REDUCING EMISSIONS FROM DEFORESTATION AND FOREST DEGRADATION

102: REDD Methodologies

Key Concepts that Countries Must Address in Developing Their National REDD Strategy

The key principle to REDD is simple – emissions from deforestation and degradation must be reduced. If this does not happen, no benefits or revenues will be generated. Several factors may influence whether or not this reduction occurs:

- How do we define forest? What types of forest can be included under REDD?
- How long will REDD results last? Will deforestation and degradation resume in the future?
- Will benefits of REDD in one location be offset by increased deforestation or degradation in another location?
- Do the benefits of REDD occur directly as a result of REDD efforts, policies, and projects or would the reductions have happened anyway?
- What's the reference scenario – what level are we reducing from?

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How Can We Define Forests?

The figures below represent the definition of "forest" as defined under the Kyoto Protocol.

- Minimum area: 0.05 – 1.00 ha
- Minimum crown cover 10 – 30%
- Minimum potential height 2 – 5m
- Young forests with the potential to meet the above 3 criteria
- Areas which were forested before 1990

Defining forests is necessary to identify which areas are eligible for REDD activities. However, the above example shows that definitions can raise new issues. If potential height is set at 2 meters then bush and scrublands would count as forest. Individual countries may define forests differently, and may even have multiple definitions for different ecosystems. It is most important that a country's definition is consistent over time.

Additionality

REDD credits reward additional improvements beyond a reference scenario, in terms of reduced deforestation and degradation. This means that if a country has already planned or implemented strategies that will result in reduced greenhouse gas emissions from forests, then they cannot claim credits for reductions under an international REDD mechanism.

Countries will have to prove the additionality of all REDD activities.

Leakage

If an area of agricultural land is converted into forests, it becomes a carbon sink by converting CO_2 from the atmosphere into carbon in wood and other plant matter. However, at the same time, forests in a different area, or even a different country, may be cleared to host the very same agricultural production that was displaced. This means that there is no net benefit from the new forest in terms of reduced greenhouse gas emissions. This is known as leakage, and mitigating and preventing leakage is crucial to ensuring that REDD and forest carbon projects actually reduce carbon emissions. Leakage can happen in several ways:

- *Activity Leakage*: loggers move to another forest
- *Market Leakage*: REDD activity locks up land, reduces potential supply of land for other purposes and therefore increases potential financial benefits of clearing other forest areas
- *International Leakage*: logging companies move to other countries or continents

Solutions: *Leakage can be minimized through landscape management and a national accounting system. The more countries that participate in a climate change regime, the lower the risk of leakage.*

Permanence

Can forests permanently store carbon? How do we ensure that trees saved one year will not meet the axe in future years? Investors in REDD need to be certain that forest carbon credits are permanent. This is an important issue to overcome, considering that forest carbon credits come with inherent risk – carbon storage activities may fail due to leakage, forest fires, and increasing profitability of using the land for alternative activities.

- *Ecological risks* – forest fires, natural disasters
- *Government risks* – a change in government could overturn prior commitments
- *Demand-side risks* – if the value of converting land to oil palm plantations increases, storing carbon will stop being profitable and the demand for carbon credits may drop

Solutions: *There are several ways to secure the permanence of carbon emissions*
- *Issue temporary credits that would expire after a few years*
- *Credit buffers – set some credits aside as insurance in case of future loss of forest carbon*
- *Risk pooling – minimize risk by combining REDD with different activities such as afforestation and energy efficiency projects*

Baselines and Reference Emission Levels

In order to prove that emissions have been reduced, each country will need a reference situation, or **baseline**.
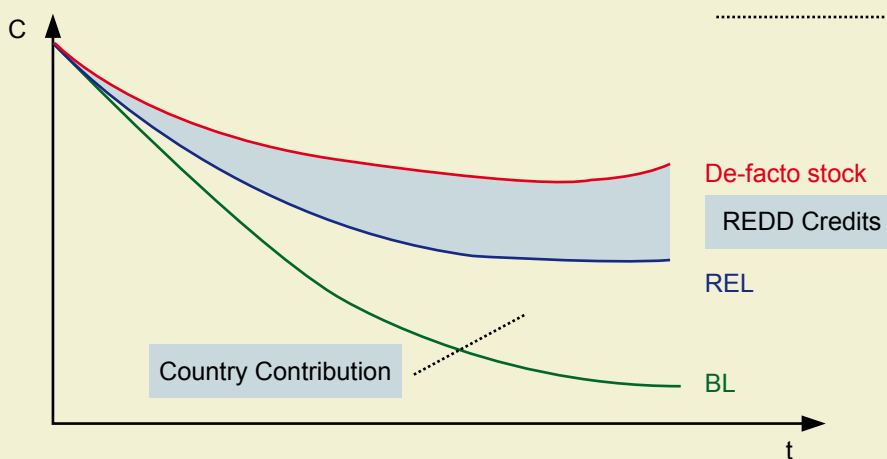
y-axis = 'Forest Carbon Stocks'
De-facto stocks = 'actual stocks'
x-axis = Time

Baseline: Projected future CO_2 emissions from forests in the absence of REDD activities.

Reference Emission Level (REL): a national REL is similar to a baseline, but accounts for the uncertainty of future projections by including a voluntary national commitment. REDD credits are awarded for actual emission reductions beyond a country's voluntary contribution to reducing deforestation and degradation.

The graph shows that credits are generated from the measurable difference between actual stocks and the Reference Emission Level.
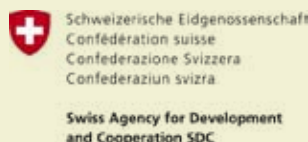
In calculating a baseline, countries can use a combined approach of using historical data and modeling future emissions. The combination is useful for countries that have little or no historical data from past forest inventories. It is most important that countries choose a REL that is relevant over the long term because average deforestation rates can fluctuate greatly over 2, 5, or even 10 year time frames.

Conflicts may also arise in determining baselines, because national and local stakeholders have an interest in overstating baseline current deforestation and degradation rates in order to claim greater reductions in future. It is very important to have an accurate baseline; overstating baseline emissions undermines efforts to mitigate climate change. In contrast, understating baseline emissions will make REDD seem unattractive.

Recommendations and Solutions

- A baseline must be independently validated and adequately monitored in order to be credible enough to generate REDD credits.
- Sub-national, or project-level baselines will be more accurate and monitoring will have a higher degree of certainty.