

Unearned credit

**Why aviation industry forest offsets
are doomed to fail**



Forests burn in Palangkaraya, Central Kalimantan, Indonesia, 2011. Storage of carbon in forests is highly reversible and volatile, making forests an inappropriate candidate for offsetting fossil fuel emissions—which are permanent (photo: Rini Sulaiman, CIFOR, Flickr.com/CC)

Contents

Why aviation industry forest offsets are doomed to fail	3
ICAO criteria for carbon offset programmes	5
Do forest offset projects pass the ICAO test?	11
Case study 1: Mai N'dombe REDD+ project	11
Case study 2: Oddar Meanchey REDD+ project	15
Conclusion	19

Unearned credit. Why aviation industry forest offsets are doomed to fail

Author: Jutta Kill

Editor: Austen Naughten

November 2017



Fern office UK, 1C Fosseway Business Centre, Stratford Road, Moreton in Marsh, GL56 9NQ, UK

Fern office Brussels, Rue d'Edimbourg, 26, 1050 Brussels, Belgium

www.fern.org

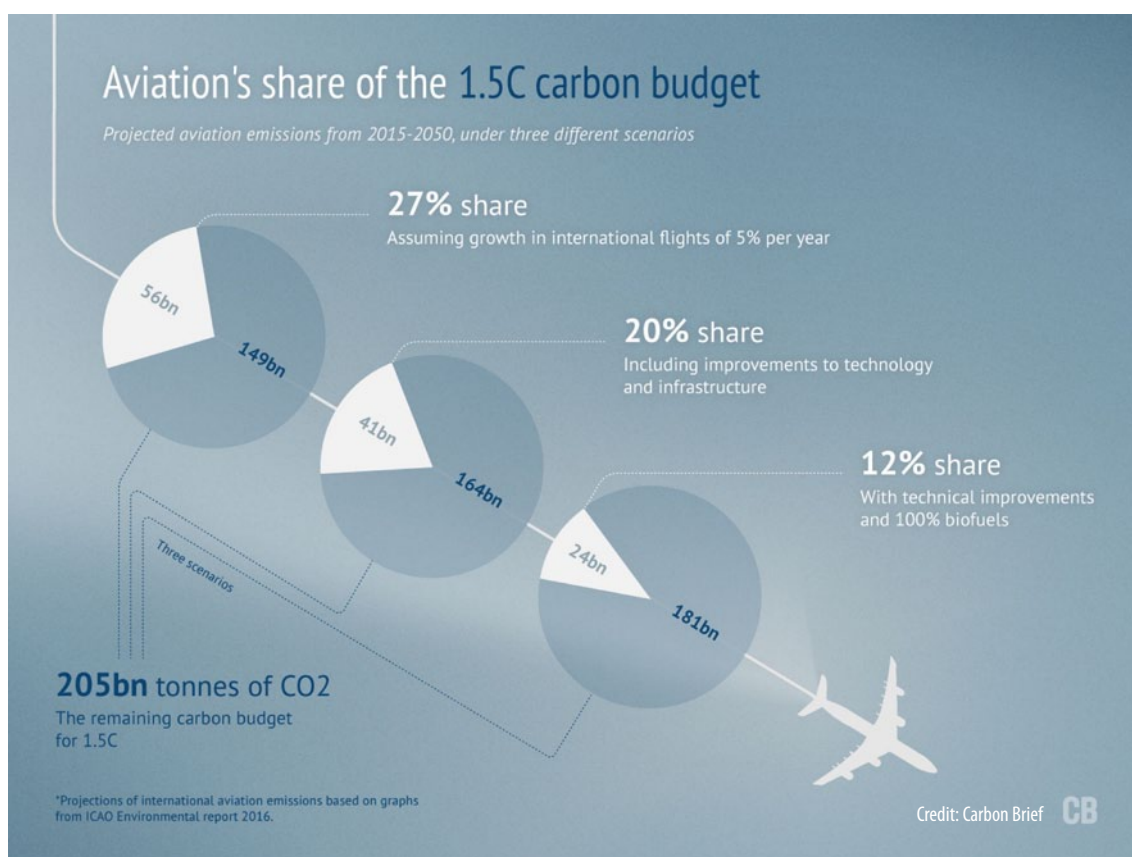
We would like to thank the EU, the European Climate Foundation and the David and Lucile Packard Foundation for their financial support. These organisations are not responsible for the accuracy or content of this report. Views expressed do not necessarily reflect their views.



Why aviation industry forest offsets are doomed to fail

International aviation is an increasingly dominant source of carbon emissions. If it were a country, it would already rank amongst the top ten emitters, with international airlines' 2020 emissions projected to be nearly as high as Germany's.¹

Unlike other sectors, international aviation is not included in 2015's Paris Agreement, nor was it included in the Paris Agreement's predecessor, the Kyoto Protocol – as these agreements are made up of commitments from individual countries, and international aviation emissions do not occur within any country's borders. As a result, international aviation has for many years lagged behind other sectors when it comes to reducing emissions. If international aviation continues to grow at current rates, by 2050 it would make up nearly a quarter of global greenhouse gas emissions.²



Even if ICAO implements all its planned technological improvements to reduce aviation emissions, international aviation will still consume 20% of a 1.5C carbon budget by 2050. Any more ambitious calculations are based on a plan to get 100% of plane fuel from biofuels – which ICAO has since abandoned following concerns about the impacts on tropical forests.

- 1 International aviation's emissions in 2020 will be 752 Mt CO₂; Germany's annual emissions in 2015 were 792 Mt CO₂. Source: https://ec.europa.eu/clima/policies/transport/aviation_en.
- 2 [http://www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU\(2015\)569964_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU(2015)569964_EN.pdf);

In face of mounting criticism, the international aviation sector – via its specialised UN agency, the International Civil Aviation Organisation (ICAO) – has come up with a plan which it says will reduce its climate impact.

In October 2016, ICAO adopted the ‘Carbon Offsetting and Reduction Scheme for International Aviation’ (CORSIA), which claims to ensure “carbon neutral growth from 2020”.

CORSIA relies heavily on carbon offsetting, the controversial approach that allows emitters such as airlines to continue burning fossil fuels and still claim “carbon neutrality” – as long as they pay someone else to prevent emissions elsewhere.

The attractiveness of carbon offsetting is obvious – it is cheap³ – and it allows business as usual to continue.

But carbon offsets have faced serious criticism about their actual impact on climate change – particularly when it comes to forest offsets, which are notoriously difficult to measure and impossible to guarantee. Forest offsets have also come under fire for threatening the land rights and livelihoods of local communities.

To respond to these fears, ICAO is developing a set of rules around what types of carbon offsets CORSIA will recognise. A draft set of rules will be agreed during the ICAO council session taking place from 30 October – 17 November 2017. The governments that make up ICAO will then have time to comment before agreeing the final rules in June 2018. These rules are likely to be based on CORSIA’s existing best practice criteria for carbon offset programmes.

Fern’s research shows that forest carbon offsets consistently fail to meet the majority of the CORSIA criteria. This should not be news to the aviation industry. This report contains details of two forest carbon offset projects that have been used by major international airlines to compensate for flight emissions – despite failing to meet nearly all of the CORSIA criteria. If ICAO is at all serious about ensuring its own criteria are met, it must exclude forest offsets from the CORSIA mechanism.



Virgin Atlantic offers passengers the option to offset their flight emissions via the controversial Oddar Meanchey forest project in Cambodia (see p. 15)

Christian Junker flickr.com/CC

3 ICAO itself estimates costs in the range of 0.2 to 0.6 per cent of total revenues from international aviation in 2025; falling to 0.5 to 1.4 per cent by 2035. Carbon offset credits often trade at a fraction of the carbon prices assumed by ICAO, so in reality the cost will be even lower. (Source : <https://www.icao.int/environmentalprotection/Documents/ICA0%20Environmental%20Report%202016.pdf>)

ICAO criteria for carbon offset programmes⁴

Programmes should deliver carbon offset units that represent emission reductions, avoidance or sequestration that:

1. Are additional;
2. Are based on a realistic and credible baseline;
3. Are quantified, monitored, reported, and verified;
4. Have a clear and transparent chain of custody;
5. Represent permanent emissions reductions;
6. Assess and mitigate against potential increase in emissions elsewhere;
7. Are only counted once towards a mitigation obligation;
8. Do no net harm.

⁴ ICAO Pre-event Briefing (2016): The Role of Carbon Markets in the Global Market Based Measure Scheme, available at https://www.icao.int/Meetings/HLM-MBM/Documents/20160504_HLM_Pre-Event_Role%20of%20Carbon%20Markets%20in%20ICAO%20global%20MBM_V04.pdf. Apart from these eight broad criteria, ICAO has not published details about eligibility criteria for carbon offset programmes.

Fern’s research shows that forest carbon offsets are highly unlikely to meet at least six of these eight criteria (all but Criteria 3 and 4, which of course may also not be met in particular cases). If ICAO were to use forest offsets, it would not be able to deliver on its post-2020 “carbon neutral growth” promise, as these offsets would be at high risk of not actually reducing emissions – and thus not being able to make ICAO’s emissions carbon neutral.

CRITERIA 1

Offsets are additional

The concept of ‘additionality’ is at the core of carbon offsetting; it is also perhaps its most contentious element. For a carbon-emitting activity to be genuinely offset by a carbon-reducing activity, that carbon-reducing activity must be additional to business-as-usual. In short, it can’t be something that was going to happen anyway. In some scenarios, the additionality is easier to hypothesise. Replacing a coal-fired power station with wind turbines is an example of a project in which a clear and demonstrable reduction in carbon output has occurred. Although it is not possible to prove that the change would not have happened without extra support from carbon offsetting, it is at least possible to show that reductions have occurred.

The assessment is a lot more problematic when it comes to forest offsets. Many forest offsets are based on protection of existing forests under schemes such as REDD+ [see box on next page]. Carbon credits represent the difference between emissions from forest loss that hypothetically might happen in the future if the forest offset project did not exist, and those emissions that actually happen with the forest offset project in place. **The means by which these hypotheses are calculated and verified are so vague, and so riven with questionable assumptions and wishful thinking (see Criteria 2 below), that the carbon credits they offer to the market may well be meaningless in climate terms.**

If CORSIA accepts forest carbon offsets, there is therefore a high risk they will not be additional. CORSIA members will be offsetting their emissions against carbon reductions that do not actually exist except on paper. With aviation carbon being added to the atmosphere, and reductions elsewhere not, in reality, occurring, actual overall emissions will rise and the fundamental purpose of the scheme – carbon neutral growth – fails.

CRITERIA 2

Offsets should be based on a realistic and credible baseline

Carbon offsetting projects start with a “baseline” scenario, a description of what is likely to happen in the future if the project is *not* implemented. The carbon credit generated by the project is the difference in carbon emissions between this baseline scenario and the suggested impact of the project.

Even with the best of intentions, any methods used to calculate totally hypothetical scenarios are always going to be highly imprecise. **Even worse, project implementers have a clear incentive to exaggerate the amount of forest destruction in the business-as-usual scenario, so they can claim even more credits for any level of forest destruction beneath that.**

Offsetting schemes have tried to put in place mechanisms to prevent baselines from being manipulated in this way. REDD+ projects must use approved methodologies, or have their own calculation methodologies approved by third-party auditors such as Verified Carbon Standard (VCS), Plan Vivo, or the GoldStandard. And yet there are many examples of highly improbable REDD+ project baseline scenarios being approved by third-party auditors (see for example the Mai N'dombe REDD+ project, one of the case studies in this report, which is VCS-certified), because auditors have their own vested interest in exaggerated baseline scenarios.

Third-party auditors usually charge for their services depending on the volume of carbon credits a project generates. The more carbon credits a project is set to generate, the more money they can charge for their assessments. Furthermore, they are paid directly by the project developer. It is against the auditors' own interests to challenge improbable baseline scenarios: if they argue for a reduction in carbon credits for an offset project, they reduce their own fee, and they face the possibility of gaining a reputation as "difficult" and losing future work.

As mentioned above, forest offsets do not necessarily pose a problem to Criteria 3 and 4, though in particular cases (such as both case studies in this report), they may also not be met.

CRITERIA 5

Offsets should represent permanent emissions reductions

This cannot be stated with greater certainty: **No forest carbon project can guarantee permanent emissions reductions.** Compensating fossil fuel emissions with forest offsets is a logical fallacy based on a fundamental but common misunderstanding. When it comes to climate impacts, **forest carbon and fossil carbon are not equivalents.**

What is REDD+?

REDD+ stands for "Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries". It is a mechanism that started being developed within the United Nations Framework Convention on Climate Change (UNFCCC) in 2005, which allows developing countries to receive payments for reducing deforestation and maintaining their forest cover. The idea was that industrialised countries would buy REDD+ credits to offset their emissions and allow them to meet their UNFCCC emissions reduction commitments under the Kyoto Protocol, and that these exchanges would create a global carbon market. However – more than ten years later – this global forest carbon market has yet to materialise.

Concerns about the robustness of the forest carbon credits, and their ability to guarantee real and permanent emissions reductions, meant that the European Union's Emissions Trading System (EU ETS) and the Kyoto Protocol's Clean Development Mechanism (CDM) forbade them from being used. Meanwhile, REDD+ has faced widespread criticism from civil society organisations for the pressures it places on forest communities. The creation of CORSIA has revived interest in REDD+ credits – even though the risks that made them unattractive to the EU and UN's carbon trading systems have never been resolved.

"Forests — for example in Indonesia, Brazil, Australia, Canada, the USA or Portugal — usually burn on a large and uncontrollable scale, and the adjacent 'buffer' zone is often equally vulnerable to fire"



Forest fires rage in Central Kalimantan, Indonesia, 2015 (photo: Aulia Erlangga, CIFOR, Flickr.com/CC)

Fossil carbon was laid down in the ground over hundreds of millions of years, and is only released into the atmosphere when extracted and burned as fuel, a process which is irreversible for all practical purposes. Once released into our atmosphere, it will take further millions of years before natural processes again remove carbon from the atmosphere, storing it in the ground. Storage of carbon in forests, by contrast, is highly reversible and volatile. Forests store and release carbon over much shorter intervals, often within the scale of a human lifetime. The release is also often outside human control – for example, when a forest burns. Thus, forests store carbon only temporarily. After a time of uptake and storage while trees grow, the carbon stored in the trees is soon re-released into the atmosphere when a tree is cut, burns or decays.

This is why forest carbon offsets were ruled ineligible under the Kyoto Protocol's Clean Development Mechanism (CDM), and under the European Union's Emissions Trading System (EU ETS) (see box on page 7).

REDD+ deals with the vulnerability of forest carbon sinks by setting aside a certain number of carbon credits to replace those already sold if the offset forest burns. In reality, this carbon "buffer" offers little insurance. Forests – for example in Indonesia, Brazil, Australia, Canada, the USA or Portugal – usually burn on a large and uncontrollable scale, and the adjacent 'buffer' zone is often equally vulnerable to fire. In Ecuador, for example, a peasant community signed a contract with a carbon offset company to plant pine trees as carbon stores. The small print in the community contract obliged the community to replant any trees lost to fire at their cost. The carbon pine plantations burned once, and the community replanted; when the plantations burned a second time, the community had to hire help to replant; the third time the plantation burned, the community refused to replant. The company claims it has 'buffers' elsewhere. But such claims are hardly ever checked by auditors.⁵

CRITERIA 6

Programmes should assess and mitigate against potential increase in emissions elsewhere

Since the aim of CORSIA is to reduce emissions from business as usual, it is important that any emissions "saved" by forest offset credits do not simply relocate and appear elsewhere – or there will be no overall reduction of emissions. The risk, of course, is that any activity restricted by the offset project – agriculture, or animal rearing – is simply displaced to the next convenient, unprotected area,

⁵ Acción Ecológica (2015): Josefina and the Water Springs against Pine Plantations in Ecuador's Páramos. WRM Bulletin 211. <http://wrm.org.uy/articles-from-the-wrm-bulletin/section1/josefina-and-the-water-springs-against-pine-plantations-in-ecuadors-paramos/>

meaning no overall reduction of emissions has occurred. This is known as “leakage.” **But preventing emissions from being displaced in this way is clearly beyond the scope of any carbon offset project: the project has no remit or power beyond its own geographical area.** It does not have the power to change the regional and global economic forces and activities – such as soy or palm oil plantations, industrial logging or cattle-ranching – that are the causes of deforestation. In practice, these demands are relocated elsewhere – as has happened repeatedly in forest carbon projects like the Noel Kempff project in Bolivia.⁶ As a result, overall emissions continue to rise, making the “offset” bought by the aviation industry null and void in climate terms.

CRITERIA 7

Offsets should only be counted once towards a mitigation obligation

Offsetting only makes sense if volumes of carbon emitted and carbon saved are accurately measured and demonstrated to be equivalent. If a unit of “saved” carbon is counted against two units of carbon emitted, the mechanism has failed, and the net result is an increase in carbon emissions. Although both off-setters believe they have negated their emissions, only one has.

To knowingly double-sell carbon credits would be fraudulent, but as countries start implementing the Paris Agreement, it will become more likely that carbon credits will simply be double-counted in error. Under the Paris Agreement, for the first time, developing countries have taken on emissions reduction commitments (under the Kyoto Protocol, it was only industrialised countries) – in which they are allowed to include their forests. The problem is that the bulk of forest carbon offset projects are based in these same developing countries, since this is where most threatened tropical forests are located. **The aviation industry may find itself un-wittingly buying carbon credits that have already been counted as emissions reductions in national carbon accounting schemes – meaning overall emissions rise, belying claims about “carbon neutrality”.**

To avoid this, emission reductions sold by private sector REDD+ projects should be deducted from the national greenhouse gas balance of the country in which they took place. But there is no mechanism yet in place to ensure this, and it is highly improbable that the UNFCCC will agree on one before airlines begin purchasing offset credits to use under CORSIA, or that ICAO will step up to the plate in the interim. As third-party carbon offset auditor VCS has said, *“It’s unlikely that ICAO will offer a centralized solution to double counting, as doing so is outside the purview of that institution [and] is also not the purpose or purview of voluntary market carbon certification programs.”*⁷

CRITERIA 8

Programmes should do no net harm

The concept of “net harm” is itself intensely problematic – particularly when it comes to impacts on people. If harm is “net”, this implies that harm to one person or community can be justified by compensating an entirely different person or community. This is clearly unacceptable in human rights terms, and should give serious pause to all involved in implementing CORSIA – particularly since there is ample experience of forest offset projects causing very real harm to very real people.

6 An excellent example is the leakage-plagued Noel Kempff forest carbon project in Bolivia, one of the first forest carbon offset projects and cited as a reference early on in the REDD+ debate. For details and a reference list of publications, see WRM (2015): REDD. A collection of conflicts, contradictions and lies.

7 VCS (no date): Double Counting in ICAO’s CORSIA: Issues and Solutions. Online text. <http://www.v-c-s.org/double-counting-in-icaos-corsia-issues-and-solutions/> Accessed 23 October 2017.



Woman carrying wood, Yangami, DRC. Forest offset projects often focus on stopping local people from doing things like gathering firewood, since these activities are cheaper to compensate than industrial uses. (photo: Axel Fassio, CIFOR/Flickr.com/CC)

"Generations of forest-dependent peoples face disruption to their ways of life, exclusion from their traditional sources of income and livelihood, and even criminalisation and conflict so that wealthier people can reassure themselves that their weekend city-break flight is, on balance, causing 'no net harm'"

Unable to address the wider, powerful and profitable economic factors driving the destruction of forests, the overwhelming majority of REDD+ projects claim that the main threat to forests are peasants or forest peoples. This is not true: the vast majority of deforestation is caused by industrial activities like soy or palm oil plantations, or cattle-rearing.⁸ However, industrial uses of forest land tend to bring in much higher profits; the low international market price of carbon credits over the past ten years never even got close to paying these off. It is much easier and cheaper to restrict peasant farming, shifting cultivation, and traditional forest use – so this is what most REDD+ projects focus on. Meanwhile, large-scale deforestation outside the REDD+ project area continues unabated. The consequence is conflict and criminalisation for forest peoples and peasant communities: their animals are confiscated and their crops destroyed, or they face fines for cutting down trees to build canoes. Those who are affected most by a REDD+ project's land use restrictions are often the last to receive any of its benefits, if they receive any at all.⁹

ICAO has claimed that forest carbon offsets are simply commodities to be exchanged, "like gold, coffee, oil, orange juice, or corn".¹⁰ But unlike coffee or corn, where the deal is finished once the commodity changes hands, the forest offset 'product' is an ongoing change in human activity, which must be implemented, monitored and enforced, changing the lives of communities for decades – even generations – if the promised carbon storage is to be delivered. Generations of forest-dependent peoples face disruption to their ways of life, exclusion from their traditional sources of income and livelihood, and even criminalisation and conflict so that wealthier people can reassure themselves that their weekend city-break flight is, on balance, causing "no net harm". For these communities, "no net harm" is a cruel joke.

8 http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/UCS_RootoftheProblem_DriversofDeforestation_FullReport.pdf

9 The 2015 publication by the World Rainforest Movement, *REDD: A Collection of Conflicts, Contradictions and Lies*, contains over 20 examples of such REDD+ initiatives that have caused conflicts and "net harm" to traditional forest users. Several of these have been marketed by carbon offset providers that also sell carbon credits to airline passengers. More examples have come to light since, and have been reported on by REDD-Monitor. <http://www.redd-monitor.org/2017/10/03/the-surui-forest-carbon-project-faces-illegal-logging-gold-and-diamond-mining-almir-surui-is-looking-for-alternatives-to-carbon/>

10 https://www.icao.int/Meetings/HLM-MBM/Documents/20160504_HLM_Pre-Event_Role%20of%20Carbon%20Markets%20in%20ICAO%20global%20MBM_V04.pdf

Do forest offset projects pass the ICAO test?

Scoring two airline-backed forest offset projects against ICAO's own criteria.

Case study 1: Mai N'dombe REDD+ project

Where: Democratic Republic of the Congo (DRC)

Operated by: Wildlife Works Carbon

Selling offsets to: Austrian Airlines passengers¹¹ and San Diego Airport's offsetting scheme¹²



Austrian Airlines gives passengers the option to offset their flight emissions with carbon credits from the Mai N'dombe forest carbon project in DRC (photo: lkarasawa, flickr.com/CC)

Criteria 1: Additionality

Score: **FAIL**



Take away fact: It is highly likely that the Mai N'dombe REDD+ project is selling non-additional carbon credits

All forest carbon offset projects struggle to prove their claimed forest protection is additional to what would have happened without the project, because they use hypothetical scenarios to calculate their impact. The Mai N'dombe REDD+ project – which compounds the hypothetical approach with a staggeringly inappropriate methodology (see Criteria 2, below) – is a striking example of a project whose additional climate benefits are essentially unprovable, and when critically examined, almost certainly non-existent.¹³ Worryingly, the project claims to be saving emissions because it prevented a logging license from being re-issued in the project area – but Democratic Republic of Congo (DRC) has had a moratorium on new logging licenses since 2002, nine years before the project even began.¹⁴

11 https://www.austrian.com/en/Info/Flying/CO2offsetting?sc_lang=en&cc=AT; <https://www.climateaustria.at/projekte.html>

12 http://sdnews.com/view/full_story/27343019/article--San-Diego-Airport-offsets-miles-with-The-Good-Traveler-program?instance=most_popular1

13 C. Seyller et al. (2016): The 'virtual economy' of REDD+ projects: does private certification of REDD+ projects ensure their environmental integrity? *International Forestry Review* Vol. 18 (2), 2016.

14 REDD-Monitor (2017): Is Wildlife Work's Mai N'dombe REDD+ project "additional"? <http://www.redd-monitor.org/2017/09/13/is-wildlife-works-mai-ndombe-redd-project-additional/>

Criteria 2: Based on a realistic and credible baseline

Score: **FAIL**



Take away fact: The baseline against which the project's carbon "savings" are calculated is taken from a forest that is 600 kilometres away and in a very different condition

There are two options for developing a REDD+ baseline – you can either use a reference area, or you can take historical deforestation trends in the project area and extrapolate likely future deforestation from them. The Mai N'dombe project used a reference area which **appears to be wholly inappropriate:**

- 1, The reference area is Mayombe Forest in Kongo-Central province, which is almost *600 kilometres away from the REDD+ project location*. Unlike Mai N'dombe, Mayombe is accessible to Kinshasa (the capital of DRC, with a population of nearly 10 million) by road – and unlike Mai N'dombe, Mayombe is close to DRC's only direct access to the ocean.
- 2, Mai N'dombe is a dense, humid rainforest. Mayombe is a mosaic forest, meaning it is made up of mixed areas of agricultural land and forest.
- 3, Mai N'dombe is sparsely populated. The area around Mayombe has a high population density.

All three of these factors make deforestation rates in Mayombe much higher than in the REDD+ project area, making it easy for the REDD+ project to claim it is reducing deforestation compared to this inflated baseline scenario. It is no surprise then that an independent review of the REDD+ project concluded that the reference area was *"a dubious choice"* and challenged the REDD+ project's claim that, in its absence, the whole forest would have been clear-cut and converted to agriculture by local communities.¹⁵

The authors of the independent review conclude that *"baseline scenarios in REDD+ projects amount to untestable guesses"* and that even *"small differences in baseline scenarios – whether designed intentionally or not – can have severe financial (positive for business actors) and environmental (negative for the climate) consequences."*¹⁶

An article published by the World Rainforest Movement in 2015 notes that *"Project calculations set emissions prevented by the Mai N'dombe REDD project at 1.5 to 3 million tonnes of CO₂ [carbon dioxide] per year over the 30-year period of the project (for comparison, Denmark's annual emissions from international aviation were 2.5 million tonnes in 2013). Another questionable assumption."*¹⁷

Criteria 3: Quantified, monitored, reported, and verified

Score: **DUBIOUS**



Take away fact: Third party auditors have ignored or overlooked critical problems with this project, raising questions as to their ability to guarantee the quality of offset credits

The project was verified by third party auditors (the Norway-based Det Norske Veritas, or DNV), using the widely-known Voluntary Carbon Standard (VCS). DNV do not seem to have challenged

15 C. Seyller et al. (2016): The 'virtual economy' of REDD+ projects: does private certification of REDD+ projects ensure their environmental integrity? International Forestry Review Vol. 18 (2), 2016

16 Ibid. – Seyller et al. (2016). Page 243

17 WRM Bulletin 221, February 2016: Congo Basin Rainforest Project: Communities leery of "Conservation Revolution" <http://wrm.org.uy/articles-from-the-wrm-bulletin/section2/congo-basin-rainforest-project-communities-leery-of-conservation-revolution/>

the questionable choice of reference area and the assumptions used in the baseline scenario (see above). This raises questions as to the value of the auditors' reports and of the VCS certification they awarded.

Criteria 4: A clear and transparent chain of custody

Score: **FAIL**



Take away fact: There is no clear chain of custody information provided by this project

The project does not make publicly available information that would allow public monitoring of the carbon credits' chain of custody. The project does not maintain a publicly accessible database with information about all credit sales. The project does not provide any comprehensive chain of custody information for credit sales on its website or in other publicly available project documentation. Some project credit sales are reported on the Markit Environmental Registry, but this is not comprehensive.¹⁸ Because there is no place to access complete information about the chain of custody, there is nothing to prevent double-selling of credits.¹⁹

Criteria 5: Represent permanent emissions reductions

Score: **FAIL**

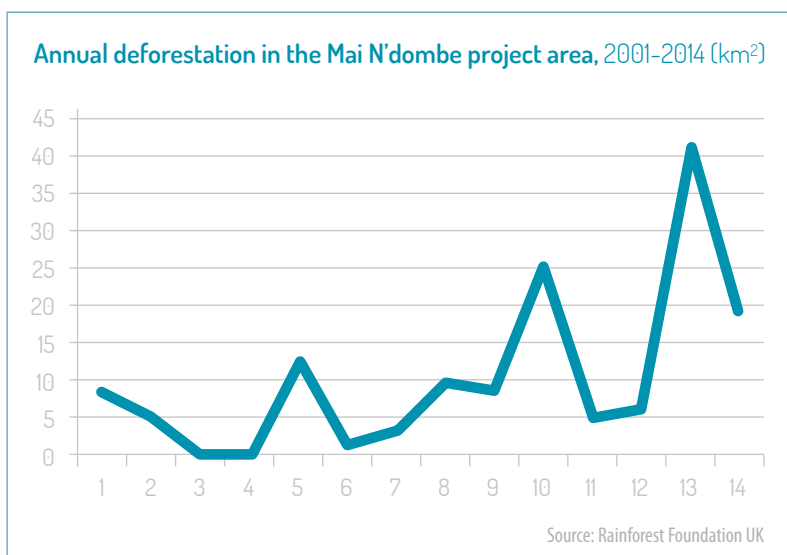


Take away fact: Deforestation in the area has increased since the project began

Like all forest carbon offset projects that attempt to use short-term forest carbon storage to offset permanent fossil carbon emissions, this project is logically flawed, as it doesn't take into consideration that storage in forests is temporary and vulnerable to change, and release of fossil carbon into the atmosphere is permanent.

Sadly, this project – only a few years into its inception – has already shown how temporary its carbon

storage is. Satellite images collected by Global Forest Watch show rates of deforestation in the project area between 2003 and 2014. From 2003 to 2011, deforestation is modest. By 2013 – two years after the REDD+ project began supposedly protecting the area – deforestation spiked to an unprecedented level (see image above), thereby negating any carbon neutrality claimed by those who bought the carbon credits.



18 https://mer.markit.com/br-reg/public/index.jsp?name=Mai%20N'dombe&entity=retirement&entity_domain=Markit,GoldStandard
 19 Fern (2015): "Who Takes the Credit? REDD+ in a post-2020 UN climate agreement", see <http://www.fern.org/whotakesthecredit>



Village within the Mai N'dombe REDD+ project area, DRC (photo: Jutta Kill)

Criteria 6: Safeguard against a potential increase in emissions elsewhere

Score: **FAIL**



Take away fact: The project does not define how it will ensure deforestation is not displaced

In a country such as the DRC where forest governance is still weak, ensuring that deforestation stopped by the project is not displaced elsewhere would require a clear, supportive plan, accompanied by monitoring across the wider region. There is no evidence that the project has attempted to do that.

Criteria 7: Only counted once towards a mitigation obligation

Score: **DUBIOUS**



Take away fact: Without a national system monitoring credits claimed from this project, it is impossible to guarantee that claimed emissions reductions are not being counted twice

In the absence of a global system for coordinating national and private carbon accounting, there is no guarantee that the credits from any project will be counted only once. This project's lack of a clear and transparent chain of custody (see above) only compounds that risk.

Criteria 8: Do no net harm

Score: **FAIL**



Take away fact: This project has caused intra-communal tension and violence

Far from doing no net harm, Mai N'dombe is a cautionary tale of how destructive REDD+ projects can be to local people. An estimated one third to one half of the project area overlaps local communities' customary territories,²⁰ leading to conflict. One such example is in the Basengele area, where traditional leaders signed agreements with the REDD+ project, seemingly without consent from the villages that they claimed to represent. This has resulted in ongoing intra-communal tensions

20 Forest Peoples Programme (2012): "Carbon Concessions in the Democratic Republic of Congo (DRC) Neglect Communities", <https://www.forestpeoples.org/en/topics/redd-and-related-initiatives/news/2012/04/carbon-concessions-democratic-republic-congo-drc-ne>

and sometimes violence as community members reacted to this “betrayal”. Opposition to the project remains strong in many villages,²¹ especially in the western, inland portion of the project area. Interestingly, DNV (the auditors) did not visit this portion of the project area during their assessment, citing time constraints. There is also no indication that they sought information from local organisations about the concerns of people living in that area, even though strong opposition had already been publicly reported.

Case study 2: Oddar Meanchey REDD+ project

Where: Cambodia

Operated by: Terra Global Capital

Selling offsets to: Virgin Atlantic passengers²²



Virgin Atlantic gives passengers the option to offset their flight emissions with carbon credits from the Oddar Meanchey REDD+ project in Cambodia (photo: Tomas del Coro, flickr.com/CC)

Criteria 1: Additionality

Score: **FAIL**



Take away fact: The forest is being destroyed, not protected

All forest carbon offset projects struggle to prove their claimed forest protection is additional to what would have happened without the project, because they use hypothetical scenarios to calculate their impact. For the Oddar Meanchey project, the supposed additionality is difficult to justify as the project simply does not work. An extensive and in-depth study of the area found that “In many of the sites more than half of the forest (at the time of verification) has disappeared. The REDD programme has been powerless to stop these processes.”²³

Criteria 2: Are based on a realistic and credible baseline

Score: **UNKNOWN**



Take away fact: The publicly available documentation does not tell us what the baseline is

²¹ <http://wrm.org.uy/articles-from-the-wrm-bulletin/section2/congo-basin-rainforest-project-communities-leery-of-conservation-revolution/>

²² Via the Carbon Neutral Company, now called Natural Capital Partners. <http://www.carbonneutralcalculator.com/flightcalculator.aspx?client=Virgin>

²³ REDD-Monitor, 25 February 2016: Oddar Meanchey, Cambodia: “No one seems to be learning any lessons”. <http://www.redd-monitor.org/2016/02/25/oddar-meanchey-cambodia-no-one-seems-to-be-learning-any-lessons/>

"In many of the sites more than half of the forest has disappeared. The REDD programme has been powerless to stop these processes"



Clearing of forest within Oddar Meanchey REDD+ project, Cambodia (March 2012, photo: Shalmali Guttal)

Criteria 3: Are quantified, monitored, reported, and verified

Score: **FAIL**



Take away fact: Independent researchers have documented the widespread failings of this project. The findings of the project's own monitoring and evaluation, if they exist, are not publicly available

Criteria 4: Have a clear and transparent chain of custody

Score: **DUBIOUS**



Take away fact: There is no clear chain of custody information provided by this project

The Oddar Meanchey project does not make publicly available the information that would allow public monitoring of the carbon credits' chain of custody. The project does not maintain a publicly accessible database with information about all credit sales. The project does not provide any comprehensive chain of custody information for credit sales on its website or in other publicly available project documentation. Some project credit sales are reported on the Markit Environmental Registry, but this is not comprehensive.²⁴ Because there is no place to access complete information about the chain of custody, there is nothing to prevent double-selling of credits.²⁵

Criteria 5: Represent permanent emissions reductions

Score: **FAIL**



Take away fact: The forest is being systematically cleared by the military

The story of Oddar Meanchey is a depressing illustration of the impermanence of forests as a carbon store. Eyewitness and photographic evidence shows the military clearing forest inside the project area (see photo above and on page 17).²⁶ A witness reports "we were meant to be working on a project there, it was too close to the area that the military had been clearing, the next day, officials came in with Government approval to stop the whole project as it would expose the whole situation."²⁷

24 https://mer.markit.com/br-reg/public/index.jsp?name=Mai%20Ndombe&entity=retirement&entity_domain=Markit,GoldStandard

25 See <http://www.fern.org/whotakesthecredit>

26 <http://www.redd-monitor.org/2014/06/13/military-clearing-of-community-forests-in-oddar-meanchey-cambodia-photos/>

27 *Ibid.*



Military bunker and deforested land within Oddar Meanchey REDD+ project, Cambodia (March 2012, photo: Shalmali Guttal)

Criteria 6: Safeguard against a potential increase in emissions elsewhere

Score: **FAIL**



Take away fact: The project does not define how it will ensure deforestation is not displaced

Given the lack of available material on the project, it is not possible to say how it ensures deforestation is not just moved elsewhere. However, given that the project has failed to stop deforestation even within the project area, this point becomes irrelevant.

Criteria 7: Are only counted once towards a mitigation obligation

Score: **DUBIOUS**



Take away fact: Without a national system monitoring credits claimed from this project, it is impossible to guarantee that claimed emissions reductions are not being counted twice.

In the absence of a global system for coordinating national and private carbon accounting, there is no guarantee that the credits from any project will be counted only once. This project's lack of a clear and transparent chain of custody only compounds that risk.

Criteria 8: No net harm

Score: **MASSIVE FAIL**



Take away fact: The forest is being destroyed, and the people are exploited or excluded

The shocking negative impacts of this project are well reported. With the exception of one site out of a total 13 (a community forest run by monks, Song Rukavorn, which received exceptional levels of financial support) there has been no substantial decrease in the rate of deforestation and *"in terms of providing people with a humble income stream that can act as a disincentive to clearing forest, then the project has failed miserably in all sites."*²⁸

The monks' community forest is *"run by a charismatic monk with close connections to the provincial governor and the Forestry Authority, [who] governs the forest in a near-despotic fashion, preventing one*

28 REDD-Monitor, 25 February 2016: Oddar Meanchey, Cambodia: "No one seems to be learning any lessons". <http://www.redd-monitor.org/2016/02/25/oddar-meanchey-cambodia-no-one-seems-to-be-learning-any-lessons/>



Forest conservation activities, Cambodia (photo: gardnergp, flickr.com/CC)

"When I told villagers they were supposed to be paid for their efforts, many were shocked and angry to the point of tears"

*village from collecting resin, evicting another from land within the forest's border which it has farmed before the forest was established, and imposing heavy fines and even jail terms on anyone who dares to engage in small-scale timber felling.*²⁹

Despite claims that villagers receive payment for patrolling the project areas, they have received little or no money for their work: *"I could not find anyone at the village level who had been employed by the REDD program, but many complained about receiving one-off USD 50 dollar payments to entire villages to conduct years of forest patrolling activities. When I told villagers they were supposed to be paid for their efforts, many were shocked and angry to the point of tears."*³⁰

In another village *"the community forest committee unexpectedly expanded forest boundaries into local farmland, even burning houses, farming huts and cashew nut farms that stood in their way"*. Villagers are forced to pay bribes to community forest committees or soldiers, just to be allowed into the forest to collect non-timber forest products or small amounts of timber. In some cases, soldiers are said to have taken over the forests and demanded rents from people entering.³¹

The project has *"little or nothing to offer low-income and land poor agriculturalists who live adjacent to forests [...] People at the village level have invested serious amounts of labour and energy into the protection of forests even when it offers them very limited financial or other gain. People in Oddar Meanchey are not forest dependent – the vast majority are low income agriculturalists struggling to earn a living on less than two hectares of rice and cassava land. By foregoing the opportunity to expand into forest land, many have made a major sacrifice – and one that is unlikely to ever be compensated."*³²

29 lbd: 52 – REDD-Monitor 25 February 2016. <http://www.redd-monitor.org/2016/02/25/oddar-meanchey-cambodia-no-one-seems-to-be-learning-any-lessons/>

30 lbd.

31 lbd.

32 lbd.

Conclusion

The best response to climate change is to actually reduce emissions—and ICAO needs to come up with a plan to do this. If in the meantime stop-gap measures are to be used, they must be robustly designed and implemented. Forest carbon offsets are by their nature deeply problematic. When tested against ICAO's eight criteria, they fail on almost every point. If CORSIA is to succeed by its own standards and maintain credibility, it must exclude forest offsets from the outset.

"Forest carbon offsets are by their nature deeply problematic. When tested against ICAO's eight criteria, they fail on almost every point"

Village within the Mai N'dombe REDD+ project area, DRC (photo: Jutta Kill)



“If ICAO is at all serious about ensuring its own criteria are met, it must exclude forest offsets from the CORSIA mechanism”



Fern office UK, 1C Fosseway Business Centre, Stratford Road, Moreton in Marsh, GL56 9NQ, UK
Fern office Brussels, Rue d'Edimbourg, 26, 1050 Brussels, Belgium
www.fern.org