

FCPF Carbon Fund Short Submissions on Methodological Framework Topics Submission from Center for Global Development

This submission offers suggestions that are relevant to the questions raised in Issues Papers 2 and 3 regarding establishment of reference levels and MRV design, respectively. As the questions in your request for submissions imply, establishing historic reference levels and collecting accurate data for measurement of carbon emissions is often extremely challenging for many tropical forest developing countries. They often lack data and institutional capabilities to meet the requirements of the REDD+ program design.

We would like to propose that the FCPF Carbon Fund team consider an approach which uses a simple satellite monitoring system to detect changes in forest cover and a performance assessment in which target rates of reductions in forest clearing would be negotiated based on a country's "forest transition curve" and a more ambitious global zero deforestation target. This approach could be used on an interim basis as more complex, data-intensive approaches are developed. It could also offer an alternative approach to REDD+ more broadly.

The Center for Global Development has developed a satellite monitoring tool, called Forest Monitoring for Action, or **FORMA**,¹ and a simple performance rating system, called Forest Conservation Performance Rating (**fCPR**),² that could potentially be tested as part of the FCPF Carbon Fund to provide a performance scorecard and a prototype performance-based payments scheme.

The Monitoring Tool: Forest Monitoring for Action – FORMA

A number of remote sensing tools – LIDAR, Landsat, SPOT and other satellite imagery tools – are being explored to monitor tropical forest clearing. However, there is still no simple, timely and globally consistent method in place. The FORMA tool, developed by CGD and now managed and updated by the World Resources Institute (WRI), uses publicly available free satellite data that are updated every 1 – 2 days based on the Moderate Resolution Imaging Spectrometer (MODIS), which operates on NASA's Terra and Aqua (EOS PM) satellite platforms. FORMA produces detailed maps of deforestation hotspots. In particular, it relies on changes in "greenness" and telltale patterns of fires detected by satellite that are indicative of forest clearing. The FORMA tool is automated and operationally useful, with monthly update capability for 1 kilometer x 1 kilometer parcels as new satellite data become available. WRI has developed the tool further so that it will shortly be able to provide twice-monthly updates and data down to 500 x 500 meter parcels. Please visit the [methodology page](#) for a more detailed explanation.

The Rating Tool: Forest Conservation Performance Rating (fCPR)

In simple terms, using FORMA, the Forest Conservation Performance Rating (fCPR) assigns color-coded performance ratings for all tropical forest countries against three

¹ See CGD's website and "[Forest Monitoring for Action--Rapid Identification of Pan-tropical Deforestation Using Moderate-Resolution Remotely Sensed Data](#)" - Working Paper 192

² See CGD's website and "[FCPR - Forest Conservation Performance Rating for the Pan Tropics](#)" - Working Paper 294

benchmarks, explained below. The ratings are released quarterly and will be publicly available on the CGD website.

The fCPR can serve two purposes: it can be used as a global “scorecard” to provide evidence on a quarterly basis as to how a country or even a state or province is performing against benchmarks. In the case of the FCPF Carbon Fund, the fCPR could be used to provide cash transfers based on measured performance using a color coding system explained below.

The three fCPR Benchmarks. The fCPR scorecard suggests that payments would be made against three benchmarks: performance that is better than a “business as usual” forest transition curve; performance that would lead to achieving an agreed global zero net deforestation target year; and a one-time rapid improvement in performance. In the fCPR scorecard, performance against these three benchmarks would receive a color-coded rating: yellow for performance that is better than the forest transition curve; green if it puts the country on a path toward an agreed global net deforestation target; and pink for short-run progress: a one-period steep decline in forest clearing. These could be modified to suit the FCPF program.

1. Forest Transition. The first benchmark measures a country’s progress against its normal “forest transition” pathway. The notion of forest transition is based on the observation that a country’s rate of deforestation declines as its income rises, until eventually the rate of deforestation is zero. The rate at which deforestation declines has been called the country’s “forest transition curve.” This is in a sense the “business as usual” base case. While the fCPR authors calculate that the per capita income level at which forest clearing ceases is \$15,000 (in purchasing power parity terms), in practice the target rate of decline in deforestation could be negotiated between the country and FCPF Carbon Fund, allowing for “national circumstances” to be taken into account. Using the average forest clearing during the previous two years as a benchmark, a “forest transition” line can be drawn that will reflect a target path that begins at the benchmark and declines toward zero clearing at an income of \$15,000 or some other agreed level. If a country’s rate of deforestation declines faster than anticipated (below the agreed “forest transition curve”), it would get a yellow rating and an agreed payment based on that rating.³

2. The REDD+ Zero-Deforestation Goal. The idea of REDD+ reflects the global community’s recognition that we are unlikely to avoid a climate catastrophe unless carbon emissions plummet in the near future. But this may not happen under “business as usual” – the normal forest transition described above. The fCPR suggests that an ambitious goal be set to achieve for zero forest clearing by 2025.⁴ Countries would receive a better rating – green -- if the rate of decline in forest clearing were not only better than their normal forest transition line but at a rate that would lead to the REDD+ goal of zero clearing by 2025.

3. Short-run Progress. The third benchmark would recognize a one-time decrease in clearing from one period to the next, even if countries are above their forest transition curve and the REDD+ goal line. The idea is to provide encouragement to countries whose rates of forest clearing may be above the first two benchmarks. It is a one-time recognition to avoid the perverse incentive to increase and then decrease forest clearing over and over. In this case a

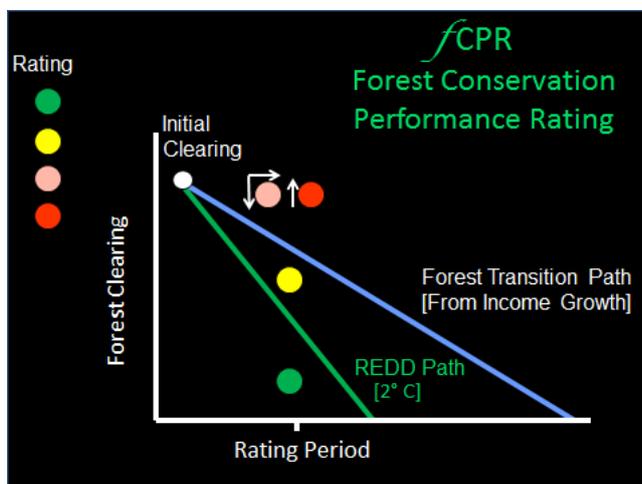
³ The authors of the fCPR system propose a benchmark based on the past two years’ performance. Given that MODIS data is available for the last 10 years, an alternative would be to construct a benchmark based on the average of the last 10 years.

⁴ The authors note that no consensus target year for zero deforestation has emerged from the international climate negotiations, although drafts circulated at Cancun apparently included references to a target date of 2030 (Gray, Louise. 2010. Cancun climate conference: Fears over a global deal on forests. The Telegraph, Dec. 7, 2010)

country above the two benchmark lines but whose performance in the period is better than last would get a pink rating.

Countries would receive a payment if their performance in a period was below the Forest Transition Path (yellow). They would receive a second, or larger, payment if the rate of decline in forest clearing were not only better than their normal forest transition line but at a rate that would lead to the REDD+ goal of zero clearing by 2025 (green). The third benchmark (pink) would allow for a one-time payment for a decrease in clearing from one period to the next. Countries above the two benchmarks and with worsening performance would get a red rating and not receive any payment at all.

The chart below illustrates the simple four color rating scheme.



Setting the Price

The authors believe that the price must be set and remain stable for a substantial period of time, that the price must be set competitively to offer credible compensation for conservation, and that it should not be higher than the marginal cost of CO2 reduction in the energy sector, the price at which energy producers find it worthwhile to reduce CO2 emissions.

As an illustration, the authors propose a price of \$25/ton CO2. This price takes into account the CO2 price equivalent of the conversion opportunity cost of tropical forest land— anything lower may be insufficient to induce conservation in many active deforestation areas. Using a price of \$25 per ton annually and a standard of 500 tons of CO2 sequestered per hectare would yield an annual payment per tropical forest hectare conserved (below the transition line) of \$681. Continuing the illustration, it is suggested that the unit payment for performance below the REDD line be set at twice the transition level, or \$1,362/hectare, given the need to reduce emissions quickly. The single-period payment could be set at four times the REDD payment, or \$5,448/hectare, with the aim of promoting course reversal for rapid-clearing countries in the short term.

Conclusion. The fCPR and FORMA tools offer the possibility of a performance based mechanism to transfer payments to tropical forest developing countries to reduce forest clearing. They can provide a low cost, global approach that is consistent across all tropical forest countries. The fCPR performance rating system can test approaches to designing reference levels, offer rapid response payments to reward countries for actual results – reducing deforestation – and provide a transparent, publicly available scorecard to motivate action. The use of the FORMA monitoring tool and fCPR performance rating scorecard can offer an opportunity for the FCPF Carbon Fund to test a simple performance based payments scheme as part of its effort to provide performance based payments to halt deforestation.