissions level/RL be set for Carbon Fund ER Programs?

We assume that the CF will seek to support REDD activities at the national or subnational jurisdictional scales, not just the project scale. At all scales, RL's for Carbon Fund ER programs should be adapted from already existing/accredited baseline systems that incorporate robust remote sensing, ground sampling, and statistical analysis, where they exist. RL's do not have to be linear extrapolation of past deforestation and can vary with changes in drivers of deforestation or the amount of forest remaining. It is our suggestion that the FCPF accept historical reference emission models that have been validated under internationally accepted accreditation systems like the Verified Carbon Standard. However, we recognize that scaling up from the project scale to the national or sub-national jurisdictional scale will require some methodological adjustments to project scale accounting methods.

- Do other climate initiatives use approaches that the CF should adapt for its purposes?

Yes. Because the above-mentioned accreditation standard systems require double-validation and rigorous scientific scrutiny, RLs can be adopted from these project-level models. That said, adaptation to the JNR level will require scale-up (especially in the size of the reference study area which is used to generate the RL), and therefore moderate to significant deviation from the original project-level models.

- What is the appropriate period to determine the historic deforestation rate? (Keep in mind the short lifetime of an Emission Reduction Payment Agreement (ERPA) contract, to say 2020.)

In our opinion, a historic reference period need not be longer than 20 years. On the converse, we've found that a period much shorter than 10 years does not adequately capture the trend to the granularity required to accurately depict the nature of deforestation over a Jurisdiction. We would therefore recommend a period between 10 and 20 years to determine historic deforestation rates.

- Same period for all programs? If same, what is appropriate period?
Or:

If a range (such as that described above) is used, we recommend for simplicity that the same range be applied to all programs within the Jurisdiction.

- Flexible period, depending on country circumstances? How should an appropriate period be determined?

We recommend flexibility within the range of 10-20 years, but we believe CF should specify that range and not allow flexibility outside of that or a similar range. Significantly more flexibility would introduce more complexity than benefit, especially if using a system that features an adequate amount of imagery (i.e. images that represent many years in the historic period, rather than just 2 or 3). This can be achieved by using a model that does not require fully cloud-free, wall-to-wall imagery for analysis.

- How should the appropriate region for determining historic deforestation rates be defined?

We recommend using existing political delineations to analyze historical deforestation as opposed to using ecosystem boundaries. This recommendation is made because ultimately, this system will be subject to politically-based distribution systems, and following alternative boundaries could introduce major impediments to the success of the overall system. Political Jurisdictions like districts, provinces or even nations present an obvious choice for determining historic rates. However, in certain cases, it may be more appropriate for Programs to use alternative boundaries that they demonstrate are viable for their specific Jurisdiction. This could include non-anthropogenic boundaries such as rivers, a mountain range or a natural land-cover break.

- Simply the program area? Or a wider area? If wider area, how wide should the area be beyond the program area, and how should it be set?

Wherever possible, historic deforestation analysis should be limited to the program area boundaries to prevent complications with leakage and attribution of land use activities from one jurisdiction to another. In order to address a probable situation where one administrative area has experienced little or no deforestation but is next in line for the agents and drivers that have significantly deforested a neighboring administrative area, the program area can just be expanded to encompass both administrative areas. This would allow the historical deforestation rates to be applied to protecting the remaining intact forest in the original administrative area, as well as the relatively intact forest in the neighboring administrative area, without the risk of over allocating historical deforestation. Of course the same result could be obtained by a national reallocation of historical deforestation from one program area to another, but we believe it is cleaner to simply design the program areas to include both historical deforestation rates that are going to be the most locally appropriate, as well as remaining forest that is in need of protection.

Q2: For sub-national programs, does another climate initiative use a promising approach to address the relationship to the national reference level?

So far, we believe that the VCS JNR program framework is the most well thought out, appropriate system for addressing this relationship. We recommend using

programs that meet rigorous validation requirements like the VCS system, or any other system that is recognized as an international leader in assessing rigor and permanence.

Q3: How should “national circumstances” be handled, and any projections of future land use change (e.g., deforestation), policies or programs be estimated?

National circumstances are difficult to predict and even more difficult to model. However, methodologies like the VCS methodology VM0009 allow for external variables, or “covariates”, to be included in the analysis of deforestation. These variables effectively are used as independent variables that are correlated to deforestation in the historic model, are allowed to inform the deforestation rate, and ultimately the extrapolation of that rate into the future. Sophisticated criteria for determining external variables’ influence on deforestation exist (e.g. Akaike Information Criterion), and those covariates can then be included in the model. Also, it is well recognized that countries or jurisdictions that have substantial forest areas, and historically low deforestation rates, can have changes in circumstances that result in rapid deforestation. At the same time, once little forest remains, deforestation will slow. VM0009 addresses these dynamics by modeling deforestation rates as a logistic function that starts slowly, increases, and then slows again, rather than using a simple linear or exponential extrapolation of historic deforestation.

Should the CF prescribe the approaches that can be used to project future deforestation? Or should each country be free to apply its own approach?

We recommend that each country be allowed to choose the baseline model associated with that program. The CF may wish to provide some basic principles to guide this process, but should not be overly prescriptive in its approach. Rigorous review of such models and projections should be integrated into the Program approval process, preferably by an existing internationally recognized standard and audit process, such as VCS JNRI, rather than a second process designed specifically for CF.

- **What are the most feasible approaches (e.g., historical average approach, economic modeling approach, etc.)? Which approach is most appropriate under which conditions (e.g., if there are recent changes in the trend of historic deforestation, or of commodity prices)?**

WWC has successfully used a system that is based on observation of actual deforestation behavior when constrained within an area of study. The literature has indicated that this deforestation exhibits logistic behavior (see Arellano-Neri & Frohn, 2001; Kaimowitz et al., 2002; Linkie et al., 2004; Ludeke et al., 1990; Mahapatra & Kant, 2005). VM0009 Appendix A, validated by the VCS and used for several verified ground-breaking REDD+ projects, fully explains the logistic approach, as well as how data can be efficiently collected to support efficient use of the model.

Q4: Should reference levels, ER Program activities, MRV, and leakage all be addressed with geospatial resolution? (i.e., requiring mapping of lands affected). Or is knowing *where* lands are affected by providing geospatial resolution not necessary, and just knowing the *quantity* of lands and tonnes within some jurisdiction adequate?

We answer both yes and no to this question. Yes, the geographic arrangement of lands must be known well enough to have confidence that the areas used to calculate reference emission levels and leakage are appropriate to the area where emission reductions are being quantified and where leakage may occur, considering the mobility of agents of deforestation, and the conditions of the forest. At the same time, no, it is not necessary to do repeated wall-to-wall mapping of every hectare of forest and every hectare of deforestation. We suggest using a statistical sampling approach which can be used with any imagery, as long as either a human interpreter, or a statistical relationship between image values and biomass can effectively discern forest from non-forest. Mapping using remotely sensed data should inform ground-based sampling to accurately quantify changes in carbon stocks, especially in areas where degradation occurs and where forests are recovering from disturbance. That said, we do not recommend the stipulation of a remote sensing resolution threshold, below which programs will not be allowed. This would present unneeded specificity, and in fact only support a select few approaches which require traditional change-detection techniques. These approaches, while being highly appropriate for either small areas, or for very few time periods, break down over large spaces or for robust time-series studies requiring many time period observations. We suggest an approach that allows for imperfect imagery, at any and all resolution (again, as long as forest/non-forest can be discerned, or biomass can be accurately estimated), and contend that this approach is superior for addressing problems of large scale (like JNR scenarios) and those that require high temporal resolution, e.g. where rate may be highly variable over time.

We suggest that any program built from a previously accredited technique (such as those approved through VCS) should be considered, provided the techniques adequately address the challenges presented by the specific ER-Program.

Q5: When do reference levels need to be updated, or can they remain fixed for the life of the CF Program ERPA contract (e.g., to 2020)?

Because ERPA contracts will be re-assessed at 2020, we do not believe that updates to the reference levels are necessary, and in fact would introduce unneeded complexity into the system. However the CF may want to allow countries the flexibility to propose baseline adjustments if significant new factors are introduced that have the potential to dramatically change baseline values, but such adjustments would have to go through the same rigorous audit process as the original baseline setting.

Q6: Should the CF determine crediting against the reference level, or against a separate “crediting level” below the RL that somehow takes domestic mitigation actions or discounts for Program uncertainties into account?

We recommend that the CF determine crediting against the reference level. However, we also suggest that the reference level be determined in a robust manner, allowing for covariates (explained above) and other factors that could possibly influence deforestation. We believe that these factors should be introduced at the point which historic deforestation is being modeled, not afterward, as this could introduce political disagreements and potential over-complication.

We point out that if the crediting level is lower than the reference emission level, failure to achieve target emission reductions by a given number of tons of emission will result in a higher percentage reduction in payment for performance than if the crediting level is the same as the reference level. Thus, setting the crediting emission level lower than the reference emission level could make funding of REDD activities more unstable, and thus make REDD less sustainable.

Q7: How can additionality be built into the reference level (i.e., activities occurring already or likely to occur are contained in the RL, and any activities beyond it are by definition additional)? Or does additionality need to be determined separately for each ER Program?

We believe that additionality is not applicable to accounting at the national scale, but is essential at the project scale, to ensure ER financing goes to those projects that are truly generating net ERs. At jurisdictional and national scales, we are of the opinion that additionality will be inherently captured in the ER program design, if performed correctly, as the ER-program should measure current forest stocks (through MRV) against the empirically measured baseline year forest stocks and compare the net change (positive or negative emissions) to the predicted net change generated from the historical forest emissions RL (and possibly the extrapolation of that RL into each monitoring period, if a clear emissions rate trend was demonstrated). However, if it is determined that additional criteria, such as financial additionality, are necessary, we believe this should be assessed individually at the program level.

- **Are there consequences for RL setting if additionality is addressed in the RL (e.g., should the RL be updated more frequently to account for changing circumstances)?**

The RL should be changed once every 10 years, or something similar, in our opinion, and therefore not within the life of an ERPA that will time out at 2020. There will always be some projects that win and some that lose if a national reference level is set and those projects are then evaluated against it. Because of this inherent characteristic of a nested system, we contend that the RL should be updated periodically, but not so often so as to place an unrealistic burden on the program developers.

- **If determined separately, are there feasible options for assessing program additionality in a meaningful way, given the challenging CDM experience?**

This is indeed a challenging task. For that reason, we recommend assuming that additionality be assumed to be inherent in the comparison of

measured stocks (through MRV) and predicted deforestation using a historic model. As stated previously, this works much better if the historic model is robust, containing many time-periods in the analysis (rather than 2-3) and accurately captures historic deforestation in a manner that actually mimics reality.

We strongly believe that traditional change detection systems cannot achieve this level of rigor, and in fact may prove to be impossible over the areas required for expanding REDD+ programs to jurisdictional and national scales. We recommend a statistical sampling approach, like that introduced in VM0009, as an appropriate alternative to traditional approaches, as it does not require fully cloud-free, wall to wall image coverage of the reference area, and also builds local capacity by involving teams of human interpreters.

Issue Paper 3: MRV design: carbon accounting of Emission Reductions Programs, non-carbon, community role; and registries. Some key questions we seek ideas or advice on:

Q1: Considering the circumstances of the CF (piloting, in REDD+ phase 2), how accurate does the measurement and monitoring need to be?

- **Should the same minimum level of accuracy be required for all programs? If so, what level of accuracy should be required? What criteria would help determine such a level (e.g., how feasible a level is for most REDD+ countries to achieve; or a level that allows the fungibility of credits with other climate program standards)?**

Yes, we support a universal accuracy level that would be applied to all programs. However, as noted, this level must be realistic, and perhaps should be relaxed from the project level accuracies required by standards such as the VCS. Something on the order of 80% is probably accurate enough for a large system. Also, a sliding scale could be considered. (e.g. accuracy thresholds proportional to the area of the jurisdiction), or a flat crediting deduction could be applied if a specific level of accuracy is not met.

- **Or should the CF be flexible, not prescribe a minimum level of accuracy, and be responsive to country circumstances?**

This does not seem to be a viable way to “weed out” programs that are not effective and viable. We recommend some level of scrutiny applied to all programs to “weed out” programs that potentially do not adequately address the problem of climate change.

- **How can the CF encourage countries to strive for higher accuracy, perhaps over time?**

There should be universal criteria against which all programs are measured. Following a protocol such as the tiered approach of the IPCC, which makes conservative estimates when direct measurement does not occur, is a useful means to encourage increased accuracy where this accuracy significantly impacts Program performance. Requiring the application of conservative estimates when a specific accuracy level cannot be achieved in measurement will provide some encouragement. It should also be recognized however, that the degree of accuracy sought should be connected to overall goals of the Program in achieving and rewarding emissions reductions, and not simply to achieve the maximum accuracy possible in a highly technical and constantly evolving field. Increasing accuracy comes at a cost, and in a world of constrained financial resources for REDD+, this means that it comes at a cost to other aspects of REDD+ implementation. Targets for accuracy therefore, should be established with the goal of achieving the accuracy needed for transparent and verifiable results, and not simply to be more accurate because it might be possible.

Q2: The Program monitoring system is expected to be consistent with the (emerging) national REDD+ forest monitoring system. What are appropriate criteria to assess this consistency?

The SOPs (low-level instructions) between the country-level MRV systems and ER Programs should be compared and assessed. To the extent possible, MRV should be consistent at all levels. This should be a key aspect of broader MRV planning, and supported to the extent possible by FCPF and other readiness financing.

Q3: Are cost effectiveness, and country capacity, important considerations? I.e., should the MF stress a stepwise approach that that is comfortable with early-stage approaches to issues (like early steps in developing the MRV system, short of a fully functioning system); or require potentially more expensive, higher capacity minimum approaches? (Recall the short timeframe of ERPAs, through perhaps 2020.)

Country capacities should certainly be considered, and national programs should be allowed to be developed one jurisdiction at a time, to allow for adequate financing, and learning by doing. However, we recommend NOT allowing for incomplete pieces within any jurisdictional program to be presented to the CF program against an unclear timeline. The problem of climate change mitigation requires immediate action using fully functional programs. It is understood that these programs are complicated, potentially time-consuming and also potentially expensive. However, we have made some recommendations to reduce costs (statistical sampling approach using potentially imperfect imagery), allowing moderate uncertainty, build capacity (RL analysis that employs teams of in-country analysts) and the adoption of previously-validated and scrutinized models - like the adoption of previously-validated VCS project-level methodologies - to address these concerns.

Q4: Non-carbon values should be monitored as feasible by REDD country Programs (and consistent with the national REDD+ forest monitoring system). How feasible is this for major non-carbon values? What are criteria for assessing feasibility?

We do not believe that non-Carbon values should be separately created or priced from the VERs created in the Programs. Non-carbon values such as social and environmental benefits are integral to Program success, and their value should be reflected in the value of the VER to the marketplace. Programs that do not address non-carbon benefits will in our opinion be highly failure prone and should be audited out of the program where possible. Standards exist to assess a project or program's performance in non-carbon benefits, and these can be used to distinguish best performers and best practices, and projects that perform better against non carbon benefits will likely be able to attract more buyers in the future, and possibly at better prices. But we believe that attempting to separately sell non-carbon environmental values can make systems so complex that they are not workable.

Q5: Are there best practices for the potential involvement of local communities in the MRV system design and implementation?

Yes, absolutely. We support the near universal use of local communities in the MRV effort. In fact, in our project-level experience, the MRV teams have been solely local. As a case in point, consider the forest ranger and forest monitors program in the Kasigau Corridor: In Wildlife Works' Kasigau Corridor Projects, we have incorporated forest rangers into our workforce, all of whom were recruited from the local communities by means of "recruiting days" that are held in 5 strategic locations surrounding the project. These events have become famous "job-fairs", embraced by the communities, and the forest ranger position has become highly coveted in the surrounding region. Rangers are unarmed stewards of their own forest, and they take pride in their job, which entails not only protecting their forests from poaching and illegal activity, but also documenting biodiversity and meticulously citing wildlife activity. The forest monitors are all local youth who conduct all of the field measurement of forest stocks. This program marks a resounding success for the Kasigau projects, and is geared entirely for local community members, on an equal opportunity basis. The program has even sought to tackle issues of gender equality by offering the position of forest ranger to men and women alike. The uptake has been unprecedented, and Wildlife Works is proud to feature multiple companies of female forest rangers who currently are thriving in their well-respected positions.

Following on the heels of this resounding success, Wildlife Works has implemented similar programs in the newly verified Lac Mai Ndombe project, recruiting an entirely local workforce to protect and measure the forest for the purposes of carbon accounting and reversal prevention. Again, these positions have emerged as the highest-valued jobs throughout the project area. These examples prove that not only does the involvement of local communities in MRV activities help the overall REDD process to thrive, but in the case of Wildlife Works' projects, it has emerged as an absolutely essential component of our business plan and recipe for success.

MRV practices need to fall in line with the rules/regulations of the JNR Program. Typically, skilled technicians are required to get accurate data for modeling (and we have had good experiences training locals, as demonstrated above). However some elements are easier and dramatically more cost effective to involve locals in than others. For example, species identification is typically very difficult for expensive western experts, and very easy for locals, so training locals to perform the field measurements makes more sense than using western experts. With very little training, locals can provide valuable reporting of things like initiation of illegal logging. With a bit more training, there is no limit to the positive effects of involving local communities in the MRV process and beyond.

Q6: Is independent third-party verification essential for CF ER Programs; or should countries be able to propose how verification is performed, and by whom?

We support independent third-party verification, as in our experience, this has provided an essential safeguard against deviation from the standard that we all are trying to achieve.

Q7: Should a registry of REDD+ activities be required for a CF Program in a country? (The FMT is considering cooperating with others to develop a common registry platform that could be distributed at no cost to FCPF countries.)

Yes.

- **If so, what key functions should it include?**

The registry should be similar to existing project-level registries (like VCS and CCB) and house program and project-level information, including nested project boundaries and their relationship to jurisdictional and/or national reference levels to prevent overlap. The registry should also potentially contain other statistics about the nested project, like mean carbon stocks, activity start date, etc. The DRC has an ambitious registry program that also addresses the integrity of the investors behind program activities by requiring a KYC or “Know Your Client” process to be undertaken by all project developers.

Issue Paper 4:

Displacement of Emissions (leakage): reversals of GHG benefits (non-permanence); and sustainability of ER Programs

Q1. Should leakage quantification be standardized?

Ideally yes. Where leakage needs to be counted, methods for calculating leakage should be standardized, but values of factors used in calculations, e.g. market leakage factors may vary from country to country.

We believe there are circumstances where leakage need not be counted. For example if there is a national program in place and it includes comprehensive national accounting of changes in terrestrial carbon stocks there is no need to quantify leakage because there is no possibility for uncounted domestic, and international leakage is not counted under UNFCCC rules. On the other hand if REDD is implemented at the sub-national/jurisdictional level, leakage outside a jurisdiction and within the national boundary should be counted, so that the integrity of each jurisdictional program can be maintained.

If a jurisdictional program contains nested projects, the jurisdictional program should stipulate how project level leakage should be counted.

Q2. Over what geographic area should leakage be counted?

If REDD is implemented at the sub-national jurisdictional level, leakage outside the jurisdiction and within the nation should be counted.

Q3. Are there approaches to quantifying leakage other than monitoring?

Yes. Econometric models can be more useful than monitoring for market based leakage. Monitoring is the appropriate approach for activity based leakage, e.g. with the movement of unplanned slash and burn activities from one ER program area to another. However monitoring is a very uncertain approach to quantifying market leakage because of exogenous changes in global demand for goods and technological changes in production. Econometric methods for quantifying market leakage such as that used in VCS method VM0009 described below are less problematic.

1. Calculate the market reduction in goods resulting from the project/program. This is the baseline production minus the project production minus any activity shifting leakage.
2. Calculate the fraction of this market reduction in production that is made up by production elsewhere. This fraction is calculated as: Elasticity of supply of the good divided by (Elasticity of supply minus (elasticity of demand times (1 plus the fraction of total national supply that is the market reduction in supply [from step

- 1]])). This calculation follows Murray, McCarl and Lee, 2004.¹ Elasticities of supply and demand can be obtained from a published database such as the FAPRI database published by Iowa State University.
3. Multiply the results of steps 1 and 2 to get the quantity of good production that is made up elsewhere.
 4. Multiply the result of step 3 by the fraction of leakage that is displaced to outside the country, using a published value or a factor from an econometric model of global trade in the relevant good. The resulting amount is the quantity of increase in domestic production of the good outside of the jurisdiction, caused by reductions in production within the jurisdiction.
 5. Multiply the result of step 4 by the fraction of production that is made up by conversion of new land, not intensification of production on lands previously used to produce the good in question. A value for this factor may be available in the published literature or a country may choose to do some research to empirically determine the value of this factor. In the absence of data on the value of this factor, it can be conservatively assumed to have a value of 1, which would mean that the entire increase in production elsewhere is made up by the conversion of new lands to production of the good. The result of this step is the amount of increased production of the market good that caused the REDD activities, where the increase in production is from lands that are newly cleared and brought into production in other parts of the country, outside the REDD jurisdiction.
 6. Divide the result of step 5 by the average yield per hectare of the good in question. This productivity factor should be appropriate to the country in question. The result of this step is the number of hectares of new clearing expected to be caused by market displacement of production caused by REDD activities on a jurisdiction.
 7. Multiply the result of step 6 times the per-hectare emission on conversion of lands to production. The per-hectare emission resulting from conversion can conservatively be calculated as the on-site carbon stock before conversion minus the carbon stock after conversion, with no lags for decomposition or counting of carbon exported during conversion and stored off-site.

We believe that all ER Programs must have requirements to ensure program activities make best efforts to mitigate leakage. Such requirements might include the need for REDD+ program activities that displace production agricultural conversion or logging to demonstrate that the agricultural or timber products can be replaced elsewhere within the country on non-forested land. For example, if a jurisdiction reduces conversion of forest to agricultural land by 1000 ha, and the average yield for the agricultural crop that would have been grown after conversion is 1 ton/ha, the gross reduction in crop production caused by the project is 1000 tons. If the jurisdiction can show that it has implemented practices that increase productivity on other lands already in production, and the increase in production elsewhere is at least 1000 tons, the jurisdiction should be able to claim that there is no reduction in production relative to the baseline, and thus no leakage.

¹ Murray, B.C., B.A. McCarl, and H.C. Lee. 2004. Estimating leakage from forest carbon sequestration programs. *Land Economics*. 80(1):109–124.

Given that much smallholder agricultural production in developing countries is very inefficient because of lack of access to seeds of productive varieties and fertilizer, there is large opportunity for increasing the productivity of smallholder farming. At the same time this will increase the food security and welfare of smallholder farmers.

Making farming more economically remunerative provides an incentive to bring new lands into farming. If a jurisdiction is to limit conversion of new lands to agriculture, it must implement controls on land conversion before making agriculture more remunerative, or the net effect of improving agricultural production will be an increase in conversion of land to agriculture, not a decrease.

Finally countries may avoid leakage from planned deforestation by mandate. For example, a country might stop giving concessions to forestland, for the conversion of forest to agriculture, or stop issuing new logging concessions to avoid market leakage.

Q4. How should the CF address reversals of emission reductions?

There are several viable approaches to addressing reversals of emission reductions. If REDD is performed at the national scale, the most intellectually straightforward approach is that the selling country guarantee the emission reductions. If emission reductions are later reversed, the generating country should acquire valid emission allowances or emission reduction credits and deliver these credits to the entity holding the reversed REDD credits. Another viable approach is use a buffer account to replace reversed credits.

If REDD is implemented at a sub-national jurisdictional scale, it would still be desirable to CF for the REDD credits to be guaranteed by the national government of the country where the sub-national REDD program is located.

Risks of reversal will vary from country to country. If a buffer approach is used instead of a government guarantee of REDD credits, it would be appropriate to estimate the jurisdiction-specific risk of reversal, and set buffer withholding rates according to estimated risk rates specific to the jurisdiction in question.

REDD has not been existence long enough for us to have meaningful experience with REDD reversal rates. Using the jargon of the insurance industry, we do not have a loss history that we can use to make actuarial estimates of expected future losses. If governments make land tenure secure, and enforce rule of law (including land use policies), and have economic development, reversal risks could be very low. However, if these conditions are not met, reversal rates could be very high, and substantial reversals could occur within a decade.

We see no other way of identifying reversals than rigorous monitoring. Brazil and others have demonstrated that monitoring of large-scale deforestation can be done using remote sensing. Monitoring of fine-scale deforestation and degradation will probably require ground-based sampling. Contrary to the arguments of some remote sensing proponents,

ground-based methods are well established, reliable, and cheaper than many remote sensing approaches. Also, ground-based monitoring provides local employment, and can provide data that are important to other resource management activities of countries.

Q5. Should liability for reversals extend beyond the ERPA contract?

In theory, liability should last indefinitely. Getting compensated for REDD activities would mean that the avoided emissions that are compensated would be permanently subtracted from potential emissions, reducing the carbon stock that potentially could be emitted later.

However practically speaking national governments should be held accountable for reversals for a determined time period, perhaps a set number of years beyond the ERPA, as it is not practical to hold reversals over the head of a nation indefinitely. This assumes that CF will have the capacity to enforce reversals beyond the ERPA.

Q6. How should liability for reversal be handled between CF & ER programs?

All permanence methods are policy solutions that attempt to make potentially reversible AFOLU emission reduction credits fungible with non-reversible credits. Of the current range of solutions we favor the buffer approach over insurance and strongly disagree with the option of temporary crediting.

Q7. Are there design characteristics to make ER programs sustainable?

Yes we believe that for ER programs to be sustainable, ER programs must engage as much local participation as possible (in MRV), distribute as much of the program benefits as practical to the local level where ER program activities will actually result in emission reductions, and utilize appropriate levels of scientific rigor to allow the programs to be practical and affordable.

We believe that ER programs will be most sustainable in countries that have a clearly defined land tenure system, rule of law, and economic development broadly available to the population. Ideally the official land tenure system should include government recognition of traditional uses and users of forests, such as the DRC Cahier de Charge process, but we believe CF should stop short of value judgments prescribing what constitutes an appropriate legal land tenure system, and instead focus on FPIC and contractual benefit sharing mechanisms that are fair to all stakeholders.

Also, countries must have land use policies that support conservation of forest and grassland, while also providing for use of lands to produce agricultural goods and forest products.

Issue Paper 5. Safeguards: WB safeguards, reporting on Cancun safeguards; feedback and grievance mechanisms. Some key questions we seek ideas or advice on:

Q1: Can Programs readily use existing WB safeguards policies and instruments (e.g., SESA, ESMF), or are additional actions necessary?

These safeguards provide a useful minimum standard for Programs. Programs should be allowed to propose and develop more advanced or activity-specific requirements, provided they can demonstrate adherence to the minimum requirements in the standard on all factors.

Q2: How can integrated reporting on WB safeguards and on the Cancun safeguards via the Safeguards Information System (SIS) best be achieved, to minimize the burden on countries?

Ideally a common data architecture on what should be captured and reported would be very useful. For example in the CCB, indicators are required against all of the Social and Biodiversity outcomes that can be measured against during monitoring. In the case of the CF, a basic default set of indicators could be developed that broadly apply across geographies and political systems, and that are readily measureable at varying scales, e.g. nested project, jurisdiction and national levels to ensure consistency of Reporting against these indicators within the CF. Countries would then be allowed to propose additional indicators to be monitored and reported provided they always addressed the default set. One key aspect of safeguards monitoring is that the verification process that a program will go through will largely determine the relevance of indicators monitored and reported. If a verification program does not include a measureable indicator for certain variables then there is no point including them in the Program design.

Q4: Is there anything that needs to be reported that is not likely to fall under WB safeguards or the SIS?

We think that as categories/concepts the WB safeguards are comprehensive, even though they are in some cases so broad it is hard to see how they can inform the details of program design.

Issue Paper 6: Benefit sharing mechanisms, including equitable distribution; carbon rights, land, and resources tenure; non-carbon benefits. Some key questions we seek ideas or advice on:

Q1: Should the CF set best practices or other benchmarks for equitable distribution and the design of benefit sharing mechanisms? Or should it simply require that such mechanisms be in place and be transparently proposed?

It is possible that some minimum benchmark could be set but given the wide range of circumstances of forest community or indigenous peoples involvement, and program implementation complexity and cost in ER Programs in different countries it would be hard to set that value accurately. Therefore we would advise an approach that requires a principle of fair and equitable benefits sharing, and that requires agreement of all stakeholders to the share they will receive and transparent reporting of distribution of the benefits.

Q2: How can the CF incentivize ER Programs to make progress on carbon rights and land and resource tenure, within the short timeframe of ER Programs up to 2020?

We believe that land disputes can potentially best be solved contractually where REDD+ is involved, rather than through a formal legislative process in the host country. As an example, this could be accomplished by providing a contractual mechanism for all parties to agree (following a demonstrably valid FPIC process) on how they will share in the beneficial interest of the land/carbon ownership without having to resolve long standing legal issues prior to beginning to receive benefits of REDD+. In this case, some of the funding that REDD+ generates can be used to attempt to promote the legal resolution of land tenure disputes while the REDD+ program proceeds. This type of approach will not work in cases where opposing parties both claim 100% rights to the carbon benefits, but from our experience working in a dozen countries, we have always been successful through approaches such as these, which take the pressure off of the specific program to resolve issues beyond its capacity, while not holding hostage the potential emission reductions and community benefits to a potentially lengthy legal process.

Q3: What non-carbon benefits are most important for ER Programs to consider? Should the CF set best practices or other benchmarks for some or all of the benefits identified in the “Key Elements of the Methodological and Pricing Approach for the FCPF Carbon Fund” provided by the Participants Committee?

- I.e., “improving local livelihoods, building transparent and effective forest governance structures, making progress on securing land tenure, and enhancing or maintaining biodiversity and/or other ecosystem services”

We believe improving local livelihoods is by far the most important and potentially contentious co-benefit. Enhancing or maintaining biodiversity, as well as other ecosystem services, should be a requirement of a REDD+ Program, unless those ecosystem services are already covered under separate economic agreement, e.g. hydropower or water supply, in which case the economic scale may be beyond what is reasonable for REDD+ to bear, and the REDD+ project in that case should simply do no harm to the existing environmental services. Effective forest governance structures and land tenure progress are investments that it is reasonable to expect national or regional governments to make with their share of the REDD+ proceeds. However, these issues should not be a hurdle to their beginning to implement forest protection, provided that strong verification exists.

Q4: Is there promising experience in the valuation of non-carbon benefits by conservation or carbon finance or other programs that the CF should be aware of?

CCB has now been used extensively to assess these benefits and provides a market value by tagging VCS credits to imply those projects have undergone additional validation and verification with regard to co-benefits. However we feel it is difficult to assess a specific premium associated only with the co-benefits. We think all Programs should be required to address co-benefits, so having a VER price that does not incorporate this sends a negative signal about what will be accepted within an ER-Program. Rather the value of the program credits as a whole should be assessed when pricing ERPA's to purchase a program's credits.

Q5: Are cost estimates available for addressing key non-carbon benefits; and are potential costs manageable for ER Programs?

The few estimates that exist in this regard vary significantly. This is one of the key variables in determining program origination costs, which translates to VER origination cost range, however in our experience these non-carbon benefits are manageable and essential costs for ER Programs.

Q6: Are cost-effective approaches available for monitoring key non-carbon benefits from the UNFCCC, CBD, or other relevant programs or projects?

Yes we believe that projects that have undergone CCB verification have had to put in place cost-effective monitoring of non-carbon benefits. We have several examples, and are sure other voluntary market projects have others.

Issue Paper 7: Structuring and financing ER-Programs, in the context of country development and REDD+ plans. Some key questions we seek ideas or advice on:

Q1: How can a country best structure an ER Program proposal in its development and development assistance context?

- How large a Program should a country offer (e.g., how many hectares, or tonnes of carbon potentially produced, and other benefits, in which regions)?
- Can some areas within a jurisdiction be excluded from the ER Program, or does it need to include all lands within some boundary? (Related to any guidance offered on reference levels, MRV, and leakage.)
- How should a Program's capacity to manage a Program be demonstrated and assessed?
- Can any guidance be given on how a country determines the appropriate mix of carbon and non-carbon benefits for its context and ER Program area?

Q2: How can a country decide which of the potential activities in its emerging REDD+ strategy in its R-PP it makes sense to propose to the CF?

- Should the easiest to implement, or first to be implemented, or lowest cost, or easiest monitored ones be offered to the CF?
- Should a country reserve some options for eventual domestic markets or regulatory or voluntary programs?

Q3: How best can a country draft a business plan for its CF proposal, addressing the proposal's relationship to other mitigation or development programs it has planned or is considering?

- What are the key assumptions made about potential risks, program effectiveness, carbon price, and program delivery time?
- What is the anticipated cost of delivery for tonnes of CO₂ for this proposal?
- How sensitive are the cost estimates to key risk, effectiveness, and delivery variables?
- Can any guidance be provided regarding how a country proposes the timing of ERPA payments and MRV events, and the trade-offs across them? (I.e., more frequent payments offer early revenues to cover costs or offer benefits, but likely require more frequent MRV)?

Wildlife Works, as a successful early implementer of REDD+ projects in the voluntary market, has particular experience and expertise relevant to issues around structuring and pricing of individual CF Programs.

In considering the question of the size of Program that should be offered, our experience in working with our government partners suggests that many REDD+ countries are ready to commit to implementing REDD+ at a scale of significance to their national forest estate, and of significance to international efforts to succeed in REDD+ globally. This willingness, however is predicated on the availability and accessibility of resources from the

international community to support these bold efforts and provide alternative income for maintaining standing forests. For at least the initial program of the CF, the maximum scale of an ER-Program is already somewhat determined by the WB investor's commitment, given the real costs on the ground to establish and maintain REDD+ activities. Given this limitation on initial financial commitments, we recommend the CF should consider financing an ER-Program that is relevant to the scale of the forest estate of a country, i.e., brings a significant portion of the country's forests under protection, and that reflects the progression of REDD+ beyond small projects toward national implementation. We also believe the CF should tailor its investments to the size of the forests that will be committed under an ER-Program, reflecting in real terms the value of successful implementation to the goal of REDD+ as an international emission-reducing mechanism. We do not recommend that the CF establish specific area or emissions reductions requirements in this regard, but remain sufficiently flexible to support and encourage progress toward national implementation while recognizing the vast differences in country circumstances.

Regarding the question on exclusion of areas within the boundary of an ER-Program area: ideally an ER-Program would be designed, and its boundaries set, to comprehensively cover a specific area – this avoids complexities in program design, and discourages “cherry picking” of areas that may be easier to protect from deforestation and degradation. However, there may be occasions where excising an area from within an ER-Program is the most effective path in implementation, such as for planned deforestation for large scale infrastructure projects, or areas under control of a different entity, etc. Therefore, while guidelines should be set up to encourage comprehensive programs, countries should be able to make a case for excluding areas within a proposed ER-Program, and the rules should be set such that exceptional cases may be granted this option.

A Program Implementer's capacity to manage a Program should be demonstrated through independent verification of emissions reductions and other program requirements, using a standard such as VCS JNR or other internationally recognized standard.

We strongly recommend that the MF does not attempt to separate out values for benefits other than carbon. This will add significant complexity and confusion to cost and pricing estimation, and will unnecessarily fragment the current market. However, we also strongly believe that non-carbon benefits such as social and environmental benefits, should be integrated into programs, and that programs that take extra positive steps in providing these benefits should be duly recognized for their successes. It is also likely that a market will favor those who take extra steps to maximize social and environmental benefits. Standards such as CCB and REDD+ SES are a practical way to distinguish these kinds of programs, for example the CCB includes levels of achievement within its standard, so that a project may seek its highest rating if it chooses. Current voluntary market behavior suggests that programs demonstrating a higher commitment to these kinds of co-benefits are in fact favored within the general offset market where supply is greater than demand, and in some cases are able to attract a premium price within the REDD offset market itself. We recommend that the CF design its MF to reflect this approach, by using existing standards where applicable, and providing its own principles and indicators where relevant applicable tools do not already exist, without attempting to split benefits into separately-created and separately-priced products.

Participating countries will have a range of short, medium and long-term goals and circumstances to consider in choosing their proposed CF activities. Given the role of the CF

as a pioneering process, we suggest that countries should propose those activities that are nearest readiness for implementation and for providing verifiable emissions reductions as a way to prove the concept of the CF and incentivize additional action outside of its investments. Given the current scale of per-country CF possible investments and the interest in scaling up REDD+ to beyond-project models, it is likely that most ER-Programs will be able to produce VER's beyond the capacity of the current CF investment to absorb. This is a desirable outcome and is one reason that it is vital the CF does not create a niche market that limits the capacity of its Participants to sell additional VER's to a broader range of buyers.

Regarding the issue of cost of delivery for tonnes of CO₂, we provide some insight based on our experience in transacting. Based on our practical experience, we suggest that in general, private sector investors are willing to invest up to \$10-12/ha in REDD+ project set up investments up front. Larger projects may see a lower per-ha cost, as economies of scale do exist in some project instances. The ongoing cost to manage REDD+ projects, to deliver adequate co-benefits to ensure behavioral change necessary to achieve ER targets, is between \$2-8/ton, depending upon factors such as number of involved stakeholders and communities, monitoring protocols, etc. A well-designed REDD+ Program will provide scaled benefits to participating communities such that the success of the program in creating and selling emission reductions is reflected in the amount of benefits provided to all participants, who are also bearing the risk of losing benefits if the program is not successful. We believe a per-ton price of \$6-12 will provide the necessary reimbursement of initiation costs, appropriate benefits to government and community participants in the program to reward behavior changes and cover implementation costs, as well as provide sufficient return to private sector investors to incentivize further investments in such programs.

It is likely, given the potentially considerable up-front costs involved in implementing an ER-Program, that an up-front payment to cover initial investments and provision of community benefits early in the Program will be necessary to insure a timely and smooth initiation of the Program.

The timing of ERPA payments and MRV events will depend significantly on the specific country and program circumstances, and should be tailored to each Program's needs and design. If a Program will be paying communities and does not have sufficient up-front investment to cover these costs from Program initiation, then it is likely that the Program will want to receive payments, and thus provide MRV results, on at least an annual basis. This is an important factor when a country designs and proposes its MRV system and approach. For many approaches to MRV for REDD+, *it is not practical, or even possible*, to provide results on an annual or semiannual basis. Design of the MRV system should work backwards from the overall needs and goals of the Program in this regard, bearing in mind the cost of MRV and the time and human resources needed to provide verified results within the timeframe required for payments and Program management. Given the potential role of the ER-Program in national plans for REDD+ implementation, it may be desirable to implement a 2-tiered system, which allows the Program to provide verified results in a timely manner, while developing a system for national implementation that may provide verification on a lengthier timeframe.